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ABSTRACTS

2011 Annual Report of the American Association of Poison Control Centers' National Poison Data System (NPDS): 29th Annual Report

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Table of Contents

Abstract 917
Introduction 917
Methods 918
Characterization of Participating Poison Centers and Population Served 918
Call Management – Specialized Poison Exposure Emergency Providers 918
NPDS – Near Real-time Data Capture 918
Annual Report Case Inclusion Criteria 918
Statistical Methods 919
NPDS Surveillance 919
Fatality Case Review and Abstract Selection 919
Pediatric Fatality Case Review 919
Results 920
Information Calls to Poison Centers 920
Exposure Calls to Poison Centers 920
Age and Gender Distributions 923
Caller Site and Exposure Site 924
Exposures in Pregnancy 924
Chronicity 924
Reason for Exposure 924
Scenarios 924
Reason by Age 924
Route of Exposure 925
Clinical Effects 925
Case Management Site 926
Medical Outcome 926
Decontamination Procedures and Specific Antidotes 928
Top Substances in Human Exposures 929
Changes from Last Year 930
Distribution of Suicides 930
Plant Exposures 931
Deaths and Exposure-related Fatalities 931
All fatalities – all ages 933
Pediatric fatalities – age ≤ 5 years 937
Pediatric fatalities – ages 6–12 years 938
Adolescent fatalities – ages 13–19 years 938
Pregnancy and Fatalities 940
AAPCC Surveillance Results 940
Discussion 941
Summary 942
Disclaimer 942
References 942

Appendix

APPENDIX A – Acknowledgments 1135
Poison Centers (PCs) 1135
AAPCC Fatality Review Team 1137
AAPCC Micromedex Joint Coding Group 1138
AAPCC Rapid Coding Team 1138
AAPCC Surveillance Team 1138
Regional Poison Center (PC) Fatality Awards 1138

APPENDIX B – Data Definitions 1139
Reason for Exposure 1139
Medical Outcome 1139
Relative Contribution to Fatality (RCF) 1139

APPENDIX C – Abstracts of Selected Cases 1140
Selection of Abstracts for Publication 1140
Abstracts 1140
Abbreviations & Normal ranges for Abstracts 1162

List of Figures and Tables

Figure 1. Human Exposure Calls, Information Calls and Animal Exposure Calls by Day since 1 January 2000 923
Figure 2. All Drug Identification and Law Enforcement Drug Identification Calls by Day since 1 January 2000 923
Figure 3 Health Care Facility (HCF) Exposure Calls and HCF Information Calls by Day since 1 January 2000 924
Figure 4. Change in Exposure Calls by Outcome from 2010 to 2011 935
Figure 5. Human Exposure Call Increases by Year 2000–2011 – Top 4 Categories 936
Table 1A. AAPCC population served and reported exposures (1983–2011) 920
Table 1B. Non-human exposures by animal type 920
Table 1C. Distribution of information calls 921
Table 2. Site of call and site of exposure, human exposure cases 924
Table 3A. Age and gender distribution of human exposures 925
Table 3B. Population-adjusted exposures by age group 925
Table 4. Distribution of agea and gender for fatalities 926
Table 5. Number of substances involved in human exposure cases 926
Table 6A. Reason for human exposure cases 926
Table 6B. Scenarios for therapeutic errorsa by age 927
Table 7. Distribution of reason for exposure by age 927
Table 8. Distribution of reason for exposure and age for fatalities 928
Table 9. Route of exposure for human exposure cases 928
Table 10. Management site of human exposures 929
Table 11. Medical outcome of human exposure cases by patient age 929
Table 12. Medical outcome by reason for exposure in human exposures 930
Table 13. Duration of clinical effects by medical outcome 930
Table 14. Decontamination and therapeutic interventions 931
Table 15. Therapy provided in human exposures by age 931
Table 16A. Decontamination trends (1985–2011) 933
Table 16B. Decontamination trends: total human and pediatric exposures < =5 years (2011) 933
Table 17A. Substance categories most frequently involved in human exposures (Top 25) 934
Table 17B. Substance categories with the greatest rate of exposure increase (Top 25) 934
Table 17C. Substance categories most frequently involved in pediatric (≤ 5 years) exposures (Top 25) 936
Table 17D. Substance categories most frequently involved in adult (≥ 20 years) exposures (Top 25) 937
Table 17E. Substance categories most frequently involved in pediatric (≤ 5 years) deaths 938
Table 17F. Substance categories most frequently identified in drug identification calls (Top 25) 938
Table 17G. Substance categories most frequently involved in pregnant exposuresa (Top 25) 939
Table 18. Categories associated with largest number of fatalities (Top 25) 939
Table 19A. Comparisons of death data (1985–2011) 940
Table 19B. Comparisons of direct and indirect death data (2006–2011) 940
Table 20. Frequency of plant exposures (Top 25) 941
Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures 943
Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category 1092
Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category 1111

List of Cases

Case 1. Acute ethanol ingestion: undoubtedly responsible. 1140
Case 31. Acute methanol ingestion: undoubtedly responsible. 1140
Case 110. Acute methanol and organophosphate ingestion: undoubtedly responsible. 1141
Case 112. Acute ethylene glycol ingestion: probably responsible. 1141
Case 115. Acute disc battery ingestion: undoubtedly responsible. 1142
Case 117. Acute crotalinae envenomation bite/sting: contributory. 1142
Case 120. Acute-on-chronic, epinephrine ingestion: probably responsible. 1142
Case 124. Acute cyanide injection: undoubtedly responsible. 1142
Case 131. Acute fluoride ingestion: undoubtedly responsible. 1143
Case 133. Acute nitric acid, cocaine, clonazepam, morphine ingestion, unknown: undoubtedly responsible. 1143
Case 134. Acute hydrofluoric acid ingestion: undoubtedly responsible. 1143
Case 138. Acute cyanide ingestion: contributory. 1143
Case 153. Acute hydrofluoric acid ingestion: undoubtedly responsible. 1144
Case 173. Acute mineral oil ingestion, ingestion with aspiration: undoubtedly responsible. 1144
Case 174. Acute-on-chronic, 1,1-difluoroethane inhalation/nasal: undoubtedly responsible. 1144
Case 185. Acute hydrogen sulfide inhalation: undoubtedly responsible. 1145
Case 226. Acute carbon monoxide inhalation/nasal: undoubtedly responsible. 1145
Case 228. Acute methane inhalation/nasal: probably responsible. 1145
Case 252. Thallium ingestion: undoubtedly responsible. 1146
Case 262. Acute fluorinated hydrocarbon inhalation: undoubtedly responsible. 1146
Case 267. Acute fluorinated hydrocarbon inhalation: undoubtedly responsible. 1146
Case 281. Acute lamp oil ingestion and aspiration: undoubtedly responsible. 1147
Case 283. Acute cyclopeptide mushrooms ingestion: probably responsible 1147
Case 295. Acute malathion ingestion: undoubtedly responsible 1147
Case 304. Acute ibogaine ingestion: undoubtedly responsible. 1147
Case 305. Acute aconite, ethanol ingestion, dermal: undoubtedly responsible. 1148
Case 308. Acute methadone ingestion: undoubtedly responsible 1148
Case 311. Acute methadone ingestion: undoubtedly responsible 1148
Case 324. Acute methadone ingestion: undoubtedly responsible. 1149
Case 816. Acute acetaminophen ingestion: undoubtedly responsible. 1149
Case 1151. Acute buprenorphine and naloxone ingestion: undoubtedly responsible. 1149
Case 1161. Acute bupivacaine injection: undoubtedly responsible. 1149
Case 1169. Chronic, thrombin inhibitor ingestion: undoubtedly responsible. 1150
Case 1170. Acute clopidogrel, salicylate, dabigatran ingestion: undoubtedly responsible. 1150
Case 1235. Unknown, ethanol, amitriptyline, cocaine, gabapentin ingestion: undoubtedly responsible. 1151
Case 1238. Acute-on-chronic, bupropion and ethano ingestion: undoubtedly responsible. 1151
Case 1276. Acute amitriptyline ingestion: undoubtedly responsible. 1151
Case 1278. Acute venlafaxine ingestion: undoubtedly responsible. 1152
Case 1345. Acute diphenhydramine ingestion: undoubtedly responsible. 1152
Case 1346. Acute diphenhydramine ingestion: undoubtedly responsible. 1153
Case 1360. Acute-on-chronic, amantadine, diazepam, and clonazepam ingestion: undoubtedly responsible. 1153
Case 1364. Acute tilmicosin parenteral: probably responsible. 1153
Case 1376. Chronic, theophylline ingestion: probably responsible. 1153
Case 1386. Acute flecainide, paroxetine ingestion: undoubtedly responsible. 1154
Case 1387. Acute-on-chronic flecainide and ethanol ingestion: undoubtedly responsible 1154
Case 1399. Acute flecainide ingestion: undoubtedly responsible. 1154
Case 1550. Acute caffeine energy drink ingestion: contributory. 1155
Case 1551. Acute magnesium sulfate ingestion: undoubtedly responsible. 1155
Case 1577. Acute-on-chronic, metformin ingestion: undoubtedly responsible. 1155
Case 1580. Acute-on-chronic, insulin parenteral: undoubtedly responsible. 1156
Case 1585. Acute-on-chronic, unknown/parenteral: undoubtedly responsible. 1156
Case 1622. Acute-on-chronic, alprazolam and fluoxetine ingestion: undoubtedly responsible 1156
Case 1732. Acute 2, 5-dimethoxy-4-ethylphenethylamine, ethanol ingestion and inhalation/nasal: undoubtedly responsible. 1157
Case 1740. THC homolog ingestion: probably responsible. 1157

Case 1746. Acute-on-chronic benzylpiperazine, lorazepam, marijuana, ingestion, unknown: undoubtedly responsible. 1157
Case 1756. Acute methamphetamine unknown: undoubtedly responsible. 1157
Case 1759. Acute methylone, dextromethorphan, THC homolog, salvia ingestion: undoubtedly responsible. 1158
Case 1762. Unknown, methamphetamine ingestion: undoubtedly responsible 1158
Case 1765. Acute methylone, amphetamines and Synthetic Stimulants, codeine ingestion: undoubtedly responsible. 1158
Case 1772. Amphetamines (synthetic stimulants) inhalation/nasal: undoubtedly responsible 1159
Case 1786. Acute THC homolog, caffeine, lidocaine ingestion: undoubtedly responsible. 1159
Case 1811. Acute methamphetamine inhalation/nasal: undoubtedly responsible. 1160
Case 1820. Acute amphetamines (synthetic stimulant) exposure: undoubtedly responsible. 1160
Case 1831. Acute-on-chronic, amphetamines (synthetic stimulant) exposure: undoubtedly responsible. 1160
Case 1841. Acute methamphetamine injection and ingestion: undoubtedly responsible. 1160
Case 1845. Acute amphetamines (synthetic stimulant) exposure: undoubtedly responsible. 1161
Case 1851. Acute amphetamine (synthetic stimulant), trimethoprim, and ethanol inhalation/nasal, parenteral: undoubtedly responsible 1161
Case 1917. Acute methamphetamine and phencyclidine ingestion: undoubtedly responsible. 1162

Abstract

Background: This is the 29th Annual Report of the American Association of Poison Control Centers' (AAPCC) National Poison Data System (NPDS). As of 1 July 2011, 57 of the nation's poison centers (PCs) uploaded case data automatically to NPDS. The upload interval was 8.43 [6.29, 13.7] (median [25%, 75%]) minutes, creating a near real-time national exposure and information database and surveillance system.

Methodology: We analyzed the case data tabulating specific indices from NPDS. The methodology was similar to that of previous years. Where changes were introduced, the differences are identified. Poison center cases with medical outcomes of death were evaluated by a team of 38 medical and clinical toxicologist reviewers using an ordinal scale of 1–6 to assess the Relative Contribution to Fatality (RCF) of the exposure to the death.

Results: In 2011, 3,624,063 closed encounters were logged by NPDS: 2,334,004 human exposures, 80,266 animal exposures, 1,203,282 information calls, 6,243 human confirmed nonexposures, and 268 animal confirmed nonexposures. Total encounters showed an 8.3% decline from 2010, while health care facility exposure calls increased by 4.8%. Human exposures with less serious outcomes decreased by 3.4% while those with more serious outcomes (moderate, major or death) increased by 6.8%. All information calls decreased by 17.9% and health care facility (HCF) information calls decreased by 2.9%, Medication identification requests (Drug ID) decreased by 24.1%, and human exposures reported to US poison centers decreased by 2.2%.

The top 5 substance classes most frequently involved in all human exposures were analgesics (11.7%), cosmetics/personal care products (8.0%), household cleaning substances (7.0%), sedatives/hypnotics/antipsychotics (6.1%), and foreign bodies/toys/miscellaneous (4.1%). Analgesic exposures as a class increased most rapidly (10,134 calls/year) over the last 11 years. The top 5 most common exposures in children aged 5 years or less were cosmetics/personal care products (14.0%), analgesics (9.9%), household cleaning substances (9.2%), foreign bodies/toys/miscellaneous (6.9%), and topical preparations (6.6%). Drug identification requests comprised 59.5% of all information calls. NPDS documented 2,765 human exposures resulting in death with 1,995 human fatalities judged related (RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Conclusions: These data support the continued value of poison center expertise and need for specialized medical toxicology information to manage the more severe exposures, despite a decrease in calls involving less severe exposures. Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time, always current status of NPDS represents a national public health resource to collect and monitor US exposure cases and information calls. The continuing mission of NPDS is to provide a nationwide infrastructure for public health surveillance for all types of exposures, public health event identification, resilience response and situational awareness tracking. NPDS is a model system for the nation and global public health.

WARNING: Comparison of exposure or outcome data from previous AAPCC Annual Reports is problematic. In particular, the identification of fatalities (attribution of a death to the exposure) differed from pre-2006 Annual Reports (see Fatality Case Review – Methods). Poison center death cases are described as all cases resulting in death and those determined to be exposure-related fatalities. Likewise, Table 22A and B (Exposure Cases by Generic Category) since year 2006 restricts the breakdown including deaths to single-substance cases to improve precision and avoid misinterpretation.

Introduction

This is the 29th Annual Report of the American Association of Poison Control Centers' (AAPCC; http://www.aapcc.org) National Poison Data System (NPDS).[1] On 1 January 2011, fifty-seven regional Poison Centers (PCs) serving the entire population of the 50 United States, American Samoa, District of Columbia, Federated States of Micronesia, Guam, Puerto Rico, and the US Virgin Islands submitted information and exposure case data collected during the course of providing telephonic patient tailored exposure management and poison information.

NPDS is the data warehouse for the nation's 57 poison centers. Poison Centers (PCs) place emphasis on exposure management, accurate data collection and coding, and responding to the continuing need for poison-related public and professional education. The PC's health care professionals are available free of charge to all, 24-hours a day, every day of the year. PCs respond to questions from the public, health care professionals, and public health agencies. The continuous staff dedication at the regional PCs is manifest as the number of exposure and information call encounters exceeds 3.6 million annually. PC encounters either involve an exposed human or animal (EXPOSURE CALL) or a request for information (INFORMATION CALL) with no person or animal exposed to any foreign body, viral, bacterial, venomous, or chemical agent or commercial product.

The NPDS Products Database

The NPDS products database contains over 390,000 products ranging from viral and bacterial agents to commercial chemical and drug products. The products database is maintained and continuously updated by data analysts at the Micromedex Poisindex® System (Micromedex Healthcare Series [Internet database]. Greenwood Village, CO: Truven Health Analytics (formerly known as Thomson Reuters (Healthcare) Inc.). A robust generic coding system categorizes the products data into 985 generic codes. These generic codes collapse into Non-Pharmaceutical (551) and Pharmaceutical (434) groups. These two groups are divided into Major

(67) and Minor (170) categories. The generic coding schema undergoes continuous improvement through the work of the AAPCC – Micromedex Joint Coding Group. The group consists of AAPCC members and editorial and lexicon staff to meet best terminology practices. The generic code system provides enhanced report granularity as reflected in Table 22. The following 19 generic codes were introduced in 2011:

Table: Generic Codes Added in 2011.

1	Alpha Radiation
2	Beta Radiation
3	Dissolvable Tobacco
4	Extremely Low-frequency Radiation
5	Gamma Radiation
6	Infrared Radiation
7	Ionizing Radiation: Type Unknown
8	Microwave Radiation
9	Neutron Radiation
10	Non-ionizing Radiation: Type Unknown
11	Other Nuclear Weapons
12	Other Radiological Weapons
13	Radio Frequency Radiation
14	Radon
15	Specific Nonpharmaceutical Radionuclides
16	Ultraviolet Radiation
17	Unknown Types of Insect Repellent
18	Visible Light Radiation (Lasers)
19	X-ray Radiation

Because the new codes were added at different times during the year, the numbers in Table 22 for these generic codes do not reflect the entire year. For completeness certain of these categories require customized data retrieval until these categories have been in place for a year or more.

Methods

Characterization of Participating Poison Centers and Population Served

Fifty-seven participating centers submitted data to AAPCC through 31 December 2011. Fifty-four centers (95%) were accredited by AAPCC as of 1 July 2011. The entire population of the 50 states, American Samoa, the District of Columbia, Federated States of Micronesia, Guam, Puerto Rico, and the US Virgin Islands was served by the US PC network in 2011.[2,3]

The average number of human exposure cases managed per day by all US PCs was 6,395. Similar to other years, higher volumes were observed in the warmer months, with a mean of 6,685 cases per day in June compared with 6,138 per day in January. On average, US PCs received a call about an actual human exposure every 13.5 seconds.

Call Management – Specialized Poison Exposure Emergency Providers

Most PC operations management, clinical education, and instruction are directed by Managing Directors (most are PharmDs and RNs with American Board of Applied Toxicology [ABAT] board certification). Medical direction is provided by Medical Directors who are board-certified physician medical toxicologists. At some PCs, the Managing and Medical Director positions are held by the same person.

Calls received at US PCs are managed by healthcare professionals who have received specialized training in toxicology and managing exposure emergencies. These providers include medical and clinical toxicologists, registered nurses, doctors of pharmacy, pharmacists, chemists, hazardous materials specialists, and epidemiologists. Specialists in Poison Information (SPIs) are primarily registered nurses, PharmDs, and pharmacists. They work under the supervision of a Certified Specialist in Poison Information (CSPI). SPIs must log a minimum of 2,000 calls over a 12 month period to become eligible to take the CSPI examination for certification in poison information. Poison Information Providers (PIPs) are allied healthcare professionals. They manage information-type and low acuity (non-hospital) calls and work under the supervision of a CSPI. Of note is the fact that no nursing or pharmacy school offers a toxicology curriculum designed for PC work and SPIs must be trained in programs offered by their respective PC. Centers undergo a rigorous accreditation process administered by the AAPCC and must be reaccredited every 5 years.

NPDS – Near Real-time Data Capture

Launched on 12 April 2006, NPDS is the data repository for all of the US regional PCs. In 2011, all 57 of the 57 US PCs uploaded case data automatically to NPDS. All centers submitted data in near real-time, making NPDS one of the few operational systems of its kind. PC staff record calls contemporaneously in 1 of 4 case data management systems. Each center uploads case data automatically. The time to upload data for all PCs is 21.1 [6.19, 13.5] (median [25%, 75%]) minutes creating a real-time national exposure database and surveillance system.

The web-based NPDS software facilitates detection, analysis, and reporting of NPDS surveillance anomalies. System software offers a myriad of surveillance uses allowing AAPCC, its member centers and public health agencies to utilize NPDS US exposure data. Users are able to access local and regional data for their own areas and view national aggregate data. The application allows for increased "drill-down" capability and mapping via a geographic information system (GIS). Custom surveillance definitions are available along with ad hoc reporting tools. Information in the NPDS database is dynamic. Each year the database is locked prior to extraction of annual report data to prevent inadvertent changes and ensure consistent, reproducible reports. The 2011 database was locked on 25 October 2012 at 15:14 EDT.

Annual Report Case Inclusion Criteria

The information in this report reflects only those cases that are not duplicates and classified by the regional PC as CLOSED. A case is closed when the PC has determined that no further follow-up/recommendations are required or

no further information is available. Exposure cases are followed to obtain the most precise medical outcome possible. Depending on the case specifics, most calls are "closed" within a few hours of the initial call. Some calls regarding complex hospitalized patients or cases resulting in death may remain open for weeks or months while data continue to be collected. Follow-up calls provide a proven mechanism for monitoring the appropriateness of management recommendations, augmenting patient guidelines and providing poison prevention education, enabling continual updates of case information as well as obtaining final/known medical outcome status to make the data collected as accurate and complete as possible.

Statistical Methods

All tables except Tables 3B and 17B were generated directly by the NPDS web-based application and can thus be reproduced by each center. The figures and statistics in Tables 3B and 17B were created using SAS JMP version 9.0.0 (SAS Institute, Cary, NC) on summary counts generated by the NPDS web-based application.

NPDS Surveillance

As previously noted, all of the active US PCs upload case data automatically to NPDS. This unique near real-time upload is the foundation of the NPDS surveillance system. This makes possible both spatial and temporal case volume and case-based surveillance. NPDS software allows creation of volume and case-based definitions. Definitions can be applied to national, regional, state, or ZIP code coverage areas. Geocentric definitions can also be created. This functionality is available not only to the AAPCC surveillance team, but to every regional PC. PCs also have the ability to share NPDS real-time surveillance technology with external organizations such as their state and local health departments or other regulatory agencies. Another NPDS feature is the ability to generate system alerts on adverse drug events and other drug or commercial products of public health interest like contaminated food or product recalls. Thus NPDS can provide real-time adverse event monitoring and surveillance for resilience response and situational awareness.

Surveillance definitions can be created to monitor a variety of volume parameters or case based definitions on any desired substance or commercial product in the Micromedex Poisindex products database and/or set of clinical effects or other parameters. The products database contains over 390,000 entries. Surveillance definitions may be constructed using volume or case-based definitions with a variety of mathematical options and historical baseline periods from 1 to 11 years. NPDS surveillance tools include:

- Volume Alert Surveillance Definitions
- Total Call Volume
- Human Exposure Call Volume
- Animal Exposure Call Volume
- Information Call Volume
- Clinical Effects Volume (signs and symptoms, or laboratory abnormalities)
- Case-Based Surveillance Definitions utilizing various NPDS data fields linked in Boolean expressions
    - Substance
    - Clinical Effects
    - Species
    - Medical Outcome and others

Incoming data is monitored continuously and anomalous signals generate an automated email alert to the AAPCC's surveillance team or designated regional PC or public health agency staff. These anomaly alerts are reviewed daily by the AAPCC surveillance team, the regional PC, or the public health agency that created the surveillance definition. When reports of potential public health significance are detected, additional information is obtained via the NPDS surveillance correspondence system or phone as appropriate from reporting PCs. The regional PC then alerts their respective state or local health departments. Public health issues are brought to the attention of the Health Studies Branch, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, Centers for Disease Control and Prevention (CDC). This unique near real-time tracking ability is a unique feature offered by NPDS and the regional PCs.

AAPCC Surveillance Team clinical and medical toxicologists review surveillance definitions on a regular basis to fine-tune the queries. CDC, as well as State and local health departments with NPDS access as granted by their respective regional PCs, also have the ability to create surveillance definitions for routine surveillance tasks or to respond to emerging public health events.

Fatality Case Review and Abstract Selection

NPDS fatality cases can be recorded as DEATH or DEATH (INDIRECT REPORT). Medical outcome of death is by direct report. Death (indirect reports) reports are deaths that the PC acquired from medical examiners or media, but did not manage or answer any questions related specifically to that death.

Although PCs may report death as an outcome, the death may not be the direct result of the exposure. We define exposure-related fatality as a death judged by the AAPCC Fatality Review Team to be at least contributory to the exposure. The definitions used for the Relative Contribution to Fatality (RCF) classification are defined in Appendix B and the methods to select abstracts for publications is described in Appendix C. For details of the AAPCC fatality review process, see the 2008 annual report.[1]

Pediatric Fatality Case Review

A focused Pediatric Fatality Review team, comprised 4 pediatric toxicologists, in this year evaluated cases in patients under 18 years of age. The panel reviewed the documentation of all such cases, with specific focus on the conditions behind the poisoning exposure and on finding commonality which might inform efforts at prevention. The 66 cases

reviewed exhibited a bimodal age distribution. Exposures causing death in children ≤ 5 years of age were mostly coded as "Unintentional-General", while those in ages over 12 years were mostly "Intentional". Often the Reason Code did not capture the complexities of the case. For example, there were few mentions of details such as the involvement of law enforcement or child protective services. While there were some complete and informative reports, in many narratives the circumstances which preceded the exposure thought responsible for the death were unclear or absent. In response to these findings, the pediatric fatality review team developed and distributed Pediatric Narrative Guidelines for this year, with specific attention to the root cause of these cases. Poison centers are requested to heed these guidelines and the need for a more in-depth investigation of "causality."

Results

Information Calls to Poison Centers

Data from 1,203,282 information calls to PCs in 2011 (Table 1C) was transmitted to NPDS, including calls in optional reporting categories such as prevention/safety/education (31,670), administrative (28,452) and caller referral (57,812).

Figure 2 shows that All Drug ID calls decreased dramatically in mid 2009, again in late 2010 and late 2011 (no regression was fit to these data). Law enforcement Drug ID Calls also showed a declining rate of increase. The most frequent information call was for Drug ID, comprising 715,544 calls to PCs during the year. Of these, 423,992 (59.3%) were identified as drugs with known abuse potential; however, these cases were categorized based on the drug's abuse potential without knowledge of whether abuse was actually intended.

While the number of Drug Information calls decreased 24.1% from 2010 (942,614 calls) to 2011 (715,544 calls), the distribution of these call types remained steady at 14.8% and 14.5%, respectively, of all information request calls. The most common drug information requests were in regard to therapeutic use and indications, followed by drug–drug interactions, questions about dosage and inquiries of adverse effects. Environmental inquiries comprised 1.9% of all information calls. Of these environmental inquiries, questions related to cleanup of mercury (thermometers and other) remained the most common followed by questions involving pesticides.

Of all the information calls, poison information comprised 5.6% of the requests with inquiries involving general toxicity the most common followed by questions involving food preparation practices, plant toxicity and safe use of household products.

Exposure Calls to Poison Centers

In 2011, the participating PCs logged 3,624,063 total encounters including 2,334,004 closed human exposure cases (Table 1A), 80,266 animal exposures (Table 1B), 1,203,282 information calls (Table 1C), 6,243 human-confirmed non-exposures, and 268 animal-confirmed non-exposures. An additional 674 calls were still open at the time of database lock. The cumulative AAPCC database now contains almost 56 million human exposure case records (Table 1A). A total of 14,560,932 information calls have been logged by NPDS since the year 2001.

Figure 1 shows the human exposures, information calls and animal exposures by day since January 1, 2001. Second

Table 1A. AAPCC population: served and reported exposures (1983–2011).

Year	No. of participating centers	Population served (in millions)	Human exposures	Exposures per thousand population
1983	16	43.1	251,012	5.8
1984	47	99.8	730,224	7.3
1985	56	113.6	900,513	7.9
1986	57	132.1	1,098,894	8.3
1987	63	137.5	1,166,940	8.5
1988	64	155.7	1,368,748	8.8
1989	70	182.4	1,581,540	8.7
1990	72	191.7	1,713,462	8.9
1991	73	200.7	1,837,939	9.2
1992	68	196.7	1,864,188	9.5
1993	64	181.3	1,751,476	9.7
1994	65	215.9	1,926,438	8.9
1995	67	218.5	2,023,089	9.3
1996	67	232.3	2,155,952	9.3
1997	66	250.1	2,192,088	8.8
1998	65	257.5	2,241,082	8.7
1999	64	260.9	2,201,156	8.4
2000	63	270.6	2,168,248	8.0
2001	64	281.3	2,267,979	8.1
2002	64	291.6	2,380,028	8.2
2003	64	294.7	2,395,582	8.1
2004	62	293.7	2,438,643	8.3
2005	61	296.4	2,424,180	8.2
2006	61	299.4	2,403,539	8.0
2007	61	305.6	2,482,041	8.1
2008	61	308.5 [b]	2,491,049	8.1
2009	60	310.9 [b]	2,479,355	8.0
2010	60[a]	313.3[b]	2,384,825	7.6
2011	57[c]	315.7[b]	2,334,004	7.4
Total			**55,654,213**	

[a]As of 1 July 2010, there were 60 Participating Centers.
[b]AAPCC total as of 1 July Mid Year US Census (50 United States, American Samoa, District of Columbia, Federated States of Micronesia, Guam, Puerto Rico, and the US Virgin Islands) 315,726,607.[2,3]
[c]As of 1 July 2011, there were 57 Participating Centers.

Table 1B. Non-human exposures by animal type.

Animal	N	%
Dog	72,689	90.56
Cat	6,657	8.29
Bird	189	0.24
Rodent/lagomorph	178	0.22
Horse	176	0.22
Sheep/goat	73	0.09
Cow	39	0.05
Aquatic	28	0.03
Other	237	0.30
Total	**80,266**	**100.00**

Table 1C. Distribution of information calls.

Information call type	N	% of Info. calls
Drug identification		
Public inquiry: Drug sometimes involved in abuse	340,258	28.28
Public inquiry: Drug not known to be abused	148,633	12.35
Public inquiry: Unknown abuse potential	4,528	0.38
Public inquiry: Unable to identify	67,178	5.58
HCP inquiry: Drug sometimes involved in abuse	4,835	0.40
HCP inquiry: Drug not known to be abused	8,664	0.72
HCP inquiry: Unknown abuse potential	292	0.02
HCP inquiry: Unable to identify	3,350	0.28
Law Enf. Inquiry: Drug sometimes involved in abuse	78,899	6.56
Law Enf. Inquiry: Drug not known to be abused	41,660	3.46
Law Enf. Inquiry: Unknown abuse potential	1,366	0.11
Law Enf. Inquiry: Unable to identify	10,316	0.86
Other drug ID	5,565	0.46
Subtotal	**715,544**	**59.47**
Drug information		
Adverse effects (no known exposure)	11,746	0.98
Brand/generic name clarifications	3,730	0.31
Calculations	193	0.02
Compatibility of parenteral medications	258	0.02
Compounding	492	0.04
Contraindications	1,553	0.13
Dietary supplement, herbal, and homeopathic	665	0.06
Dosage	12,839	1.07
Dosage form/formulation	2,526	0.21
Drug use during breast-feeding	2,812	0.23
Drug-drug interactions	27,197	2.26
Drug-food interactions	1,748	0.15
Foreign drug	493	0.04
Generic substitution	854	0.07
Indications/therapeutic use	52,263	4.34
Medication administration	4,856	0.40
Medication availability	961	0.08
Medication disposal	4,409	0.37
Pharmacokinetics	2,475	0.21
Pharmacology	1,945	0.16
Regulatory	5,630	0.47
Stability/storage	3,038	0.25
Therapeutic drug monitoring	1,203	0.10
Other drug info	30,018	2.49
Subtotal	**173,904**	**14.45**
Environmental information		
Air quality	1,796	0.15
Carbon monoxide—no known patient(s)	713	0.06
Carbon monoxide alarm use	475	0.04
Chem/bioterrorism/weapons (suspected or confirmed)	23	0.00
Clarification of media reports of environmental contamination	39	0.00
Clarification of substances involved in a HAZMAT incident - no known victim(s)	87	0.01
General questions about contamination of air and/or soil	512	0.04
HAZMAT planning	127	0.01
Lead—no known patient(s)	606	0.05
Mercury thermometer cleanup	2,299	0.19
Mercury (excluding thermometers) cleanup	3,183	0.26
Notification of a HAZMAT incident—no known patient(s)	436	0.04
Pesticide application by a professional pest control operator	665	0.06
Pesticides (other)	2,812	0.23
Potential toxicity of chemicals in the environment	1,283	0.11
Radiation	265	0.02
Safe disposal of chemicals	1,623	0.13
Water purity/contamination	772	0.06
Other environmental	4,559	0.38
Subtotal	**22,275**	**1.85**
Medical information		
Dental questions	197	0.02
Diagnostic or treatment recommendations for diseases or conditions - non-toxicology	9,122	0.76
Disease prevention	640	0.05
Explanation of disease states	1,096	0.09
General first-aid	1,231	0.10
Interpretation of non-toxicology laboratory reports	141	0.01
Medical terminology questions	56	0.00
Rabies - no known patient(s)	298	0.02
Sunburn management	97	0.01
Other medical	36,392	3.02
Subtotal	**49,270**	**4.09**
Occupational information		
Occupational treatment/first-aid guidelines - no known patient(s)	44	0.00
Information on chemicals in the workplace	127	0.01
MSDS interpretation	50	0.00
Occupational MSDS requests	969	0.08
Routine toxicity monitoring	27	0.00
Safe handling of workplace chemicals	111	0.01
Other occupational	209	0.02
Subtotal	**1,537**	**0.13**
Poison information		
Analytical toxicology	916	0.08
Carcinogenicity	74	0.01
Food poisoning - no known patient(s)	2,779	0.23
Food preparation/handling practices	7,381	0.61
General toxicity	29,122	2.42
Mutagenicity	58	0.00
Plant toxicity	3,380	0.28
Recalls of non-drug products (including food)	454	0.04
Safe use of household products	4,095	0.34

(Continued)

Table 1C. (*Continued*).

Information call type	N	% of Info. calls
Toxicology information for legal use/litigation	179	0.01
Other poison	18,453	1.53
Subtotal	66,891	5.56
Prevention/Safety/Education		
Confirmation of poison center number	16,406	1.36
General (non-poison) injury prevention requests	491	0.04
Media requests	415	0.03
Poison prevention material requests	12,430	1.03
Poison prevention week date inquiries	39	0.00
Professional education presentation requests	360	0.03
Public education presentation requests	430	0.04
Other prevention	1,099	0.09
Subtotal	**31,670**	**2.63**
Teratogenicity information		
Teratogenicity	2,409	0.20
Subtotal	**2,409**	**0.20**
Other information		
Other	44,606	3.71
Subtotal	**44,606**	**3.71**
Substance Abuse		
Drug screen information	6,386	0.53
Effects of illicit substances - no known patient(s)	520	0.04
New trend information	729	0.06
Withdrawal from illicit substances - no known patient(s)	227	0.02
Other substance abuse	1,050	0.09
Subtotal	**8,912**	**0.74**
Administrative		
Expert witness requests	31	0.00
Faculty activities	54	0.00
Funding	43	0.00
Personnel issues	369	0.03
Poison center record request	190	0.02
Product replacement/malfunction (issues intended for the manufacturer)	2,350	0.20
Scheduling of poison center rotations	130	0.01
Other administration	25,285	2.10
Subtotal	**28,452**	**2.36**
Caller Referred		
Immediate referral - animal poison center or veterinarian	16,063	1.33
Immediate referral - drug identification	11,652	0.97
Immediate referral - drug information	406	0.03
Immediate referral - health department	5,775	0.48
Immediate referral - medical advice line	852	0.07
Immediate referral - pediatric triage service	52	0.00
Immediate referral - pesticide hotline	339	0.03
Immediate referral - pharmacy	1,833	0.15
Immediate referral - poison center	3,527	0.29
Immediate referral - private physician	2,272	0.19
Immediate referral - psychiatric crisis line	141	0.01
Immediate referral - teratology information program	143	0.01
Other call referral	14,757	1.23
Subtotal	**57,812**	**4.80**
Total	**1,203,282**	**100.00**

order (quadratic) least squares regression of these data shows a statistically significant departure from linearity (declining rate of calls since mid-2007) for Human Exposure Calls. Information Calls are declining more rapidly than the quadratic regression this year, and Animal Exposure Calls have likewise been declining since mid-2005.

A hallmark of PC case management is the use of follow-up calls to monitor case progress and medical outcome. US PCs made 2,785,633 follow-up calls in 2011. Follow-up calls were done in 46.8% of human exposure cases. One follow-up call was made in 23.0% of human exposure cases, and multiple follow-up calls (range 2–132) were placed in 23.8% of cases.

Figure 3 shows a graphic summary and analyses of Health Care Facility (HCF) Exposure and HCF Information calls. HCF Exposure Calls did not depart from linearity (continued to increase at a steady rate) while the rate of HCF Information Calls has been declining since early 2005. This linearly increasing use of the PCs for the more serious exposures (HCF calls) is important in the face of the declining growth of all exposure and information calls. The 2 May 2006 exposure data spike on the figure was the result of 602 children in a Midwest school reporting a noxious odor which caused anxiety, but resolved without sequelae.

Tables 22A (Nonpharmaceuticals) and 22B (Pharmaceuticals) provide summary demographic data on patient age, reason for exposure, medical outcome, and use of a health care facility for all 2,334,004 human exposure cases, presented by substance categories.

Column 1: Name of the major, minor generic categories and their associated generic substance name.

Column 2: No. of Case Mentions (all exposures) in grey shading, displays the number of times the specific generic code was reported in all human exposure cases. If a human exposure case has multiple instances of a specific generic code it is only counted once.

Column 3: No. of Single Exposures This column was previously named ‘No. of Single Exposures’ and was renamed in the 2009 report for clarity. This column displays the number of human exposure cases that identified only one substance (one case, one substance).

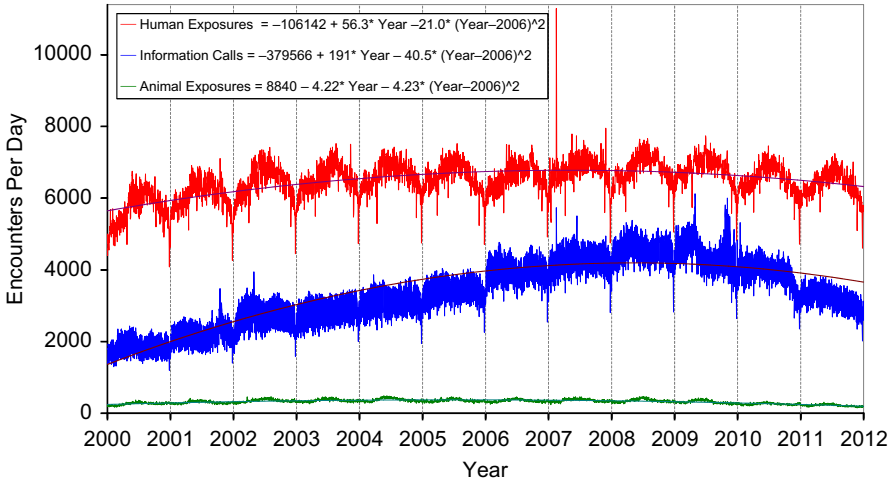


Fig. 1. Human Exposure Calls, Information Calls and Animal Exposure Calls by Day since 1 January 2000. Black lines show least-squares second order regression–both linear and second order (quadratic) terms were statistically significant for each of the 3 regressions.

The succeeding columns (Age, Reason, Treatment Site, and Outcome) show selected detail from these single-substance exposure cases. Death cases include both cases that have the outcome of Death or Death (indirect report). These death cases are not limited by the relative contribution to fatality.

Tables 22A and 22B restrict the breakdown columns to single-substance cases. Prior to 2007, when multi-substance exposures were included, a relatively innocuous substance could be mentioned in a death column when, for example, the death was attributed to an antidepressant, opioid, or cyanide. This subtlety was not always appreciated by the user of this table. The restriction of the breakdowns to single-substance exposures should increase precision and reduce misrepresentation of the results in this unique by-substance table. Single substance cases reflect the majority (90%) of all exposures. In contrast, only 42% of fatalities are single substance exposures (Table 5).

Tables 22A and 22B tabulate 2,719,970 substance-exposures, of which 2,090,698 were single-substance exposures, including 1,071,939 (51.3%) nonpharmaceuticals and 1,018,759 (48.7%) pharmaceuticals. In 19.0% of single-substance exposures that involved pharmaceutical substances, the reason for exposure was intentional, compared to only 3.5% when the exposure involved a nonpharmaceutical substance. Correspondingly, treatment in a health care facility was provided in a higher percentage of exposures that involved pharmaceutical substances (28.8%) compared with nonpharmaceutical substances (15.1%). Exposures to pharmaceuticals also had more severe outcomes. Of single-substance exposure-related fatal cases, 521 (0.85%) were pharmaceuticals compared with 242 (0.02%) nonpharmaceuticals.

Age and Gender Distributions

The age and gender distribution of human exposures is outlined in Table 3A and B Children younger than 3 years of age were involved in 36.2% of exposures and children younger

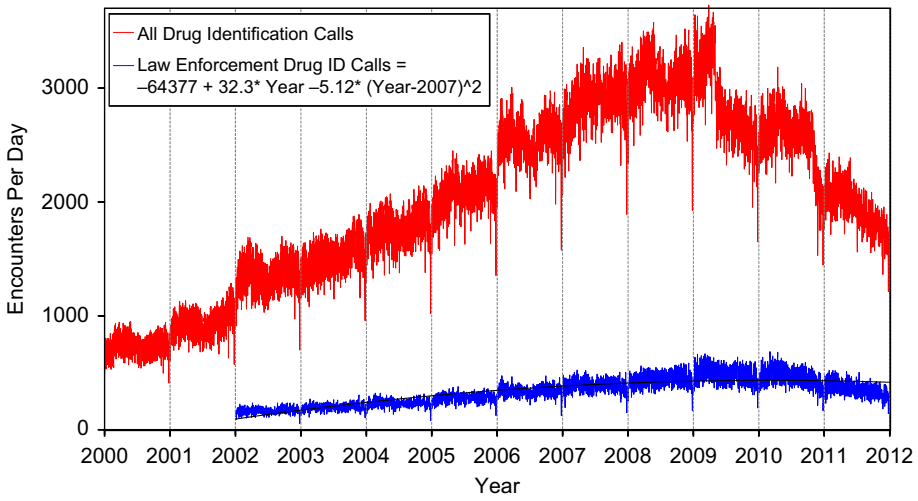


Fig. 2. All Drug Identification and Law Enforcement Drug Identification Calls by Day since 1 January 2000. Black line shows least-squares second order regression–both linear and second order (quadratic) terms were statistically significant for the Law Enforcement Drug ID Calls.

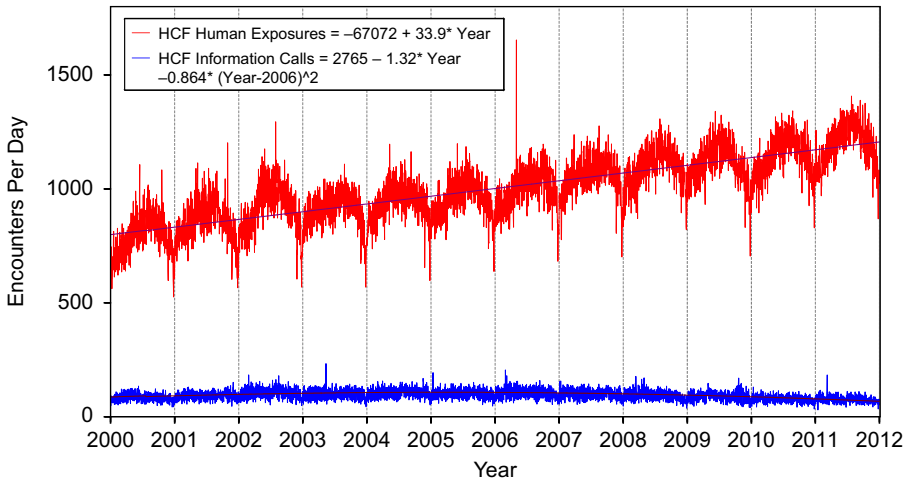


Fig. 3. Health Care Facility (HCF) Exposure Calls and HCF Information Calls by Day since 1 January 2000. Black lines show least-squares first and second order regressions—linear regression for HCF Exposure Calls (second order term was not statistically significant) and second order regression for HCF Information Calls. All terms shown were statistically significant for each of the 2 regressions.

than 6 years accounted for approximately half of all human exposures (48.9%). A male predominance was found among cases involving children younger than 13 years, but this gender distribution was reversed in teenagers and adults, with females comprising the majority of reported exposures.

Caller Site and Exposure Site

As shown in Table 2, of the 2,334,004 human exposures reported, 73.2% of calls originated from a residence (own or other) but 93.6% actually occurred at a residence (own or other). Another 18.8% of calls were made from a health care facility. Beyond residences, exposures occurred in the workplace in 1.6% of cases, schools (1.2%), health care facilities (0.3%), and restaurants or food services (0.2%).

Exposures in Pregnancy

Exposure during pregnancy occurred in 7,834 women (0.34% of all human exposures). Of those with known pregnancy duration (n = 7,189), 29.9% occurred in the first trimester, 38.2% in the second trimester, and 31.9% in the third trimester. Most (72.7%) were unintentional exposures and 20.9% were intentional exposures. There was one death in a pregnant female in 2010.

Table 2. Site of call and site of exposure, human exposure cases.

	Site of caller		Site of exposure	
Site	**N**	**%**	**N**	**%**
Residence				
Own	1,670,350	71.57	2,127,868	91.17
Other	38,746	1.66	57,736	2.47
Workplace	26,706	1.14	36,761	1.58
Health care facility	438,373	18.78	6,649	0.28
School	10,854	0.47	28,528	1.22
Restaurant/food service	511	0.02	4,897	0.21
Public area	7,925	0.34	21,787	0.93
Other	133,001	5.70	25,419	1.09
Unknown	7,538	0.32	24,359	1.04

Chronicity

Most human exposures, 2,069,586 (88.7%) were acute cases (single, repeated or continuous exposure occurring over 8 hours or less) compared to 1205 acute cases of 2765 fatalities (43.6%). Chronic exposures (continuous or repeated exposures occurring over > 8 hours) comprised 2% (48,753) of all human exposures. Acute-on-chronic exposures (single exposure that was preceded by a continuous, repeated, or intermittent exposure occurring over a period greater than eight hours) numbered 185,793 (8.0%).

Reason for Exposure

The reason category for most human exposures was unintentional (80.3%) with unintentional general (55.5%), therapeutic error (12.1%) and unintentional misuse (5.4%) of all exposures (Table 6A).

Scenarios

Of the total 299,832 therapeutic errors, the most common scenarios for all ages included: inadvertent double-dosing (28.6%), wrong medication taken or given (15.3%), other incorrect dose (13.6%), doses given/taken too close together (9.6%), and inadvertent exposure to someone else's medication (8.5%). The types of therapeutic errors observed are different for each age group and are summarized in Table 6B.

Reason by Age

Intentional exposures accounted for 15.8% of human exposures. Suicidal intent was suspected in 9.6% of cases, intentional misuse in 2.5% and intentional abuse in 2.7%. Unintentional exposures outnumbered intentional exposures in all age groups with the exception of ages 13–19

Table 3A. Age and gender distribution of human exposures.

	Male		Female		Unknown gender		Total		Cumulative total	
Age (y)	N	% of age group total	N	% of age group total	N	% of age group total	N	% of total exposures	N	%
Children (<20)										
< 1	60,072	51.86	55,410	47.84	342	0.30	115,824	4.96	115,824	4.96
1	184,716	51.89	170,719	47.96	520	0.15	355,955	15.25	471,779	20.21
2	195,808	52.37	177,506	47.48	579	0.15	373,893	16.02	845,672	36.23
3	92,535	54.91	75,678	44.90	322	0.19	168,535	7.22	1,014,207	43.45
4	45,587	55.96	35,643	43.75	232	0.28	81,462	3.49	1,095,669	46.94
5	26,329	56.93	19,742	42.69	177	0.38	46,248	1.98	1,141,917	48.93
Unknown ≤5	1,304	46.37	1,169	41.57	339	12.06	2,812	0.12	1,144,729	49.05
Child 6–12	81,598	57.82	58,583	41.51	940	0.67	141,121	6.05	1,285,850	55.09
Teen 13–19	73,140	46.04	85,085	53.55	650	0.41	158,875	6.81	1,444,725	61.90
Unknown Child	1,700	38.11	1,680	37.66	1,081	24.23	4,461	0.19	1,449,186	62.09
Subtotal	**762,789**	**52.64**	**681,215**	**47.01**	**5,182**	**0.36**	**1,449,186**	**62.09**	**1,449,186**	**62.09**
Adults (≥20)										
20–29	95,021	46.96	107,125	52.94	220	0.11	202,366	8.67	1,651,552	70.76
30–39	66,143	43.15	87,048	56.79	101	0.07	153,292	6.57	1,804,844	77.33
40–49	57,958	41.66	81,069	58.28	80	0.06	139,107	5.96	1,943,951	83.29
50–59	47,482	40.16	70,702	59.79	58	0.05	118,242	5.07	2,062,193	88.35
60–69	28,642	37.86	46,984	62.10	30	0.04	75,656	3.24	2,137,849	91.60
70–79	16,111	35.55	29,195	64.42	17	0.04	45,323	1.94	2,183,172	93.54
80–89	9,632	33.60	19,016	66.34	18	0.06	28,666	1.23	2,211,838	94.77
≥90	1,678	29.06	4,093	70.89	3	0.05	5,774	0.25	2,217,612	95.01
Unknown adult	41,102	39.86	59,696	57.89	2,326	2.26	103,124	4.42	2,320,736	99.43
Subtotal	**363,769**	**41.74**	**504,928**	**57.93**	**2,853**	**0.33**	**871,550**	**37.34**	**2,320,736**	**99.43**
Other										
Unknown age	4,692	35.36	5,894	44.42	2,682	20.21	13,268	0.57	2,334,004	100.00
Total	**1,131,250**	**48.47**	**1,192,037**	**51.07**	**10,717**	**0.46**	**2,334,004**	**100.00**	**2,334,004**	**100.00**

Table 3B. Population-adjusted exposures by age group.

Age group	Exposures/100k population	Number of exposures[a]	Population[c]
Children (<20)			
< 1	2860	115,824	4,049,569
1	8851	355,955	4,021,689
2	9291	373,893	4,024,464
3	4055	168,535	4,156,721
4	1950	81,462	4,177,157
5	1116	46,248	4,142,397
Child 6–12	485	141,121	29,080,736
Teen 13–19	524	158,875	30,291,735
Subgroup	**1726**	**1449186**	**83,944,468**
Adults (≥20)			
20–29	460	202,366	44,009,971
30–39	754	153,292	20,335,086
40–49	217	139,107	64,066,888
50–59	273	118,242	43,383,892
60–69	243	75,656	31,087,495
70–79	263	45,323	17,222,175
≥80[b]	295	34,440	11,676,631
Subgroup	**376**	**871,550**	**231,782,139**
Overall Total	**739**	**2,334,004**	**315,726,607[d]**

[a]Number of exposures excludes UNKNOWN ages from the individual age categories, but includes them in the subtotals and overall total (see Table 3A).
[b]Census estimates were available only for 85 y/o and older, so exposures for 80–89 and ≥90 were combined for these analyses.[4]
[c]Age-based census data were not available for include outside the US (OUS), so US data were scaled up (~1%) to AAPCC Total to include OUS service areas.
[d]AAPCC Total as of 1 July 2011 315,726,607 (see Table 1A).[2,3]

years (Table 7). Intentional exposures were more frequently reported than unintentional exposures in patients aged 13–19 years. In contrast, of the 1,158 reported fatalities with RCF 1–3, the majority reason reported for children ≤5 years was unintentional while most fatalities in adults (>20 years) were intentional (Table 8).

Route of Exposure

Ingestion was the route of exposure in 83.2% of cases (Table 9), followed in frequency by dermal (7.0%), inhalation/nasal (6.1%), and ocular routes (4.3%). For the 1,158 exposure-related fatalities, ingestion (84.3%), inhalation/nasal (10.2%), and parenteral (4.6%) were the predominant exposure routes. Each exposure case may have more than one route.

Clinical Effects

The NPDS database allows for the coding of up to 131 individual clinical effects (signs, symptoms, or laboratory abnormalities) for each case. Each clinical effect can be further defined as related, not related, or unknown if related. Clinical effects were coded in 852,963 (36.5%) cases. (17.9% had 1 effect, 9.5% had 2 effects, 5.1% had 3 effects, 2.1% had 4 effects, 0.9% had 5 effects, and 1.0% had >5 effects coded). Of clinical effects coded, 79.1% were deemed related to the exposure, 9.4% were considered not related, and 11.5% were coded as unknown if related.

Table 4. Distribution of age[a] and gender for fatalities.[b]

Age (y)	Male	Female	Unknown	Total (%)	Cumulative total (%)
< 1 year	3	1	0	4 (0.4%)	4 (0.4%)
1 year	1	1	0	2 (0.2%)	6 (0.5%)
2 years	4	4	0	8 (0.7%)	14 (1.2%)
3 years	1	0	0	1 (0.1%)	15 (1.3%)
4 years	1	2	0	3 (0.3%)	18 (1.6%)
5 years	2	0	0	2 (0.2%)	20 (1.7%)
Child 6–12 years	5	1	0	6 (0.5%)	26 (2.3%)
Teen 13–19 years	24	20	0	44 (3.8%)	70 (6.0%)
20–29 years	105	56	0	161 (13.9%)	231 (20.0%)
30–39 years	85	93	0	178 (15.4%)	409 (35.3%)
40–49 years	111	143	0	254 (21.9%)	663 (57.3%)
50–59 years	95	149	0	244 (21.1%)	907 (78.3%)
60–69 years	52	62	0	114 (9.8%)	1,021 (88.2%)
70–79 years	28	44	0	72 (6.2%)	1,093 (94.4%)
80–89 years	13	19	0	32 (2.8%)	1,125 (97.2%)
> = 90 years	6	12	0	18 (1.6%)	1,143 (98.7%)
Unknown adult	7	4	1	12 (1.0%)	1,155 (99.7%)
Unknown age	3	0	0	3 (0.3%)	1,158 (100.0%)
Total	**546**	**611**	**1**	**1,158 (100.0%)**	**1,158 (100.0%)**

[a]Age includes cases with both actual and estimated ages as shown in Table 21.
[b]Includes cases with relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death INDIRECT.

Case Management Site

The majority of cases reported to PCs were managed in a non–health care facility (69.9%), usually at the site of exposure, primarily the patient's own residence (Table 10). 1.7% of cases were referred to a health care facility but refused referral. Treatment in a health care facility was rendered in 26.4% of cases.

Of the 615,869 cases managed in a health care facility, 295,110 (47.9%) were treated and released, 101,175 (16.4%) were admitted for critical care, and 65,845 (10.7%) were admitted to a noncritical unit.

The percentage of patients treated in a health care facility varied considerably with age. Only 11.3% of children ≤ 5 years or younger and only 13.3% of children between 6 and 12 years were managed in a health care facility compared to 50.1% of teenagers (13–19 years) and 41.1% of adults (age ≥ 20 years).

Table 5. Number of substances involved in human exposure cases.

	Human exposures		Fatal exposures[a]	
No. of substances	**N**	**%**	**N**	**%**
1	2,090,698	89.58	489	42.23
2	154,387	6.61	260	22.45
3	50,145	2.15	168	14.51
4	20,443	0.88	95	8.20
5	8,921	0.38	70	6.04
6	4,211	0.18	25	2.16
7	2,157	0.09	24	2.07
8	1,187	0.05	11	0.95
> = 9	1,855	0.08	16	1.38
Total	**2,334,004**	**100.00**	**1,158**	**100.00**

[a]Includes cases with relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death INDIRECT.

Medical Outcome

Table 11 displays the medical outcome of human exposure cases distributed by age. Older age groups exhibit a greater

Table 6A. Reason for human exposure cases.

Reason	N	% Human exposures
Unintentional		
Unintentional - General	1,295,332	55.5
Unintentional - Therapeutic error	282,443	12.1
Unintentional - Misuse	124,958	5.4
Unintentional - Bite/sting	61,032	2.6
Unintentional - Environmental	57,323	2.5
Unintentional - Food poisoning	25,238	1.1
Unintentional - Occupational	23,510	1.0
Unintentional - Unknown	4,128	0.2
Subtotal	**1,873,964**	**80.3**
Intentional		
Intentional - Suspected suicide	224,981	9.6
Intentional - Misuse	62,659	2.7
Intentional - Abuse	58,627	2.5
Intentional - Unknown	21,940	0.9
Subtotal	**368,207**	**15.8**
Adverse Reaction		
Adverse reaction - Drug	42,637	1.8
Adverse reaction - Other	12,664	0.5
Adverse reaction - Food	5,392	0.2
Subtotal	**60,693**	**2.6**
Unknown		
Unknown reason	15,216	0.7
Subtotal	**15,216**	**0.7**
Other		
Other - Malicious	8,121	0.3
Other - Contamination/tampering	6,207	0.3
Other - Withdrawal	1,596	0.1
Subtotal	**15,924**	**0.7**
Total	**2,334,004**	**100.0**

Table 6B. Scenarios for therapeutic errors[a] by age.[b]

Scenario	N	<= 5 y (Row %)	6–12 y (Row %)	13–19 y (Row %)	>= 20 y (Row %)	Unknown child (Row %)	Unknown adult (Row %)	Unknown age (Row %)
Inadvertently took/given medication twice	85,738	18.55	12.89	5.81	56.37	0.08	6.04	0.25
Wrong medication taken/given	45,754	15.89	12.25	6.17	59.40	0.05	5.89	0.34
Other incorrect dose	40,783	32.12	12.07	6.88	44.43	0.12	4.12	0.26
Medication doses given/taken too close together	28,769	19.18	10.48	7.23	56.72	0.08	6.08	0.22
Inadvertently took/given someone else's medication	25,442	19.40	19.30	6.86	49.50	0.06	4.74	0.13
Other/unknown therapeutic error	17,239	21.02	11.57	7.09	53.26	0.17	6.35	0.53
Incorrect dosing route	16,665	9.40	4.47	3.35	71.28	0.13	10.75	0.62
Confused units of measure	10,745	58.08	17.90	4.25	17.99	0.05	1.60	0.13
Incorrect formulation or concentration given	6,354	48.21	16.64	4.63	27.78	0.09	2.47	0.19
Health professional/iatrogenic error (pharmacist/nurse/physician)	6,084	28.45	11.32	6.34	47.06	0.53	5.34	0.95
More than 1 product containing same ingredient	5,691	64.61	19.49	3.29	11.72	0.04	0.79	0.07
Dispensing cup error	5,612	12.95	16.18	14.06	50.25	0.05	6.22	0.29
Drug interaction	2,026	8.00	6.86	6.66	67.42	0.15	10.51	0.39
Incorrect formulation or concentration dispensed	1,444	45.64	16.97	5.33	28.95	0.14	2.63	0.35
10-fold dosing error	1,369	64.72	7.23	2.41	23.67	0.22	1.68	0.07
Exposure through breast milk	117	88.03	0.00	0.85	5.13	1.71	3.42	0.85

[a]All cases with a scenario category of therapeutic error regardless of reason.
[b]Of the human exposure cases reported to U.S. Poison Centers in 2011, 429,409 (18.4%) were coded to 1 or more of 54 scenarios.

Table 7. Distribution of reason for exposure by age.

	<= 5 y		6–12 y		13–19 y		>= 20 y		Unknown child		Unknown adult		Unknown age		Total	
Reason	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	%
Unintentional	1,137,266	63.44	125,508	7.00	66,496	3.71	456,195	25.45	3,962	0.22	77,310	4.31	7,227	0.40	1,873,964	80.29
Intentional	1,290	0.37	10,110	2.87	83,813	23.75	253,777	71.92	220	0.06	15,133	4.29	3,864	1.10	368,207	15.78
Adverse reaction	4,108	7.70	3,118	5.84	4,722	8.85	40,430	75.79	127	0.24	7,221	13.54	967	1.81	60,693	2.60
Other	1,326	9.60	1,506	10.91	1,965	14.23	8,686	62.90	84	0.61	2,031	14.71	326	2.36	15,924	0.68
Unknown	739	5.39	879	6.41	1,879	13.70	9,338	68.07	68	0.50	1,429	10.42	884	6.44	15,216	0.65
Total	**1,144,729**	**51.42**	**141,121**	**6.34**	**158,875**	**7.14**	**768,426**	**34.51**	**4,461**	**0.20**	**103,124**	**4.63**	**13,268**	**0.60**	**2,334,004**	**1,144,729**

Table 8. Distribution of reason for exposure and age for fatalities.[a]

Reason	<= 5 y	6–12 y	13–19 y	>= 20 y	Unknown child	Unknown adult	Unknown age	Total
Unintentional								
Unintentional - General								
Unintentional - Environmental	13	1	0	16	0	0	0	30
Unintentional - Occupational	3	2	1	17	0	2	0	25
Unintentional - Therapeutic error	0	0	0	8	0	0	1	9
Unintentional - Misuse	1	1	0	24	0	0	0	26
Unintentional - Bite/sting	0	0	0	12	0	0	0	12
Unintentional - Food poisoning	0	0	0	1	0	0	0	1
Unintentional - Unknown	0	0	0	1	0	0	1	2
Subtotal	**17**	**4**	**1**	**79**	**0**	**2**	**2**	**105**
Intentional								
Intentional - Suspected suicide	0	0	24	635	0	6	1	666
Intentional - Misuse	0	1	4	38	0	0	0	43
Intentional - Abuse	0	1	9	124	0	1	0	135
Intentional - Unknown	0	0	3	72	0	1	0	76
Subtotal	0	2	40	869	0	8	1	920
Other								
Other - Contamination/tampering								
Other - Malicious	1	0	0	2	0	0	0	3
Other - Withdrawal	0	0	0	1	0	0	0	1
Subtotal	**1**	**0**	**0**	**3**	**0**	**0**	**0**	**4**
Adverse reaction	0	0	0	36	0	0	0	36
Adverse reaction - Drug	0	0	1	1	0	0	0	2
Adverse reaction - Other	1	0	0	0	0	0	0	1
Subtotal	**1**	**0**	**1**	**37**	**0**	**0**	**0**	**39**
Unknown								
Unknown reason	1	0	2	85	0	2	0	90
Subtotal	**1**	**0**	**2**	**85**	**0**	**2**	**0**	**90**
Total	**20**	**6**	**44**	**1,073**	**0**	**12**	**3**	**1,158**

[a]Includes cases with relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death INDIRECT.

number of severe medical outcomes. Table 12 compares medical outcome and reason for exposure and shows a greater frequency of serious outcomes in intentional exposures.

The duration of effect is required for all cases that report at least one clinical effect and have a medical outcome of minor, moderate or major effect (n = 523,353; 22.4% of exposures). Table 13 demonstrates an increasing duration of the clinical effects observed with more severe outcomes.

Decontamination Procedures and Specific Antidotes

Tables 14 and 15 outline the use of decontamination procedures, specific physiological antagonists (antidotes), and

Table 9. Route of exposure for human exposure cases.

	Human exposures			Fatal exposures[a]		
Route	**N**	**% of All Routes**	**% of All Cases**	**N**	**% of All Routes**	**% of All Cases**
Ingestion	1,941,316	79.34	83.18	976	77.03	84.28
Dermal	162,638	6.65	6.97	16	1.26	1.38
Inhalation/nasal	141,877	5.80	6.08	118	9.31	10.19
Ocular	101,261	4.14	4.34	1	0.08	0.09
Bite/sting	61,045	2.49	2.62	2	0.16	0.17
Parenteral	18,573	0.76	0.80	53	4.18	4.58
Unknown	11,583	0.47	0.50	76	6.00	6.56
Other	2,846	0.12	0.12	4	0.32	0.35
Otic	2,329	0.10	0.10	0	0.0	0
Aspiration (with ingestion)	1,488	0.06	0.06	18	1.42	1.55
Vaginal	994	0.04	0.04	1	0.08	0.09
Rectal	784	0.03	0.03	2	0.16	0.17
Total Number of Routes	**2,446,734**	**100.00**	**104.83**	**1,267**	**100.00**	**109.41**

[a]Includes cases with relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death INDIRECT.
[b]Each exposure case may have more than one route.

Table 10. Management site of human exposures.

Site of management	N	%
Managed on site, nonhealth care facility	1,630,953	69.9
Managed in healthcare facility		
Treated/evaluated and released	295,110	12.6
Admitted to critical care unit	101,175	4.3
Patient lost to follow-up/left AMA	96,812	4.2
Admitted to noncritical care unit	65,845	2.8
Admitted to psychiatric facility	56,927	2.4
Subtotal (managed in HCF)	**615,869**	**26.4**
Other	28,708	1.2
Refused referral	40,316	1.7
Unknown	18,158	0.8
Total	**2,334,004**	**100.0**

measures to enhance elimination in the treatment of patients reported in the NPDS database. These should be interpreted as minimum frequencies because of the limitations of telephone data gathering.

Ipecac-induced emesis for poisoning continues to decline as shown in Tables 16A and 16B. Ipecac was administered in only 98 (0.01%) pediatric exposures in 2011. The continued decrease in ipecac syrup use over the last 2 decades was likely a result of ipecac use guidelines issued in 1997 by the American Academy of Clinical Toxicology; European Association of Poisons Centres and Clinical Toxicologists and updated in 2004.[5,6] In a separate report, the American Academy of Pediatrics concluded not only that ipecac should no longer be used routinely as a home treatment strategy, but also recommended disposal of home ipecac stocks.[7] A decline was also observed since the early 1990s for reported use of activated charcoal. While not as dramatic as the decline in use of ipecac, reported use of activated charcoal decreased from 3.7% of pediatric cases in 1993 to just 1.2% in 2011.

Top Substances in Human Exposures

Table 17A presents the most common 25 substance categories, listed by frequency of human exposure. This ranking provides an indication where prevention efforts might be focused, as well as the types of exposures PCs regularly manage. It is relevant to know whether exposures to these substances are increasing or decreasing.

To better understand these relationships, we examined exposures per year over the last 11 years for the change over time for each of the 67 major generic categories via least squares linear regression. The exposure calls per year over this period were increasing for 40 and decreasing for 27 of the 67 categories. The change over time for the 11 yearly values was statistically significant ($p < 0.05$) for 51 of the 67 categories. Table 17B shows the 25 categories which were increasing most rapidly. Statistical significance of the linear regressions can be verified by noting the 95% confidence interval on the rate of increase excludes zero for all 25 of these categories. Figure 5 shows the linear regressions for the top 4 increasing categories in Table 17B.

Tables 17C and 17D present exposure results for children and adults, respectively, and show the differences

Table 11. Medical outcome of human exposure cases by patient age.[a]

	<= 5 y		6–12 y		13–19 y		>= 20 y		Unknown child		Unknown adult		Unknown age		Total	
Outcome	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
No effect	289,501	25.29	25,373	17.98	25,379	15.97	94,827	12.34	798	17.89	10,570	10.25	1,127	8.5	447,575	19.18
Minor effect	91,142	7.96	21,527	15.25	41,431	26.08	181,770	23.65	378	8.47	15,253	14.79	1,585	12.0	353,086	15.13
Moderate effect	10,320	0.90	3,989	2.83	22,821	14.36	107,666	14.01	64	1.43	4,049	3.93	393	3.0	149,302	6.40
Major effect	838	0.07	233	0.17	2,180	1.37	17,450	2.27	2	0.04	223	0.22	39	0.3	20,965	0.90
Death	31	0.00	7	0.00	55	0.03	1,383	0.18	0	0.00	19	0.02	8	0.1	1,503	0.06
No follow-up, nontoxic	220,924	19.30	21,560	15.28	8,603	5.41	46,637	6.07	633	14.19	11,441	11.09	794	6.0	310,592	13.31
No follow-up, minimal toxicity	497,075	43.42	61,817	43.80	40,760	25.66	235,221	30.61	1,812	40.62	42,831	41.53	3,857	29.1	883,373	37.85
No follow-up, potentially toxic	19,830	1.73	3,334	2.36	13,319	8.38	51,402	6.69	656	14.71	14,705	14.26	5,116	38.6	108,362	4.64
Unrelated effect	15,057	1.32	3,277	2.32	4,295	2.70	30,868	4.02	118	2.65	4,024	3.90	345	2.6	57,984	2.48
Death, indirect report	11	0.00	4	0.00	32	0.02	1,202	0.16	0	0.00	9	0.01	4	0.0	1,262	0.05
Total	**1,144,729**	**100.00**	**141,121**	**100.0**	**158,875**	**100.00**	**768,426**	**100.00**	**4,461**	**100.00**	**103,124**	**100.00**	**13,268**	**100.00**	**2,334,004**	**100.00**

[a]Total number of cases where death was an outcome (1,503 + 1,262) is greater than the number of fatalities (1,158) judged to be exposure-related (relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Table 12. Medical outcome by reason for exposure in human exposures.[a]

	Unintentional		Intentional		Other		Adverse reaction		Unknown		Total	
Outcome	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
No effect	386,456	20.62	56,513	15.35	1,776	11.15	1,550	2.55	1,280	8.41	447,575	19.18
Minor effect	229,078	12.22	103,747	28.18	3,085	19.37	14,832	24.44	2,344	15.40	353,086	15.13
Moderate effect	45,582	2.43	91,156	24.76	1,343	8.43	8,036	13.24	3,185	20.93	149,302	6.40
Major effect	2,823	0.15	16,093	4.37	134	0.84	754	1.24	1,161	7.63	20,965	0.90
Death	147	0.01	1,077	0.29	8	0.05	67	0.11	204	1.34	1,503	0.06
No follow-up, nontoxic	303,657	16.20	4,750	1.29	1,017	6.39	910	1.50	258	1.70	310,592	13.31
No follow-up, minimal toxicity	817,755	43.64	36,782	9.99	5,737	36.03	21,206	34.94	1,893	12.44	883,373	37.85
No follow-up, potentially toxic	49,225	2.63	49,568	13.46	1,742	10.94	4,517	7.44	3,310	21.75	108,362	4.64
Unrelated effect	39,185	2.09	7,385	2.01	1,077	6.76	8,816	14.53	1,521	10.00	57,984	2.48
Death, indirect report	56	0.00	1,136	0.31	5	0.03	5	0.01	60	0.39	1,262	0.05
Total	**1,873,964**	**100.00**	**368,207**	**100.00**	**15,924**	**100.00**	**60,693**	**100.00**	**15,216**	**100.00**	**2,334,004**	**100.00**

[a]Total number of cases where death was an outcome (1,503 + 1,262) is greater than the number of fatalities (1,158) judged to be exposure-related (relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

between substance categories involved in pediatric and adult exposures.

Table 17E reports the 25 categories of substances most frequently involved in pediatric (≤5 years) fatalities in 2011.

Table 17F reports the 25 Drug ID categories most frequently queried in 2011. Unknown is the 4th and Miscellaneous the 15th most often identified drug category. These categories include medications which could not be identified, indicating the value of Drug ID information to the AAPCC, public health, public safety, and regulatory agencies. Internet-based resources do not afford the caller the option to speak with a health care professional if needed. Proper resources to continue this vital public service are essential, especially since the top 10 substance categories include antibiotics as well as drugs with widespread use and abuse potential such as opioids and benzodiazepines.

Table 17G reports the 25 substance categories most frequently reported in exposures involving pregnant patients.

Changes from Last Year

Figure 4 shows the year-to-year changes for 2011 compared to 2010 for all encounters (− 8.3%), exposure calls (− 2.2%) and for several other major categories.

The graphic and bottom data display break down the change in exposure calls by outcome category. Although overall exposure calls have decreased by 51,808 calls (− 2.2%), there is a consistent increase in the exposures with a more serious outcome (moderate, major or death) and as a group *increased* by 10,889 encounters (+ 6.8%). Less serious calls (including Minor Effect) decreased by 62,698 encounters (− 3.4%).

Thus we see a consistent increase in exposure calls from HCFs (Fig. 3) and for the more severe exposures (Fig. 4), despite a decrease in calls involving less severe exposures.

Distribution of Suicides

Table 19A shows the modest variation in the distribution of suicides and pediatric deaths over the past 2 decades as reported to the NPDS national database. Within the last decade, the percent of exposures determined to be suspected suicides ranged from 31.3% to 54.3% and the percent of pediatric cases ranged from 1.5% to 3.2%. The relatively large change seen for 2011 reflects the large increase in death, indirect reports this year. Analyses of suicides and pediatric deaths for Direct and Indirect reports are shown in Table 19B.

Table 13. Duration of clinical effects by medical outcome.

	Minor effect		Moderate effect		Major effect	
Duration of effect	**N**	**%**	**N**	**%**	**N**	**%**
< = 2 hours	117,235	33.20	7,703	5.16	405	1.93
> 2 hours, < = 8 hours	95,761	27.12	31,888	21.36	1,242	5.92
> 8 hours, < = 24 hours	64,023	18.13	51,715	34.64	4,987	23.79
> 24 hours, < = 3 days	23,396	6.63	28,028	18.77	6,618	31.57
> 3 days, < = 1 week	5,082	1.44	7,990	5.35	3,788	18.07
> 1 week, < = 1 month	1,460	0.41	1,763	1.18	1,233	5.88
> 1 month	447	0.13	426	0.29	171	0.82
Anticipated permanent	453	0.13	152	0.10	414	1.97
Unknown	45,229	12.81	19,637	13.15	2,107	10.05
Total	**353,086**	**100.00**	**149,302**	**100.00**	**20,965**	**100.00**

Table 14. Decontamination and therapeutic interventions.

Therapy	N	%
Decontamination Only	1,143,784	49.0
Therapeutic Intervention Only	249,355	10.7
Decontamination and Therapeutic Intervention	167,468	7.2
Not Coded	773,397	33.1
Total	**2,334,004**	**100.0**

Plant Exposures

Table 20 provides the number of times the specific plant was reported to NPDS (N = 47,561). The 25 most commonly involved plant species and categories account for 37.5% of all plant exposures reported. The top 3 categories in the table are essentially synonymous for unknown plant and comprise 11.5% (5,458/47,561) of all plant exposures. For a variety of reasons it was not possible to make a precise identification in these 3 groups. The top most frequent plant exposures where a positive plant identification was made were (descending order): Spathiphyllum species (Botanic name), Phytolacca americana (L.) (Botanic name), Ilex species (Botanic name), Philodendron (Species unspecified) and Euphorbia pulcherrima (Willd.) (Botanic name).

Deaths and Exposure-related Fatalities

A listing of cases (Table 21) and summary of cases (Tables 4, 5, 8, 9, and 22) are provided for fatal cases for which there exists reasonable confidence that the death was a result of that exposure (exposure-related fatalities). Tables 11, 12, and 19A and B list all deaths, irrespective of the Relative Contribution to Fatality (RCF). Beginning in 2010, cases with outcome of Death, Indirect Report were not further reviewed by the AAPCC fatality review team and the RCF was determined by the individual poison center review team.

Table 15. Therapy provided in human exposures by age.

Therapy	< = 5 y	6–12 y	13–19 y	> = 20 y	Unknown child	Unknown adult	Unknown age	Total
Decontamination								
Cathartic	1,962	223	3,209	10,423	2	202	22	16,043
Charcoal, multiple doses	138	12	401	1,340	0	12	1	1,904
Charcoal, single dose	13,792	1,056	12,283	37,166	6	498	65	64,866
Dilute/irrigate/wash	562,555	57,001	34,254	198,389	1,326	34,342	2,438	890,305
Food/snack	143,164	12,094	6,133	30,681	179	4,996	206	197,453
Fresh air	7,032	4,479	5,039	40,958	479	10,818	882	69,687
Ipecac	98	22	31	103	1	5	2	262
Lavage	150	21	742	3,189	0	38	6	4,146
Other emetic	5,421	550	853	4,400	6	406	58	11,694
Whole bowel irrigation	95	29	333	1,567	1	11	4	2,040
Other Therapies								
2-PAM	5	0	2	48	0	0	1	56
Alkalinization	157	58	1,644	8,916	0	60	8	10,843
Amyl nitrite	0	0	0	7	0	0	0	7
Antiarrhythmic	7	6	78	675	0	7	0	773
Antibiotics	1,886	922	1,276	12,540	11	820	62	17,517
Anticonvulsants[a]	55	21	110	776	0	3	1	966
Antiemetics	938	380	4,209	11,290	3	141	11	16,972
Antihistamines	2,406	1,620	1,819	10,371	21	1,361	91	17,689
Antihypertensives	19	13	148	2,308	0	24	4	2,516
Antivenin (fab fragment)	267	199	167	1,339	2	11	5	1,990
Antivenin/antitoxin[b]	31	29	27	293	0	9	0	389
Atropine	118	27	90	1,222	0	10	1	1,468
BAL	5	0	2	3	0	0	0	10
Benzodiazepines	971	445	5,260	25,027	2	260	33	31,998
Bronchodilators	512	287	403	4,318	3	233	29	5,785
Calcium	9,325	595	277	2,385	7	94	5	12,688
Cardioversion	6	2	28	384	0	1	0	421
CPR	35	9	83	1,022	0	9	1	1,159
Deferoxamine	5	0	22	40	0	0	0	67
ECMO	4	0	2	10	0	0	0	16
EDTA	33	6	0	13	0	1	0	53
Ethanol	5	0	3	80	0	3	0	91
Extracorp. procedure (other)	2	0	1	23	0	0	0	26
Fab fragments	35	21	27	611	0	2	4	700

(Continued)

Table 15. (*Continued*).

Therapy	< = 5 y	6–12 y	13–19 y	> = 20 y	Unknown child	Unknown adult	Unknown age	Total
Fluids, IV	6,714	1,811	24,033	111,715	25	1,070	123	145,491
Flumazenil	141	13	170	1,652	0	18	2	1,996
Folate	15	0	44	1,099	0	8	0	1,166
Fomepizole	143	13	112	1,772	0	11	2	2,053
Glucagon	22	5	55	1,748	0	9	1	1,840
Glucose, > 5%	316	33	237	2,873	0	25	3	3,487
Hemodialysis	9	3	99	2,199	0	11	2	2,323
Hemoperfusion	0	0	0	14	0	0	0	14
Hydroxocobalamin	7	3	3	44	0	2	0	59
Hyperbaric oxygen	22	34	44	343	0	6	1	450
Insulin	11	7	90	1,676	0	7	2	1,793
Intubation	576	96	1,541	18,248	0	177	34	20,672
Methylene blue	13	4	6	90	0	4	0	117
NAC, IV	230	93	3,404	14,577	4	88	27	18,423
NAC, PO	125	29	1,444	5,326	0	48	13	6,985
Nalmefene	1	0	1	21	0	1	1	25
Naloxone	1,079	132	1,644	16,362	0	194	30	19,441
Neuromuscular blocker	39	6	104	1,059	0	4	2	1,214
Octreotide	68	3	31	258	0	1	1	362
Other	46,807	9,427	13,925	86,513	185	6,414	750	164,021
Oxygen	1,679	656	3,680	41,850	22	654	97	48,638
Pacemaker	2	0	4	210	0	1	0	217
Penicillamine	0	0	0	1	0	0	0	1
Physostigmine	5	10	62	137	0	0	0	214
Phytonadione	25	3	67	780	0	5	1	881
Pyridoxine	12	6	58	394	0	4	0	474
Sedation (other)	356	89	1,261	13,373	1	109	16	15,205
Sodium nitrite	2	2	0	29	0	0	1	34
Sodium thiosulfate	3	4	4	49	0	0	0	60
Steroids	699	421	498	4,589	7	384	25	6,623
Succimer	106	6	7	83	1	2	1	206
Transplantation	0	0	2	12	0	0	0	14
Vasopressors	97	35	275	5,065	0	23	5	5,500
Ventilator	518	88	1,413	16,491	0	156	25	18,691

[a]Excludes benzodiazepines.
[b]Excludes Fab fragments.

Table	Fatalities Included	RCF	N
4	Death only	1,2,3	1,158
5	Death only	1,2,3	1,158
8	Death only	1,2,3	1,158
9	Death only	1,2,3	1,158
11	Death and Death (indirect report)	All	2,765
12	Death and Death (indirect report)	All	2,765
17E	Pediatric Death and Death (indirect report)	All	52
18	Death only	1,2,3	1,158
19A	Death and Death (indirect report)	All	2,765
19B	Death and Death (indirect report)	All	2,765
21	Death and Death (indirect report)	1,2,3	1,995
22	Death and Death (indirect report) - Single substance deaths only	All	808

There were 1,262 death, indirect and 1,503 deaths. Of these 2,765 cases, 1,995 were judged exposure-related fatalities (RCF = 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory). The remaining 770 cases were judged as follows: 95 as RCF = 4-Probably not responsible, 37 as 5-Clearly not responsible, and 638 as 6-Unknown.

Deaths are sorted in Table 21 according to the category, then substance deemed most likely responsible for the death (Cause Rank), and then by patient age. The Cause Rank permits the regional PC to judge 2 or more substances as indistinguishable in terms of cause, e.g., 2 substances which appear equally likely to have caused the death could have Substance Rank of 1, 2 and Cause Rank of 1, 1. Additional agents implicated are listed below the primary agent in the order of their contribution to the fatality.

As shown in Table 5, a single substance was implicated in 90.0% of reported human exposures, and 10.0% of patients were exposed to 2 or more drugs or products. The exposure-related fatalities involved a single substance in 489 cases (42.2%), 2 substances in 260 cases (22.5%), 3 in 168 cases (14.5%), and 4 or more in the balance of the cases.

In Table 21, the Annual Report ID number [bracketed] indicates that the abstract for that case is included in Appendix C. The letters following the Annual Report ID number indicate: i = Death, Indirect report (occurred in 837, 42.0% of cases), p = prehospital cardiac and/or respiratory arrest (occurred in 576 of 1,995, 28.9% of cases),

Table 16A. Decontamination trends (1985–2011).

Year	Human exposures	Ipecac administered (% of all exposures)	Activated charcoal administered (% of all exposures)	Exposures involving children ≤ 5 y (% of all exposures)	Ipecac administered (% of child exposures)	Activated charcoal administered (% of child exposures)
1985	886,389	132,947 (14.999)	41,063 (4.6)	568,691 (64.2)	94,919 (16.6908)	14,718 (2.59)
1986	1,095,228	145,516 (13.286)	56,481 (5.2)	690,137 (63.0)	99,688 (14.4447)	18,191 (2.64)
1987	1,164,648	117,840 (10.118)	60,310 (5.2)	730,228 (62.7)	83,443 (11.427)	18,507 (2.53)
1988	1,364,113	114,654 (8.4050)	88,876 (6.5)	843,106 (61.8)	80,749 (9.5776)	26,118 (3.10)
1989	1,578,968	110,545 (7.0011)	101,368 (6.4)	963,924 (61.0)	79,192 (8.2156)	30,345 (3.15)
1990	1,646,946	98,986 (6.0103)	108,341 (6.6)	999,751 (60.7)	73,469 (7.3487)	31,579 (3.16)
1991	1,836,364	94,877 (5.1666)	129,092 (7.0)	1,099,179 (59.9)	73,069 (6.6476)	36,177 (3.29)
1992	1,862,796	79,493 (4.2674)	135,625 (7.3)	1,094,256 (58.7)	63,486 (5.8018)	38,937 (3.56)
1993	1,747,147	65,078 (3.7248)	127,893 (7.3)	978,560 (56.0)	50,834 (5.1948)	35,791 (3.66)
1994	1,926,992	51,356 (2.6651)	138,247 (7.2)	1,042,651 (54.1)	41,489 (3.9792)	35,670 (3.42)
1995	2,023,089	47,359 (2.3409)	155,880 (7.7)	1,070,472 (52.9)	38,372 (3.5846)	38,095 (3.56)
1996	2,155,952	39,376 (1.8264)	157,331 (7.3)	1,137,263 (52.7)	32,622 (2.8685)	37,986 (3.34)
1997	2,192,088	32,098 (1.4643)	156,213 (7.1)	1,150,931 (52.5)	26,536 (2.3056)	35,856 (3.12)
1998	2,241,082	26,653 (1.1893)	152,134 (6.8)	1,180,989 (52.7)	22,247 (1.8838)	34,302 (2.90)
1999	2,201,156	21,942 (0.9968)	145,853 (6.6)	1,154,799 (52.5)	18,326 (1.5869)	33,812 (2.93)
2000	2,168,248	18,177 (0.8383)	145,911 (6.7)	1,142,796 (52.7)	15,239 (1.3335)	31,554 (2.76)
2001	2,267,979	16,058 (0.7080)	149,442 (6.6)	1,169,478 (51.6)	13,389 (1.1449)	30,367 (2.60)
2002	2,380,028	13,555 (0.5695)	149,527 (6.3)	1,227,381 (51.6)	11,163 (0.9095)	30,340 (2.47)
2003	2,395,582	9,284 (0.3875)	140,412 (5.9)	1,245,584 (52.0)	7,310 (0.5869)	28,888 (2.32)
2004	2,438,643	4,701 (0.1928)	135,969 (5.6)	1,250,536 (51.3)	3,366 (0.2692)	28,335 (2.27)
2005	2,424,180	3,027 (0.1249)	123,263 (5.1)	1,233,695 (50.9)	1,999 (0.1620)	26,338 (2.13)
2006	2,403,539	2,176 (0.0905)	111,351 (4.6)	1,223,815 (50.9)	1,337 (0.1092)	23,843 (1.95)
2007	2,482,041	1,740 (0.0701)	106,010 (4.3)	1,271,595 (51.2)	1,052 (0.0827)	22,829 (1.80)
2008	2,491,049	1,205 (0.0484)	97,297 (3.9)	1,292,754 (51.9)	641 (0.0496)	21,286 (1.65)
2009	2,479,355	658 (0.0265)	84,805 (3.4)	1,290,784 (52.1)	330 (0.0256)	19,168 (1.48)
2010	2,384,825	360 (0.0200)	74,431 (3.1)	1,207,575 (50.6)	163 (0.0100)	16,581 (1.37)
2011	2,334,004	262 (0.0100)	66,770 (2.9)	1,144,729 (49.1)	98 (0.0100)	13,930 (1.22)

h = hospital records reviewed (occurred in 459, 24.8% of cases), a = autopsy report reviewed (occurred in 1,190, 59.6% of cases). The distribution of NPDS RCF was: 1 = Undoubtedly responsible in 677 cases (33.9%), 2 = Probably responsible in 1,088 cases (54.5%), 3 = Contributory in 2,330 cases (11.5%). The denominator for these Table 21 percentages is 1,995.

All fatalities – all ages

Table 4 presents the age and gender distribution for these 1,158 exposure-related fatalities (excluding death, indirect). The age distribution of reported fatalities is similar to that in past years with 70 (6.0%) of the fatalities in children (< 20 years old), 1,085 of 1,158 (93.7%) of fatal cases occurring in adults (age ≥ 20 years) and 3 (0.3%) of fatalities occurring in Unknown Age patients. Although children ≤ 5 years old were involved in the majority of exposures, the 20 fatalities comprised just 1.7% of the exposure-related fatalities. Most (72.3%) of the fatalities occurred in 20-to 59-year-old individuals.

Table 21 lists each of the 1,995 human fatalities (including death, indirect report) along with all of the substances involved. Please note: the substance listed in column 3 of Table 21 (alternate name) was chosen to be the most specific generic name based upon the Micromedex Poisindex product name and generic code selected for that substance. Alternate names are maintained in the NPDS for each substance involved in a fatality. The cross-references at the end of each major category section in Table 21 list all cases that identify this substance as other than the primary substance. This Alternate name may not agree with the AAPCC generic categories used in the summary tables (including Table 22).

Table 18 lists the top 25 minor generic substance categories associated with reported fatalities and the number of single substance exposure fatalities for that category – miscellaneous sedative/hypnotics/antipsychotics, miscellaneous cardiovascular drugs, opioids, and acetaminophen combination products, lead this list followed by miscellaneous antidepressants, miscellaneous alcohols, acetaminophen alone, miscellaneous anticonvulsants, and miscellaneous stimulants and street drugs. Note that Table 18 is sorted by all substances to which a patient was exposed (i.e., a patient

Table 16B. Decontamination Trends: Total Human and Pediatric Exposures < = 5 Years (2011).[a]

	Human exposures		Exposures children < = 5 y	
Therapy	**N**	**%**	**N**	**%**
Activated charcoal administered	66,770	2.86	13,930	1.22
Cathartic	16,043	0.69	1,962	0.17
Ipecac administered	262	0.01	98	0.01
Lavage	4,146	0.18	150	0.01
Other Emetic	11,694	0.50	5,421	0.47
Whole Bowel Irrigation	2,040	0.09	95	0.01
Total	**100,955**	**4.33**	**21,656**	**1.89**

[a]Human exposures = 2,334,004; Pediatric exposures = 1,144,729.

Table 17A. Substance categories most frequently involved in human exposures (Top 25).

Substance (Major Generic Category)	All substances	%[a]	Single substance exposures	%[b]
Analgesics	322,016	11.73	209,909	10.04
Cosmetics/Personal Care Products	218,269	7.95	211,253	10.10
Cleaning Substances (Household)	192,771	7.02	172,740	8.26
Sedative/Hypnotics/Antipsychotics	168,416	6.13	65,689	3.14
Foreign Bodies/Toys/Miscellaneous	112,562	4.10	109,586	5.24
Antidepressants	107,528	3.92	44,961	2.15
Cardiovascular Drugs	102,766	3.74	49,671	2.38
Topical Preparations	102,692	3.74	100,448	4.80
Antihistamines	94,159	3.43	67,169	3.21
Pesticides	89,445	3.26	83,757	4.01
Cold and Cough Preparations	74,995	2.73	54,970	2.63
Alcohols	74,484	2.71	27,311	1.31
Vitamins	70,195	2.56	61,126	2.92
Bites and Envenomations	66,691	2.43	65,944	3.15
Stimulants and Street Drugs	66,540	2.42	41,137	1.97
Antimicrobials	65,856	2.40	54,989	2.63
Hormones and Hormone Antagonists	60,234	2.19	41,440	1.98
Gastrointestinal Preparations	50,414	1.84	39,754	1.90
Anticonvulsants	49,607	1.81	21,566	1.03
Plants	47,561	1.73	44,853	2.15
Chemicals	39,906	1.45	34,370	1.64
Hydrocarbons	39,422	1.44	37,194	1.78
Dietary Supplements/Herbals/Homeopathic	35,565	1.30	28,558	1.37
Fumes/Gases/Vapors	32,986	1.20	30,341	1.45
Electrolytes and Minerals	32,509	1.18	27,082	1.30

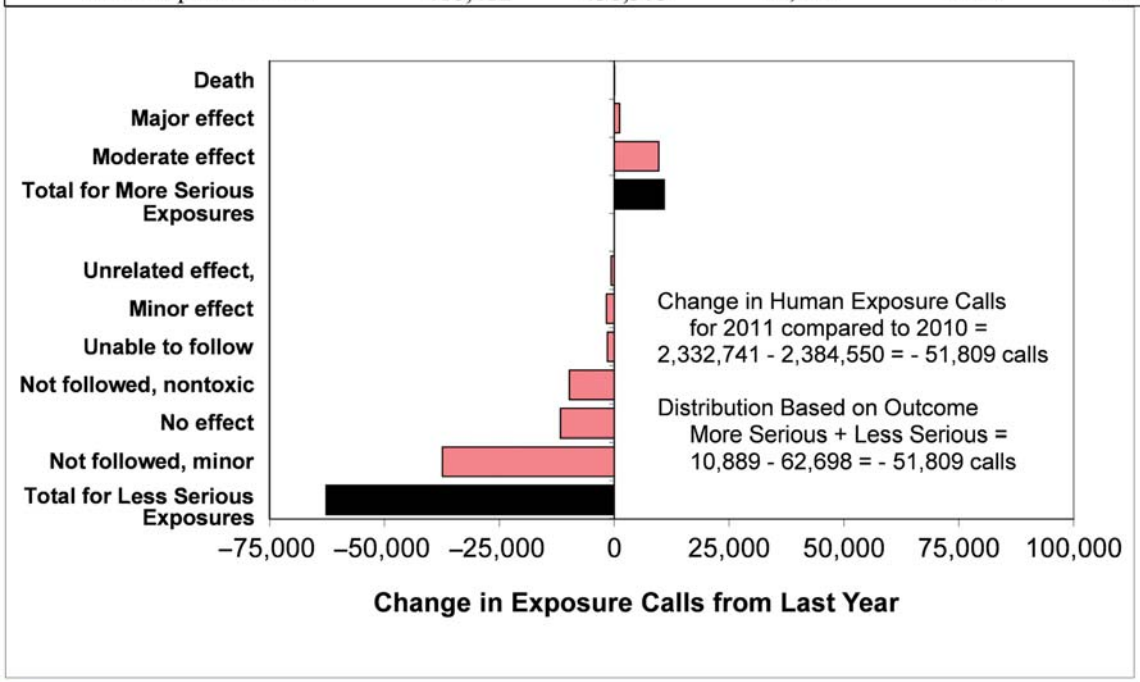
[a]Percentages are based on the total number of substances reported in all exposures (N = 2,745,684).
[b]Percentages are based on the total number of single substance exposures (N = 2,090,698).

Table 17B. Substance categories with the greatest rate of exposure increase (Top 25).

	Increase in exposures per year[a]		
Substance (Major Generic Category)	Mean	95% CI[a]	All substances in 2011
Analgesics	10,134	[12435, 7833]	322,016
Sedative/Hypnotics/Antipsychotics	7,959	[9083, 6835]	168,416
Cardiovascular Drugs	4,795	[5087, 4503]	102,766
Antihistamines	3,531	[4103, 2959]	94,159
Alcohols	2,129	[3163, 1095]	74,484
Vitamins	2,118	[2509, 1727]	70,195
Hormones and Hormone Antagonists	1,860	[2143, 1578]	60,234
Anticonvulsants	1,846	[2133, 1558]	49,607
Gastrointestinal Preparations	1,840	[2540, 1140]	50,414
Antidepressants	1,521	[2360, 682]	107,528
Other/Unknown Nondrug Substances	1,496	[2118, 873]	28,035
Cosmetics/Personal Care Products	1,312	[2694, −70]	218,269
Stimulants and Street Drugs	1,231	[2136, 326]	66,540
Topical Preparations	1,223	[2519, −72]	102,692
Muscle Relaxants	1,168	[1333, 1002]	28,857
Dietary Supplements/Herbals/Homeopathic	1,074	[1507, 641]	35,565
Anticholinergic Drugs	1,051	[1309, 792]	11,352
Miscellaneous Drugs	1,034	[1478, 590]	23,489
Antimicrobials	773	[1213, 333]	65,856
Unknown Drug	754	[861, 647]	21,184
Essential Oils	638	[695, 581]	10,906
Deodorizers	607	[842, 371]	24,255
Cleaning Substances (Household)	603	[2559, −1353]	192,771
Foreign Bodies/Toys/Miscellaneous	511	[1770, −749]	112,562
Anticoagulants	488	[521, 454]	8,315

[a]Increase and confidence intervals are based on least squares linear regression of the number of calls per year for 2000–2011.

Encounter Type	2010	2011	Increase	% Increase	% of Total Increase
All Encounters	3,952,772	3,624,062	(328,710)	-8.3%	100%
Human Exposure Calls*	2,384,550	2,332,742	(51,808)	-2.2%	15.8%
Information Calls	1,466,253	1,203,282	(262,971)	-17.9%	80.0%
All Drug Identification Calls	942,614	715,544	(227,070)	-24.1%	69.1%
Animal Exposure Calls	94,823	80,266	(14,557)	-15.4%	4.4%
Law Enforcement Drug ID Calls	164,450	132,241	(32,309)	-10.6%	9.8%
HCF Information Calls	29,009	28,181	(828)	-2.9%	0.3%
HCF Exposure Calls	418,412	438,373	19,960	4.8%	-6.1%



Outcome	2010	2011	Increase	% Increase	% of Total
Human Exposure Calls*	2,384,550	2,332,742	(51,808)	-2.2%	100%
Death	1,455	1,503	47	3.3%	0.1%
Major effect	19,802	20,965	1,163	5.9%	2.2%
Moderate effect	139,623	149,302	9,679	6.9%	18.7%
Total for More Serious Exposures			10,889	6.8%	21.0%
Minor effect	354,778	353,086	(1,692)	-0.5%	-3.3%
No effect	459,279	447,575	(11,704)	-2.5%	-22.6%
Not followed, nontoxic	320,364	310,592	(9,772)	-3.1%	-18.9%
Not followed, minor	920,757	883,373	(37,384)	-4.1%	-72.2%
Unable to follow	109,844	108,362	(1,482)	-1.3%	-2.9%
Unrelated effect,	58,648	57,984	(664)	-1.1%	-1.3%
Total for Less Serious Exposures			(62,698)	-3.4%	-121.0%

Fig. 4. Change in Exposure Calls by Outcome from 2010 to 2011. The figure shows how the decrease of 94,530 in Human Exposure Calls divides among the 10 Medical Outcomes. The More Serious Exposures (Minor, Moderate, Major, and Death) all increased and their combined increase was 22,175 calls (23.5% of the 94,530 total decrease). The Less Serious Exposures (the other 6 outcome groups) decreased by 116,705 (− 123.5% of the 94,530 total decrease). *Excludes CONFIRMED NONEXPOSURES and INDIRECT DEATH.

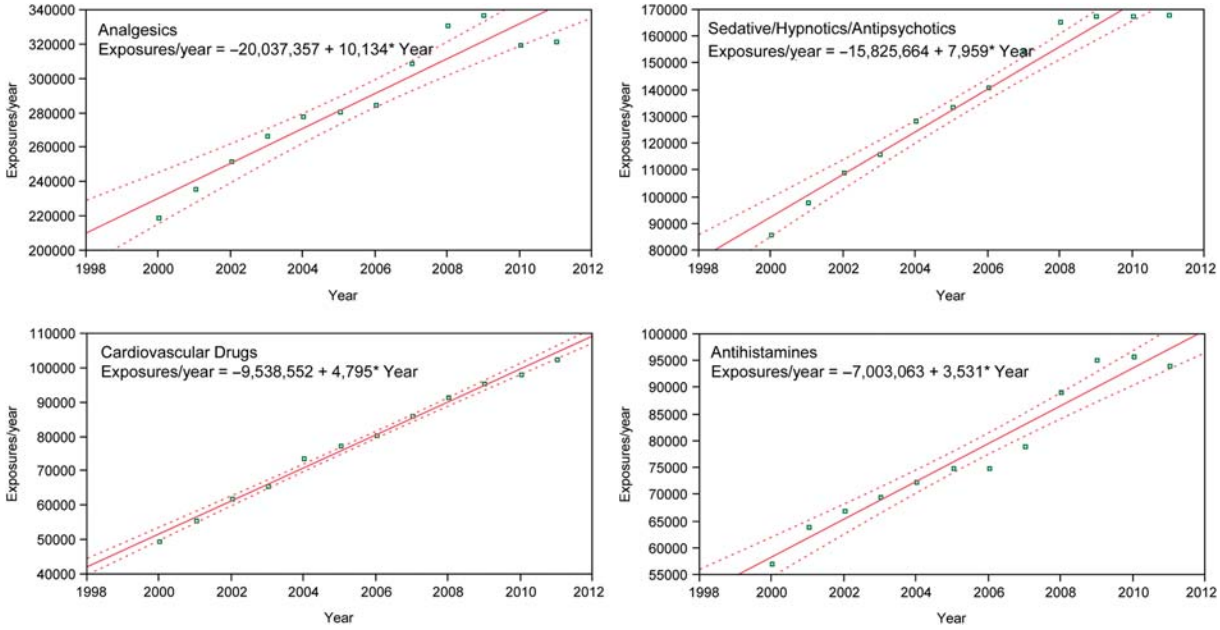


Fig. 5. Human Exposure Call Increases by Year 2000–2011 – Top 4 Categories. Solid lines show least-squares linear regressions for the Human Exposure Calls per year for that category (□). Broken lines show 95% confidence interval on the regression.

exposed to an opioid may have also been exposed to 1 or more other products) and shows single substance exposures in the right hand column.

The first ranked substance (Table 21) was a pharmaceutical in 1,689 (84.7%) of the 1,995 fatalities. These 1,689 first ranked pharmaceuticals included:

Table 17C. Substance categories most frequently involved in pediatric (≤5 years) exposures (Top 25).[a]

Substance (Major Generic Category)	All substances	%[b]	Single substance exposures	%[c]
Cosmetics/Personal Care Products	166,246	13.95	162,800	14.64
Analgesics	117,378	9.85	107,431	9.66
Cleaning Substances (Household)	109,442	9.18	105,389	9.48
Foreign Bodies/Toys/Miscellaneous	82,197	6.90	80,266	7.22
Topical Preparations	78,114	6.55	76,751	6.90
Vitamins	51,012	4.28	46,584	4.19
Antihistamines	44,458	3.73	39,803	3.58
Pesticides	39,124	3.28	38,118	3.43
Cold and Cough Preparations	34,968	2.93	31,890	2.87
Antimicrobials	33,582	2.82	31,747	2.85
Gastrointestinal Preparations	32,139	2.70	29,392	2.64
Plants	30,596	2.57	29,386	2.64
Cardiovascular Drugs	26,029	2.18	17,020	1.53
Hormones and Hormone Antagonists	23,887	2.00	18,586	1.67
Electrolytes and Minerals	22,513	1.89	20,622	1.85
Dietary Supplements/Herbals/Homeopathic	22,456	1.88	20,501	1.84
Arts/Crafts/Office Supplies	22,281	1.87	21,669	1.95
Deodorizers	20,400	1.71	20,189	1.82
Sedative/Hypnotics/Antipsychotics	14,943	1.25	11,661	1.05
Other/Unknown Nondrug Substances	12,973	1.09	12,491	1.12
Antidepressants	12,808	1.07	9,227	0.83
Asthma Therapies	12,741	1.07	11,630	1.05
Alcohols	12,435	1.04	12,159	1.09
Hydrocarbons	11,893	1.00	11,512	1.04
Information Calls	11,272	0.95	10,713	0.96

[a]Includes all children with actual or estimated ages ≤5 years old. Results do not include "Unknown Child" or "Unknown Age".
[b]Percentages are based on the total number of substances reported in pediatric exposures (N = 1,191,775).
[c]Percentages are based on the total number of single substance pediatric exposures (N = 1,112,002).

Table 17D. Substance categories most frequently involved in adult (≥20 years) exposures (Top 25).[a]

Substance (Major Generic Category)	All substances	%[b]	Single substance exposures	%[c]
Analgesics	152,173	12.92	70,296	10.05
Sedative/Hypnotics/Antipsychotics	130,360	11.07	42,519	6.08
Antidepressants	75,086	6.38	25,928	3.71
Cleaning Substances (Household)	67,527	5.74	53,805	7.69
Cardiovascular Drugs	66,589	5.66	26,211	3.75
Alcohols	54,226	4.61	11,387	1.63
Bites and Envenomations	44,565	3.78	44,136	6.31
Pesticides	41,593	3.53	37,599	5.38
Stimulants and Street Drugs	35,557	3.02	19,074	2.73
Anticonvulsants	35,321	3.00	13,007	1.86
Cosmetics/Personal Care Products	33,761	2.87	31,206	4.46
Antihistamines	31,134	2.64	15,129	2.16
Hormones and Hormone Antagonists	31,097	2.64	19,098	2.73
Chemicals	24,067	2.04	20,104	2.87
Antimicrobials	23,490	2.00	16,643	2.38
Fumes/Gases/Vapors	23,405	1.99	21,370	3.06
Muscle Relaxants	23,045	1.96	8,400	1.20
Hydrocarbons	21,815	1.85	20,282	2.90
Cold and Cough Preparations	20,632	1.75	10,841	1.55
Topical Preparations	18,929	1.61	18,286	2.61
Food Products/Food Poisoning	14,437	1.23	14,078	2.01
Gastrointestinal Preparations	14,424	1.23	7,640	1.09
Foreign Bodies/Toys/Miscellaneous	13,449	1.14	12,692	1.81
Miscellaneous Drugs	13,178	1.12	6,821	0.98
Information Calls	12,680	1.08	11,597	1.66

[a]Includes all adults with actual or estimated ages ≥20 years old. Results also include "Unknown Adult" but do not include "Unknown Age".
[b]Percentages are based on the total number of substances reported in adult exposures (N = 1,177,414).
[c]Percentages are based on the total number of single substance adult exposures (N = 699,383).

850 analgesics (134 methadone, 122 acetaminophen/hydrocodone, 120 oxycodone, 117 acetaminophen, 97 morphine, 61 fentanyl, 39 salicylate, 24 tramadol, 21 acetaminophen/hydrocodone, 16 acetaminophen/oxycodone)
148 antidepressants (45 amitriptyline, 17 bupropion, 16 bupropion (extended release), 15 (citalopram, 9 doxepin, 8 trazodone, 8 venlafaxine, 6 tricyclic antidepressant)
128 cardiovascular drugs (32 verapamil, 26 amlodipine, 16 cardiac glycoside, 12 diltiazem (extended release), 11 metoprolol, 9 atenolol, 8 diltiazem, 7 propanolol)
111 sedative/hypnotic/antipsychotics (38 alprazolam, 15 quetiapine, 8 clonazepam, 7 zolpidem, 5 clonazepam)
246 stimulants/street drugs (88 methamphetamine, 59 cocaine, 44 heroin, 24 amphetamines (bath salts), 7 10 methylenedioxymethamphetamine (MDMA), 4 phencyclidine, 3 THC homolog)

The exposure was acute in 778 (39.0%), A/C = acute on chronic in 270 (13.5%), C = chronic exposure in 93 (4.6%) and U = unknown in 854 (42.8%).

A total of 2,964 tissue concentrations for 1 or more related analytes were reported in 1,376 cases. Most of these (2,748) are listed in Table 21, while all tissue concentrations are available to the member centers through the NPDS Enterprise Reports. These 137 analytes included: 359 ethanol, 229 acetaminophen, 167 oxycodone, 158 alprazolam, 152 hydrocodone, 115 methadone, 111 morphine (free), 91 methamphetamine, 79 fentanyl, 70 salicylate, 58 benzoylecognine, 46 tramadol, 46 oxymorphone, and 44 cocaine.

Route of exposure was: Ingestion only in 1,338 cases (67.1%), inhalation/nasal only in 118 cases (5.9%), parenteral in 45 cases (2.3%). Most other routes were combination routes or unknown.

The Intentional exposure reason was: Suspected suicide in 737 cases (36.8%), Abuse in 774 cases (38.8%), and Misuse in 51 cases (2.6%). Unintentional exposure reason was: Environmental in 50 cases (2.5%), Therapeutic error in 28 cases (1.4%), and Misuse in 12 cases 0.6%), and Occupational in 11 (0.6%). Adverse drug reaction was the reason in 39 (2.0%).

Pediatric fatalities – age ≤ 5 years

Although children younger than 6 years were involved in the majority of exposures, they comprised 42 of 2,765 (1.5%) of fatalities. These numbers are similar to those reported since 1985 (Table 19A, all RCFs and includes indirect deaths). Table 8 (RCF 1,2,3, excludes indirect deaths) shows the percentage fatalities in children ≤5 years related to total pediatric exposures was 20/1,144,729 = 0.00367%. By comparison, 1,073/766,914 = 0.14% of all adult, exposures involved a fatality. Of these 20 pediatric fatalities, 17 (85.0%) were reported as unintentional and 1 (5.0%) were coded as resulting from malicious intent (Table 8).

Table 17E. Substance categories most frequently involved in pediatric (≤5 years) deaths.[a]

Substance (Major Generic Category)	All substances	%[b]	Single substance exposures	%[c]
Analgesics	11	21.15	7	20.59
Stimulants and Street Drugs	6	11.54	4	11.76
Cold and Cough Preparations	5	9.62	5	14.71
Cleaning Substances (Household)	4	7.69	0	0.00
Hydrocarbons	4	7.69	4	11.76
Antihistamines	3	5.77	0	0.00
Fumes/Gases/Vapors	3	5.77	3	8.82
Alcohols	2	3.85	2	5.88
Antimicrobials	2	3.85	1	2.94
Chemicals	2	3.85	0	0.00
Anesthetics	1	1.92	0	0.00
Anticonvulsants	1	1.92	1	2.94
Antidepressants	1	1.92	1	2.94
Automotive/Aircraft/Boat Products	1	1.92	1	2.94
Batteries	1	1.92	1	2.94
Cosmetics/Personal Care Products	1	1.92	1	2.94
Electrolytes and Minerals	1	1.92	1	2.94
Information Calls	1	1.92	0	0.00
Pesticides	1	1.92	1	2.94
Plants	1	1.92	1	2.94
Total	**52**	**100.00**	**34**	**100.00**

[a]Includes all children with actual or estimated ages ≤5 years old. Results do not include "Unknown Child" or "Unknown Age". Includes death and death, indirect regardless of Relative Contribution to Fatality.
[b]Percentages are based on the total number of substances reported in pediatric fatalities (N = 52).
[c]Percentages are based on the total number of single substance pediatric fatalities (N = 34).

The 25 fatalities in children ≤5 years old in Table 21 (includes death, indirect reports and RCF 1–3) included 12 pharmaceuticals and 13 nonpharmaceuticals. The first ranked substances associated with these fatalities included: methamphetamine and methadone in 3 cases, hydrofluoric acid, lamp oil, smoke, in 2 cases each, and 13 other substances (1 each).

Table 17F. Substance categories most frequently identified in drug identification calls (Top 25).

Substance (Major Generic Category)	All substances	%[a]
Analgesics	379,953	30.81
Sedative/Hypnotics/Antipsychotics	146,599	11.89
Information Calls	139,500	11.31
Unknown Drug	62,102	5.04
Muscle Relaxants	53,425	4.33
Antidepressants	49,122	3.98
Stimulants and Street Drugs	48,341	3.92
Cardiovascular Drugs	48,296	3.92
Invalid/Missing	44,796	3.63
Antihistamines	40,857	3.31
Antimicrobials	37,630	3.05
Anticonvulsants	22,942	1.86
Hormones and Hormone Antagonists	21,511	1.74
Gastrointestinal Preparations	20,026	1.62
Miscellaneous Drugs	11,727	0.95
Diuretics	10,995	0.89
Cold and Cough Preparations	10,647	0.86
Pesticides	9,655	0.78
Foreign Bodies/Toys/Miscellaneous	6,882	0.56
Plants	5,314	0.43
Cleaning Substances (Household)	5,279	0.43
Other/Unknown Nondrug Substances	4,566	0.37
Cosmetics/Personal Care Products	3,849	0.31
Bites and Envenomations	3,833	0.31
Chemicals	3,731	0.30

[a]Percentages are based on the total number of substances reported in all drug identification calls (N = 1,233,239).

Pediatric fatalities – ages 6–12 years

In the age range 6–12 years, there were 6 reported fatalities, 1 of which was unintentional general, 2 where unintentional environmental, 1 was unintentional therapeutic error,1 was intentional abuse, and 1 unintentional misuse (Table 8). The 8 fatalities listed in Table 21 (includes death, indirect reports and RCF 1–3) included: 3 smoke, 1 activated charcoal, 1 freon, 1 paint (aerosol), 1 methadone, and 1 sodium bicarbonate.

Adolescent fatalities – ages 13–19 years

In the age range 13–19 years, there were 44 reported fatalities including 40 intentional and 1 unintentional (Table 8). The 67 fatalities listed in Table 21 (includes death, indirect reports and RCF 1–3) included 57 pharmaceuticals and 10 nonpharmaceuticals. The first ranked pharmaceuticals associated with these fatalities included: methadone (9 cases), heroin (5 cases), oxymorphone (4 cases each), acetaminophen/hydrocodone, alprazolam, methamphetamine, oxycodone (3 cases each), colchicine, methylenedioxymethamphetamine (MDMA), THC homolog, tramadol (2 cases each), and the balance 1 substance each. The first ranked nonpharmaceuticals associated with these fatalities included: freon in 4 cases, ethanol and smoke (2 cases each); and the balance 1 substance each.

Table 17G. Substance categories most frequently involved in pregnant exposures[a] (Top 25).

Substance (Major Generic Category)	All substances	%[b]	Single substance exposures	%[c]
Analgesics	1,188	13.16	721	10.24
Cleaning Substances (Household)	783	8.68	615	8.74
Pesticides	581	6.44	519	7.37
Fumes/Gases/Vapors	555	6.15	526	7.47
Bites and Envenomations	517	5.73	516	7.33
Sedative/Hypnotics/Antipsychotics	402	4.45	182	2.59
Vitamins	369	4.09	287	4.08
Foreign Bodies/Toys/Miscellaneous	293	3.25	287	4.08
Antihistamines	271	3.00	173	2.46
Antidepressants	248	2.75	127	1.80
Information Calls	248	2.75	230	3.27
Cosmetics/Personal Care Products	245	2.71	233	3.31
Antimicrobials	230	2.55	164	2.33
Stimulants and Street Drugs	216	2.39	132	1.88
Chemicals	214	2.37	178	2.53
Hydrocarbons	164	1.82	159	2.26
Cold and Cough Preparations	152	1.68	98	1.39
Hormones and Hormone Antagonists	145	1.61	122	1.73
Food Products/Food Poisoning	144	1.60	142	2.02
Gastrointestinal Preparations	142	1.57	106	1.51
Alcohols	133	1.47	49	0.70
Cardiovascular Drugs	132	1.46	96	1.36
Electrolytes and Minerals	130	1.44	93	1.32
Paints and Stripping Agents	128	1.42	118	1.68
Plants	125	1.39	109	1.55

[a]Includes all patient classified as pregnant and all female patients with a 'duration of pregnancy' greater than 0.
[b]Percentages are based on the total number of substances reported in pregnant exposures (N = 9,024).
[c]Percentages are based on the total number of single substance pregnant exposures (N = 7,038).

Table 18. Categories associated with largest number of fatalities (Top 25).[a]

Substance (Minor Generic Category)	All substances	%[b]	Single substance exposures	%[c]
Miscellaneous Sedative/Hypnotics/Antipsychotics	401	14.16	16	3.27
Miscellaneous Cardiovascular Drugs	305	10.77	53	10.84
Opioids	249	8.80	29	5.93
Miscellaneous Antidepressants	229	8.09	9	1.84
Acetaminophen Combinations	183	6.46	39	7.98
Miscellaneous Stimulants and Street Drugs	169	5.97	41	8.38
Acetaminophen Alone	162	5.72	67	13.70
Miscellaneous Alcohols	147	5.19	13	2.66
Miscellaneous Anticonvulsants	88	3.11	2	0.41
Miscellaneous Muscle Relaxants	80	2.83	4	0.82
Miscellaneous Antihistamines	78	2.76	8	1.64
Cyclic Antidepressants	73	2.58	13	2.66
Acetylsalicylic Acid Alone	60	2.12	19	3.89
Miscellaneous Fumes/Gases/Vapors	51	1.80	31	6.34
Nonsteroidal Antiinflammatory Drugs	48	1.70	2	0.41
Miscellaneous Unknown Drug	46	1.62	14	2.86
Oral Hypoglycemic	44	1.55	8	1.64
Miscellaneous Chemicals	36	1.27	17	3.48
Miscellaneous Hormones and Hormone Antagonists	32	1.13	3	0.61
Miscellaneous Anticoagulants	25	0.88	7	1.43
Miscellaneous Hydrocarbons	23	0.81	17	3.48
Miscellaneous Diuretics	21	0.74	0	0.00
Antibiotics	20	0.71	2	0.41
Cannabinoids and Analogs	19	0.67	6	1.23
Other Miscellaneous Drugs	18	0.64	3	0.61

[a]Numbers represent total exposures associated with 1,158 fatalities (with relative contribution to fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory); each fatality may have had exposure to more than one substance.
[b]Percentages are based on the total number of substances reported in fatal exposures (N = 2,831).
[c]Percentages are based on the total number of single substance fatal exposures (N = 489).

Table 19A. Comparisons of death data (1985–2011).[a]

	Total fatalities		Suicides		Pediatric deaths[b]	
Year	N	% of cases	N	% of deaths	N	% of deaths
1985	328	0.036	174	53.0	20	6.1
1986	406	0.037	223	54.9	15	3.7
1987	398	0.034	227	57.0	22	5.5
1988	544	0.040	296	54.4	30	5.5
1989	590	0.037	323	54.7	24	4.1
1990	553	0.032	320	57.9	21	3.8
1991	764	0.042	408	53.4	44	5.8
1992	705	0.038	395	56.0	29	4.1
1993	626	0.036	338	54.0	27	4.3
1994	766	0.040	410	53.5	26	3.4
1995	724	0.036	405	55.9	20	2.8
1996	726	0.034	358	49.3	29	4.0
1997	786	0.036	418	53.2	25	3.2
1998	775	0.035	421	54.3	16	2.1
1999	873	0.040	472	54.1	24	2.7
2000	921	0.042	477	51.8	20	2.2
2001	1,085	0.048	553	51.0	27	2.5
2002	1,170	0.049	635	54.3	27	2.3
2003	1,109	0.046	592	53.4	35	3.2
2004	1,190	0.049	642	53.9	27	2.3
2005	1,438	0.059	674	46.9	32	2.2
2006	1,515	0.063	705	46.5	39	2.6
2007	1,597	0.064	737	46.1	47	2.9
2008	1,756	0.070	797	45.4	39	2.2
2009	1,544	0.062	779	50.5	37	2.4
2010	1,730	0.072	779	45.0	55	3.2
2011	2,765	0.118	865	31.3	42	1.5

[a]Human exposures with medical outcome of death or death, indirect regardless of Relative Contribution to Fatality.
[b]Includes all children with actual or estimated ages ≤ 5 years old. Results do

Pregnancy and Fatalities

A total of 26 deaths of pregnant women have been reported from the years 2000 through 2011. The majority (22 of 26) were intentional exposures (misuse, abuse or suspected suicide). There was 1 death in a pregnant women reported to NPDS in 2011. A 19 year-old female, 20 weeks gestation, ingested an unknown amount of methamphetamine while fleeing police. She was agitated and combative in the ED, BP 170/80, HR 170, T 41.7°C. She suffered a cardiac arrest in the ED. She was intubated, resuscitated, lavaged, given activated charcoal, cooling measures, benzodiazepines for sedation, and admitted to the ICU. She regained no neurologic function, delivered a stillborn infant, and died on hospital day 3. The fatality was judged undoubtedly responsible to the methamphetamine.

AAPCC Surveillance Results

A key component of the NPDS surveillance system is the variety of monitoring tools available to the NPDS user community. In addition to AAPCC national surveillance definitions, 37 regional PCs utilize NPDS as part of their surveillance programs. Three state health departments plus CDC run surveillance definitions in NPDS. Since Surveillance Anomaly 1, generated at 2:00 pm EDT on 17 September 2006, over 191,000 anomalies have been detected. More than 1000 were confirmed as being of public health significance with regional PCs working collaboratively with their local and state health departments and in some instances CDC on the public health issues identified.

At the time of this report, 380 surveillance definitions run continuously, monitoring case and clinical effects volume and a variety of case-based definitions from food poisoning to nerve agents. These definitions represent the surveillance work by many regional PCs, state health departments, the AAPCC, and the Health Studies Branch, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, Centers for Disease Control and Prevention (CDC).

Automated surveillance continues to remain controversial as a viable methodology to detect the index case of a public health event. Uniform evaluation algorithms are not available to determine the optimal methodologies.[8] Less controversial is the benefit to situational awareness that NPDS can provide.[9] Typical NPDS surveillance data detects a response to an event rather than event prediction. This aids in situational awareness and resilience during and after a public health event.

Table 19B. Comparisons of direct and indirect death data (2006–2011).[a]

	All deaths			Suicides					Pediatric deaths				
Year	Total	Direct	Indirect	Total	% of deaths	Direct	% of direct	Indirect	Total	% of deaths	Direct	% of direct	Indirect
2000	864	845	19	448	51.85	443	52.43	5	18	2.08	18	2.13	0
2001	1,066	952	114	542	50.84	503	52.84	39	26	2.44	24	2.52	2
2002	850	739	111	455	53.53	436	59.00	19	24	2.82	15	2.03	9
2003	867	826	41	464	53.52	454	54.96	10	29	3.34	22	2.66	7
2004	955	898	57	516	54.03	501	55.79	15	25	2.62	21	2.34	4
2005	1,423	1,332	91	666	46.80	656	49.25	10	32	2.25	26	1.95	6
2006	1,515	1,415	100	705	46.53	687	48.55	18	39	2.57	32	2.26	7
2007	1,597	1,502	95	737	46.15	712	47.40	25	47	2.94	41	2.73	6
2008	1,756	1,535	221	797	45.39	750	48.86	47	39	2.22	32	2.08	7
2009	1,544	1,452	92	779	50.45	748	51.52	31	37	2.40	31	2.13	6
2010	1,730	1,455	275	779	45.03	732	50.31	47	55	3.18	47	3.23	8
2011	2,765	1,503	1,262	865	31.28	758	50.43	107	42	1.52	31	2.06	11

[a]Human exposures with medical outcome of death or death, indirect regardless of Relative Contribution to Fatality.

Table 20. Frequency of plant exposures (Top 25).[a]

	Botanical name or Category	AAPCC Generic Code Name	N
1	Plants-general-unknown	Unknown Toxic Types or Unknown if Toxic	2,480
2	Unknown Botanical Name	Unknown Toxic Types or Unknown if Toxic	1,679
3	Botanical terms	Unknown Toxic Types or Unknown if Toxic	1,299
4	*Spathiphyllum* spp.	Oxalates	1,282
5	*Phytolacca americana* (L.)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	1,274
6	*Ilex* spp. (not otherwise specified)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	922
7	*Philodendron* spp.	Oxalates	790
8	*Euphorbia pulcherrima* (Willd.)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	658
9	Cherry (not otherwise specified)	Amygdalin and/or Cyanogenic Glycosides	610
10	*Toxicodendron radicans* (L.)	Skin Irritants (Excluding Oxalate Containing Plants)	584
11	Plants-cardiac glycosides	Cardiac Glycosides (Excluding Drugs)	569
12	Plants-pokeweed	Other Toxic Types	535
13	*Malus* spp.	Amygdalin and/or Cyanogenic Glycosides	511
14	*Zantedeschia aethiopica*	Oxalates	507
15	Berry (not otherwise specified)	Unknown Toxic Types or Unknown if Toxic	482
16	*Narcissus pseudonarcissus* (L.)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	426
17	*Caladium* spp.	Oxalates	406
18	*Solanum dulcamara*	Solanine	391
19	Mold (not otherwise specified)	Unknown Toxic Types or Unknown if Toxic	383
20	*Epipremnum areum*	Oxalates	371
21	*Ilex opaca*	Other Toxic Types	359
22	Plants-toxicodendrol	Skin Irritants (Excluding Oxalate Containing Plants)	337
23	Plants-oxalates	Oxalates	333
24	Unknown Botanical Name	Non-Toxic	318
25	*Rhododendron* spp.	Other Toxic Types	311

[a]Number of substances related to a human exposure with a Major Generic Category of Plant. Unknown Botanical Name represents substances with a Major Generic Category of Plant and a NULL substance code. Total = 47,561.

Discussion

The exposure cases and information requests reported by PCs in 2011 do not reflect the full extent of PC efforts which also include poison prevention activities and public and health care professional education programs.

NPDS exposure data may be considered as providing "numerator data", in the absence of a true denominator, that is, we do not know the number of actual exposures that occur in the population. NPDS data covers only those exposures which are reported to PCs.

NPDS 2000–2011 call volume data clearly demonstrate a continuing decrease in exposure calls. This decline has been apparent and increasing since mid-2007 and reflects the decreasing use of the PC for less severe exposures. However, in contrast, during this same period, exposures with a more severe outcome (death, major, moderate) and health care facility calls have continued a consistent increase. Possible contributors to the declining PC access include: declining US birth (especially since exposure rates are much higher in children ≤ 5 years of age), increasing use of text over voice communication, and increased use of and reliance on internet search engines and web resources. To meet our public health goals, poison centers will need to understand and meet the public's 21st century communication preferences. We are concerned that failure to respond to these changes may result in a retro-shift with more people seeking medical care for exposures that could have been managed at home by a poison center. Likewise minor exposures may progress to more severe morbidity and mortality because of incorrect internet information or no telephone management. The net effect could be more severe poisoning outcomes because fewer people took advantage of poison center services, with a resultant increased burden on the national healthcare infrastructure.

NPDS regression analyses indicate that all analgesic exposures including opioids and sedatives are increasing year after year. This trend is shown in Table 17B and Fig. 5. NPDS data mirror CDC data that demonstrate similar findings.[9] Thus NPDS provides a real-time view of these public health issues without the need for data source extrapolations.

One of the limitations of NPDS data has been the perceived lack of fatality case volume compared to other reporting sources. However, when change over time is studied, NPDS is clearly consistent with other public health fatality analyses. One of the issues leading to this concern is the fact that medical record systems seldom have common output streams. This is particularly apparent with the various electronic medical record systems available. It is important to build a federated approach similar to the one modeled by NPDS to allow data sharing, for example, between hospital emergency departments and other medical record systems including medical examiner offices nationwide. Enhancements to NPDS can promote interoperability between NPDS and electronic medical records systems to better trend poison-related morbidity and mortality in the US and internationally.

Summary

Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time, always current status of NPDS represents a national public health resource to collect and monitor US exposure cases and information calls.

Changes in encounters in 2011 compared to 2010 shown in Fig. 4 include:

- Total encounters (all exposure and information calls) decreased by 8.3%;
- All information calls decreased 17.9%, Drug ID calls decreased 24.1%, and human exposures decreased 2.2%;
- Health care facility (HCF) information calls decreased 2.9% while HCF exposures *increased* 4.8%;
- Human exposures with less serious outcomes decreased 3.4% while those with more serious outcomes (minor, moderate, major or death) *increased* 6.8%;
- The categories of substance exposures increasing most rapidly are: analgesics, followed by sedative/hypnotics/antipsychotics, cardiovascular drugs, antihistamines.

These data support the continued value of poison center expertise and need for specialized medical toxicology information to manage the more severe exposures, despite a decrease in calls involving less severe exposures. Poison centers must consider newer communication approaches that match current public communication patterns in addition to the traditional telephone call.

The continuing mission of NPDS is to provide a nationwide infrastructure for public health surveillance for all types of exposures, public health event identification, resilience response and situational awareness tracking. NPDS is a model system for the nation and global public health.

Disclaimer

The American Association of Poison Control Centers (AAPCC; http://www.aapcc.org) maintains the national database of information logged by the country's regional Poison Centers (PCs) serving all 50 United States, Puerto Rico and the District of Columbia. Case records in this database are from self-reported calls: they reflect only information provided when the public or healthcare professionals report an actual or potential exposure to a substance (e.g., an ingestion, inhalation, or topical exposure, etc.), or request information/educational materials. Exposures do not necessarily represent a poisoning or overdose. The AAPCC is not able to completely verify the accuracy of every report made to member centers. Additional exposures may go unreported to PCs and data referenced from the AAPCC should not be construed to represent the complete incidence of national exposures to any substance(s).

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Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
Non-Pharmaceutical Exposures										
Alcohols										
[1pa]	4 y F				A	Ingst	Oth-M	1		
		ethanol	1	1					ethanol	272 mg/dL In Serum @ Unknown
2h	15 y M				A	Ingst+ Aspir	Int-A	3		
		ethanol	1	1						
		chlorpheniramine/ dextromethorphan	2	2						
3pha	16 y M				A	Ingst	Int-M	3		
		ethanol	1	1					ethanol	0.07% In Blood (unspecified) @ Autopsy
4pai	22 y M				A	Ingst	Int-A	1		
		ethanol	1	1						
5a	23 y M				A	Ingst+ Par	Int-A	3		
		ethanol	1	1					ethanol	0.238 g/dL In Blood (unspecified) @ 1 h (pe)
		zolpidem	2	2					zolpidem	180 ng/mL In Blood (unspecified) @ 1 h (pe)
		olanzapine	3	3						
		lorazepam	4	4						
		droperidol	5	5						
6h	24 y M				U	Ingst+ Unk	Int-S	1		
		methanol	1	1					methanol	387 mg/dL In Serum @ Unknown
		drug, unknown	2	2						
7pai	26 y M				A	Ingst	Int-A	1		
		ethanol	1	1						
		oxycodone	2	2						
8ha	26 y F				A	Ingst	Int-A	1		
		methanol	1	1					methanol	109 mg/dL In Blood (unspecified) @ Unknown
		nitromethane	2	2						
9pai	27 y M				A	Ingst	Int-A	3		
		ethanol	1	1					ethanol	0.24% In Blood (unspecified) @ Autopsy
		bupropion	2	2					bupropion	0.1 mg/L In Blood (unspecified) @ Autopsy
		dextromethorphan	3	3					dextromethorphan	0.06 mg/L In Blood (unspecified) @ Autopsy
10ai	27 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.05% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.05% (wt/Vol) In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	79 ng/mL In Whole Blood @ Autopsy
11pa	29 y F				A	Ingst	Int-U	1		
		ethanol (non-beverage)	1	1						
12ai	29 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.64% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.7% (wt/Vol) In Urine (quantitative only) @ Autopsy
13ai	29 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.46% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.5% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.51% (wt/Vol) In Urine (quantitative only) @ Autopsy
		laxative (stimulant)	2	2						
14ai	30 y M				U	Ingst+ Aspir	Int-A	2		
		ethanol	1	1					ethanol	0.14% (wt/Vol) In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	1	1					ethanol	0.15% (wt/Vol) In Vitreous @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
15ai	32 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.44% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.5% (wt/Vol) In Whole Blood @ Autopsy
16ai	32 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.19 mcg/mL In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.22 mcg/mL In Vitreous @ Autopsy
		oxymorphone	2	2					oxymorphone	21 ng/mL In Whole Blood @ Autopsy
17p	33 y M				A	Ingst	Int-U	1		
		ethanol	1	1						
		oxymorphone (extended release)	2	2						
		cocaine	3	3						
18ai	34 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.51% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.58% (wt/Vol) In Vitreous @ Autopsy
19ai	35 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.35% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Vitreous @ Autopsy
20ai	35 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.39% (wt/Vol) In Blood (unspecified) @ Unknown
		ethanol	1	1					ethanol	0.41% (wt/Vol) In Urine (quantitative only) @ Unknown
21ai	35 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.17% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	23.2 mcg/mL In Whole Blood @ Autopsy
		meprobamate	3	3					meprobamate	20.7 mcg/mL In Whole Blood @ Autopsy
22pai	36 y M				A	Ingst+ Unk	Int-A	3		
		ethanol	1	1					ethanol	0.14% In Blood (unspecified) @ Autopsy
		cocaine	2	2						
23ai	36 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.34% (wt/Vol) In Urine (quantitative only) @ Autopsy
		ethanol	1	1					ethanol	0.41% (wt/Vol) In Whole Blood @ Autopsy
24	36 y M				A	Ingst	Int-S	1		
		methanol	1	1						
25pai	38 y M				A	Ingst	Int-U	1		
		ethanol (non-beverage)	1	1						
		citalopram	2	2						
		alprazolam	3	3						
26ai	38 y M				U	Ingst	Unk	2		
		ethanol	1	1					ethanol	0.44% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.49% (wt/Vol) In Vitreous @ Autopsy
27pai	39 y M				U	Ingst	Int-A	1		
		ethanol	1	1					ethanol	0.15% In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.18% In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	90 ng/mL In Whole Blood @ Autopsy
		cocaine	3	3					benzoylecognine	0.09 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
28pai	40 y M				A	Ingst	Int-A	1		
		ethanol	1	1					ethanol	0.2% In Blood (unspecified) @ Autopsy
29ha	40 y F				A	Ingst	Int-S	2		
		ethanol	1	1						
		amlodipine*	2	2					amlodipine	0.24 mg/L In Blood (unspecified) @ Unknown
		lisinopril*	3	2						
30pai	41 y M				A	Ingst+ Inhal	Int-A	1		
		ethanol	1	1						
		cocaine	2	2						
		dextromethorphan	3	3						
		doxylamine	4	4						
[31h]	41 y M				A	Ingst	Int-A	1		
		methanol	1	1					methanol	10 mg/dL In Serum @ 39 h (pe)
		methanol	1	1					methanol	152 mg/dL In Serum @ 13 h (pe)
		methanol	1	1					methanol	47 mg/dL In Serum @ 31 h (pe)
		methanol	1	1					methanol	485 mg/dL In Serum @ 7 h (pe)
		methanol	1	1					methanol	620 mg/dL In Serum @ 1 h (pe)
32ai	41 y F				U	Unk	Int-A	2		
		methanol	1	1					methanol	0.3% (wt/Vol) In Whole Blood @ Autopsy
		methanol	1	1					methanol	0.35% (wt/Vol) In Vitreous @ Autopsy
33ai	41 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.07% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
		diazepam	2	2						
34pai	42 y M				A	Ingst	Int-A	1		
		ethanol	1	1					ethanol	0.32% In Blood (unspecified) @ Autopsy
35ai	42 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.41% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.43% (wt/Vol) In Whole Blood @ Autopsy
36ai	42 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.51% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.52% (wt/Vol) In Vitreous @ Autopsy
37ai	42 y M				U	Ingst	Int-U	2		
		ethanol	1	1					ethanol	0.42% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.47% (wt/Vol) In Vitreous @ Autopsy
		clonazepam	2	2						
38pai	43 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.34% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.39% (wt/Vol) In Vitreous @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	1.7 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	5.3 mcg/mL In Whole Blood @ Autopsy
39ai	43 y F				U	Ingst	Int-U	2		
		ethanol	1	1					ethanol	0.35% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.38% (wt/Vol) In Vitreous @ Autopsy
40ai	43 y M				U	Ingst	Int-S	2		
		ethanol	1	1					ethanol	0.24% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.3% (wt/Vol) In Vitreous @ Autopsy
		diphenhydramine	2	2					diphenhydramine	9.6 mcg/mL In Whole Blood @ Autopsy
41ai	43 y F				U	Ingst	Unk	2		
		ethanol	1	1					ethanol	0.48% (wt/Vol) In Vitreous @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	1	1					ethanol	0.49% (wt/Vol) In Whole Blood @ Autopsy
42ai	43 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.29% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Vitreous @ Autopsy
		chlordiazepoxide	2	2						
43ai	43 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.43% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.54% (wt/Vol) In Vitreous @ Autopsy
44ai	43 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.15% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.18% (wt/Vol) In Vitreous @ Autopsy
		fentanyl	2	2					fentanyl	2.3 ng/mL In Whole Blood @ Autopsy
45ai	44 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.25% (wt/Vol) In Blood (unspecified) @ Unknown
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Urine (quantitative only) @ Unknown
		temazepam	2	2					temazepam	0.81 mcg/mL In Whole Blood @ Autopsy
		temazepam	2	2					temazepam	1.3 mcg/mL In Serum @ Unknown
		fluoxetine	3	3						
		olanzapine	4	4						
		clonazepam	5	5						
		hydroxyzine	6	6						
46ai	45 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.11% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.14% (wt/Vol) In Vitreous @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
47ai	45 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.32% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Vitreous @ Autopsy
		alprazolam	2	2					alprazolam	99 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		paroxetine	4	4						
48pha	45 y M				A	Ingst	Int-A	3		
		ethanol	1	1					ethanol	422 mg/dL In Blood (unspecified) @ Unknown
49	46 y M				A	Unk	Int-U	1		
		methanol	1	1					methanol	420 mg/dL In Blood (unspecified) @ Unknown
50	46 y F				A/C	Ingst	Int-S	3		
		ethanol	1	1						
51ai	46 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.43% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.49% (wt/Vol) In Whole Blood @ Autopsy
		diazepam	2	2					nordiazepam	0.53 mcg/mL In Whole Blood @ Autopsy
52ai	47 y F				U	Ingst	Int-A	3		
		ethanol	1	1					ethanol	0.3% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Vitreous @ Autopsy
		fluoxetine	2	2					fluoxetine	2 mcg/mL In Whole Blood @ Autopsy
53pai	48 y M				A	Ingst	Int-A	1		
		ethanol	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
54ai	48 y F				U	Ingst+ Inhal	Int-A	2		
		ethanol	1	1					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.05% (wt/Vol) In Vitreous @ Autopsy
		freon	2	2						
55ai	48 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.34% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.35% (wt/Vol) In Vitreous @ Autopsy
		temazepam	2	2					temazepam	1.7 mcg/mL In Whole Blood @ Autopsy
56ai	48 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.39% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.4% (wt/Vol) In Vitreous @ Autopsy
57ai	48 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.48% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.5% (wt/Vol) In Vitreous @ Autopsy
58pi	48 y M				U	Ingst	Unk	3		
		ethanol (non-beverage)	1	1					ethanol	120 mg/mL In Blood (unspecified) @ 1 h (pe)
59pai	49 y M				A	Ingst+ Unk	Int-U	1		
		ethanol	1	1						
		heroin	2	2					morphine (free)	200 mcg/L In Blood (unspecified) @ Autopsy
60ai	49 y M				U	Ingst+ Unk	Int-A	2		
		ethanol	1	1					ethanol	0.27% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.31% (wt/Vol) In Vitreous @ Autopsy
		morphine	2	2					morphine (free)	0.26 mcg/mL In Whole Blood @ Autopsy
61pai	50 y M				A	Ingst	Int-A	1		
		ethanol	1	1						
		mirtazapine	2	2						
62ai	50 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.34% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.4% (wt/Vol) In Vitreous @ Autopsy
63	50 y M				C	Ingst	Unt-M	2		
		ethanol	1	1					ethanol	393 mg/dL In Whole Blood @ Autopsy
		diazepam	2	2					nordiazepam	230 ng/mL In Whole Blood @ Autopsy
		melatonin	3	3						
64pha	51 y F				A	Ingst	Unk	3		
		ethanol	1	1					ethanol	222 mg/dL In Blood (unspecified) @ Autopsy
		ethanol	1	1					ethanol	350 mg/dL In Blood (unspecified) @ Unknown
65ai	51 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.24% (wt/Vol) In Vitreous @ Autopsy
		triazolam	2	2						4.9 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3						
66ai	51 y M				U	Ingst	Unk	2		
		ethanol	1	1					ethanol	0.42% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.44% (wt/Vol) In Whole Blood @ Autopsy
67pai	52 y F				A	Ingst	Int-A	3		
		ethanol	1	1					ethanol	0.05% In Blood (unspecified) @ Autopsy
		citalopram	2	2					citalopram	1.4 mg/L In Blood (unspecified) @ Autopsy
68pai	52 y M				A	Ingst	Int-A	1		
		ethanol	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
69ai	52 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.29% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.32% (wt/Vol) In Vitreous @ Autopsy
		diphenhydramine	2	2					diphenhydramine	0.4 mcg/mL In Whole Blood @ Autopsy
70	52 y F				C	Ingst	Int-A	2		
		ethanol	1	1					ethanol	63 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	37 mcg/mL In Blood (unspecified) @ Unknown
71ai	52 y M				U	Ingst+ Derm	Int-A	2		
		ethanol	1	1					ethanol	0.29% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.32% (wt/Vol) In Vitreous @ Autopsy
		fentanyl	2	2					fentanyl	10.9 ng/mL In Whole Blood @ Autopsy
72ai	52 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.4% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.45% (wt/Vol) In Vitreous @ Autopsy
73h	53 y M				A/C	Ingst	Int-A	3		
		ethanol	1	1					ethanol	252 mg/dL In Serum @ 1 h (pe)
		drug, unknown	2	2						
		marijuana	3	3						
74ai	54 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.03% (wt/Vol) In Urine (quantitative only) @ Autopsy
		ethanol	1	1					ethanol	0.09% (wt/Vol) In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.26 mcg/mL In Whole Blood @ Autopsy
75pai	55 y M				A	Ingst	Int-A	1		
		ethanol	1	1						
76ai	55 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.42% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.47% (wt/Vol) In Whole Blood @ Autopsy
77h	55 y M				A	Ingst	Int-A	3		
		ethanol	1	1						
78ha	55 y M				U	Ingst+ Inhal	Int-A	2		
		methanol	1	1						
		methamphetamine	2	2						
		amphetamine	3	3						
79ai	55 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.5% (wt/Vol) In Vitreous @ Autopsy
		ethanol	1	1					ethanol	0.52% (wt/Vol) In Whole Blood @ Autopsy
80	55 y F				C	Ingst	Int-A	3		
		ethanol	1	1					ethanol	174 mg/dL In Blood (unspecified) @ Unknown
81ai	55 y M				U	Ingst+ Unk	Unk	2		
		ethanol	1	1					ethanol	0.18% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
		cocaine	2	2					cocaethylene	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					benzoylecognine	0.17 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	0.19 mcg/mL In Whole Blood @ Autopsy
		zolpidem	4	4					zolpidem	0.24 mcg/mL In Whole Blood @ Autopsy
82ha	56 y F				A	Ingst+ Inhal	Int-A	1		
		ethanol	1	1						
		phencyclidine	2	2					phencyclidine	0.14 mg/L In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
83pai	57 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.49% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.53% (wt/Vol) In Vitreous @ Autopsy
84h	57 y M				A/C	Ingst	Int-S	3		
		ethanol	1	1						
		alprazolam	2	2						
		acetaminophen/ oxycodone	3	3						
		amphetamine	4	4						
85ai	57 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.36% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.42% (wt/Vol) In Vitreous @ Autopsy
		diazepam	2	2					nordiazepam	0.7 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2					diazepam	0.76 mcg/mL In Whole Blood @ Autopsy
86ai	58 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.5% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.52% (wt/Vol) In Vitreous @ Autopsy
87ai	60 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.27% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.37% (wt/Vol) In Vitreous @ Autopsy
88h	60 y F				A	Ingst	Int-S	3		
		ethanol	1	1						
		clonazepam	2	2						
89ai	60 y M				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.17% (wt/Vol) In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	171 ng/mL In Blood (unspecified) @ Unknown
		zolpidem	3	3						
90ai	61 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.3% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.31% (wt/Vol) In Whole Blood @ Autopsy
		diphenhydramine	2	2					diphenhydramine	0.53 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	0.21 mcg/mL In Whole Blood @ Autopsy
		benzodiazepine	4	4						
		fluoxetine	5	5						
91pai	64 y M				A	Ingst	Int-A	1		
		ethanol	1	1						
92ai	64 y F				U	Ingst	Int-A	2		
		ethanol	1	1					ethanol	0.12% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	1	1					ethanol	0.15% (wt/Vol) In Vitreous @ Autopsy
		skeletal muscle relaxant	2	2						
		laxative (stimulant)	3	3						
		topiramate	4	4						
		phenytoin	5	5						
93h	67 y M				C	Ingst	Int-A	3		
		ethanol	1	1					ethanol	154 mg/dL In Serum @ 0 h (pe)
		ethanol	1	1					ethanol	197 mg/dL In Serum @ 6 h (pe)
94h	71 y M				A	Ingst	Int-A	2		
		ethanol	1	1					ethanol	197 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	62.4 mcg/mL In Blood (unspecified) @ Unknown
95	72 y F				A/C	Ingst	Int-S	3		
		isopropanol	1	1						
		atenolol	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		tramadol	3	3						
		methylphenidate	4	4						
96	78 y F				U	Ingst	Int-U	1		
		methanol	1	1					methanol	193 mg/dL In Serum @ Unknown
		methanol	1	1					methanol	73 mg/dL In Serum @ Unknown
See also case 98, 103, 132, 157, 194, 195, 201, 202, 206, 207, 208, 215, 219, 265, 278, 285, 286, 297, 305, 338, 344, 352, 353, 355, 357, 364, 366, 370, 377, 383, 399, 400, 404, 410, 423, 430, 438, 456, 462, 470, 478, 482, 488, 504, 511, 521, 522, 526, 531, 534, 552, 555, 564, 567, 576, 579, 597, 605, 612, 613, 619, 627, 630, 632, 637, 650, 653, 658, 663, 666, 673, 676, 693, 706, 722, 724, 729, 743, 745, 752, 763, 767, 770, 771, 772, 779, 787, 789, 795, 798, 799, 822, 840, 842, 844, 848, 849, 853, 856, 858, 860, 879, 887, 891, 898, 903, 908, 910, 917, 918, 934, 936, 938, 940, 942, 944, 945, 959, 960, 968, 980, 983, 996, 997, 1002, 1004, 1012, 1016, 1017, 1020, 1030, 1035, 1036, 1044, 1064, 1078, 1153, 1155, 1164, 1193, 1194, 1200, 1204, 1205, 1207, 1209, 1210, 1224, 1225, 1226, 1232, 1235, 1238, 1239, 1241, 1249, 1252, 1253, 1259, 1264, 1266, 1271, 1272, 1273, 1275, 1280, 1281, 1284, 1292, 1302, 1308, 1312, 1313, 1321, 1322, 1323, 1325, 1326, 1332, 1341, 1349, 1351, 1363, 1370, 1382, 1387, 1409, 1433, 1439, 1455, 1458, 1487, 1498, 1517, 1548, 1557, 1559, 1567, 1573, 1587, 1599, 1600, 1630, 1635, 1637, 1641, 1646, 1650, 1653, 1655, 1659, 1666, 1669, 1676, 1677, 1684, 1686, 1690, 1705, 1707, 1714, 1730, 1732, 1733, 1775, 1780, 1795, 1799, 1801, 1808, 1847, 1851, 1857, 1873, 1879, 1887, 1900, 1910, 1914, 1924, 1933, 1945, 1982, 1987									
Anticonvulsants										
97	28 y M				A/C	Ingst	Int-S	2		
		activated charcoal*	1	1						
		carbamazepine*	2	1						
		amantadine	3	2						
		paliperidone	4	3						
See also case 92, 210, 369, 390, 492, 565, 609, 626, 682, 683, 696, 697, 702, 706, 726, 733, 738, 760, 771, 796, 797, 814, 829, 830, 837, 880, 900, 918, 923, 952, 974, 982, 1060, 1163, 1164, 1166, 1199, 1200, 1201, 1218, 1226, 1230, 1235, 1237, 1253, 1290, 1291, 1300, 1308, 1310, 1326, 1328, 1329, 1355, 1357, 1367, 1430, 1433, 1457, 1467, 1469, 1477, 1481, 1482, 1485, 1486, 1491, 1503, 1507, 1570, 1595, 1608, 1620, 1634, 1654, 1671, 1674, 1681, 1689, 1692, 1694, 1696, 1699, 1704, 1755, 1826									
Antidepressants										
98pha	49 y F				A	Ingst	Int-S	1		
		bupropion*	1	1					bupropion	16377 ng/mL In Blood (unspecified) @ Autopsy
		floor polish*	2	1						
		ethanol (non-beverage)	3	2						
See also case 9, 13, 25, 45, 47, 52, 61, 67, 90, 92, 130, 210, 222, 229, 277, 306, 316, 350, 360, 361, 374, 379, 381, 385, 392, 409, 411, 419, 424, 429, 432, 433, 437, 441, 445, 446, 450, 458, 469, 471, 475, 478, 480, 484, 492, 496, 497, 505, 510, 516, 518, 519, 530, 542, 543, 546, 549, 563, 565, 567, 573, 586, 591, 596, 597, 599, 603, 604, 618, 620, 625, 634, 639, 643, 648, 652, 656, 663, 667, 679, 681, 690, 696, 697, 698, 699, 705, 708, 712, 715, 719, 723, 726, 731, 733, 747, 749, 754, 755, 759, 760, 763, 774, 784, 788, 789, 791, 793, 801, 803, 806, 807, 810, 813, 819, 821, 824, 829, 835, 836, 844, 845, 846, 847, 857, 869, 871, 875, 879, 883, 899, 904, 905, 924, 925, 935, 941, 944, 949, 955, 966, 979, 985, 995, 1000, 1013, 1016, 1020, 1024, 1026, 1028, 1029, 1031, 1036, 1037, 1040, 1041, 1042, 1053, 1055, 1063, 1071, 1074, 1083, 1086, 1088, 1100, 1104, 1113, 1117, 1118, 1140, 1143, 1146, 1147, 1163, 1164, 1176, 1177, 1179, 1183, 1187, 1338, 1343, 1353, 1356, 1357, 1361, 1382, 1383, 1385, 1386, 1390, 1392, 1398, 1403, 1409, 1410, 1413, 1417, 1420, 1421, 1430, 1433, 1434, 1435, 1436, 1438, 1443, 1444, 1451, 1457, 1467, 1469, 1476, 1479, 1481, 1482, 1483, 1486, 1491, 1496, 1503, 1510, 1517, 1523, 1540, 1556, 1595, 1607, 1612, 1616, 1618, 1619, 1620, 1622, 1623, 1629, 1632, 1638, 1639, 1651, 1652, 1654, 1656, 1658, 1661, 1662, 1672, 1673, 1674, 1678, 1682, 1683, 1688, 1692, 1695, 1696, 1699, 1703, 1704, 1705, 1725, 1739, 1767, 1794, 1795, 1807, 1817, 1822, 1826, 1840, 1842, 1843, 1847, 1876, 1880, 1884, 1886, 1887, 1909, 1916, 1920, 1929, 1933, 1943, 1956									
Arts/Crafts/Office Supplies										
99p	59 y M				A	Ingst	Unt-G	1		
		hydroluuroic acid	1	1						
Automotive/Aircraft/Boat Products										
100pha	2 y M				A	Ingst	Unt-G	1		
		hydrocarbon	1	1						
101h	17 y F				A	Ingst	Int-S	3		
		brake fluid	1	1						
102h	24 y M				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	120 mg/dL In Blood (unspecified) @ Unknown
103	31 y F				A	Ingst	Int-S	2		
		antifreeze (ethylene glycol)	1	1						
		ethanol	2	2						
104	33 y F				A	Ingst	Int-S	2		
		methanol	1	1					methanol	0.486 g/dL In Blood (unspecified) @ Unknown
105	43 y F				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	15 mg/dL In Blood (unspecified) @ Unknown
106	44 y F				A	Ingst	Int-S	1		
		methanol	1	1						
107a	49 y M				A	Ingst	Int-S	3		
		antifreeze (ethylene glycol)	1	1						
		acetaminophen/ oxycodone	2	2						
108h	50 y F				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		skeletal muscle relaxant	2	2						
109	54 y M				A	Ingst	Int-S	3		
		antifreeze (ethylene glycol)*	2	1					ethylene glycol	199 mg/dL In Serum @ Unknown
		antifreeze (ethylene glycol)*	2	1					ethylene glycol	63 mg/dL In Serum @ Unknown
		antifreeze (ethylene glycol)*	2	1					ethanol	76 mg/dL In Serum @ Unknown
		drug, unknown *	1	1						
[110ha]	55 y M				A	Ingst	Int-S	1		
		methanol	1	1					methanol	40 mg/dL In Blood (unspecified) @ Unknown
		organophosphate	2	2						
111ha	55 y F				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	203 mg/dL In Blood (unspecified) @ Unknown
		antifreeze (ethylene glycol)	1	1					ethylene glycol	350 mg/dL In Blood (unspecified) @ Unknown
[112ha]	59 y M				A	Ingst	Unk	2		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	38 mg/dL In Serum @ Unknown
113	63 y F				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1						
114pa	70 + y M			A	Ingst	Unk	1			
		antifreeze (ethylene glycol)	1	1						
See Also case 873, 1288, 1823										
Batteries										
[115pha]	4 y F				A	Ingst	Unt-G	1		
		disc battery	1	1						
Bites and Envenomations										
116	42 y M				A	B-S	Unt-B	2		
		envenomation (agkistrodon)	1	1						
[117h]	54 y M				A	B-S	Unt-O	3		
		envenomation (crotalid)	1	1						
Cardiovascular Drugs										
118h	11 y M				A	Ingst	Unt-G	1		
		activated charcoal*	1	1						
		clonidine*	2	1						
See also case 29, 95, 318, 325, 538, 604, 620, 726, 797, 800, 971, 989, 1024, 1031, 1037, 1053, 1117, 1141, 1155, 1186, 1209, 1218, 1222, 1224, 1226, 1231, 1248, 1265, 1275, 1287, 1290, 1299, 1300, 1304, 1308, 1309, 1310, 1319, 1328, 1331, 1349, 1367, 1373, 1556, 1568, 1570, 1572, 1576, 1583, 1616, 1618, 1647, 1656, 1695, 1699, 1768, 1886, 1887, 1889, 1913										
Chemicals										
119a	22 y F				A	Inhal + Derm	Int-S	1		
		methyl bromide	1	1						
[120h]	28 y F				A/C	Ingst	Unt-M	2		
		epinephrine	1	1						
121ha	33 y M				A	Ingst	Unt-G	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	32 mg/dL In Serum @ Unknown
122p	34 y M				A/C	Unk	Unk	2		
		hydrochloric acid	1	1						
		sulfur	2	2						
123ph	34 y M				A	Ingst	Unk	1		
		antifreeze (ethylene glycol)	1	1						
[124]	35 y F				A	Oth	Oth-M	1		
		cyanide	1	1					cyanide	76 mcg/mL In Blood (unspecified) @ 1 h (pe)
125	41 y M				A	Ingst	Int-S	1		
		sulfuric acid	1	1						
126a	44 y F				A	Ingst	Int-U	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	13800 mg/L In Urine (quantitative only) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		antifreeze (ethylene glycol)	1	1					ethylene glycol	3390 mg/L In Serum @ Unknown
		antifreeze (ethylene glycol)	1	1					glycolic acid	4720 mg/L In Serum @ Unknown
		antifreeze (ethylene glycol)	1	1					glycolic acid	4910 mg/L In Urine (quantitative only) @ Unknown
127a	46 y M				U	Ingst	Unk	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	114 mg/dL In Serum @ Unknown
128ha	47 y M				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	18 mg/dL In Serum @ Unknown
129ai	50 y F				U	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	2530 mcg/mL In Blood (unspecified) @ Unknown
130h	50 y F				A	Ingst	Int-S	1		
		formaldehyde	1	1						
		trazodone	2	2						
[131h]	51 y M				A	Ingst	Int-S	1		
		fluorosilicate	1	1						
132	51 y M				A	Ingst+ Aspir	Int-U	1		
		sodium hydroxide	1	1						
		ethanol	2	2						
[133a]	53 y F				A	Ingst+ Unk	Int-S	1		
		copper/nitric acid/selenium dioxide	1	1						
		cocaine	2	2					ecgonine methyl ester	0.08 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	0.524 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	3	3					clonazepam	3.2 ng/mL In Blood (unspecified) @ Autopsy
[134h]	54 y M				A	Ingst	Int-S	1		
		hydrofluoric acid	1	1						
135ai	55 y F				U	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	1149 mcg/mL In Vitreous @ Autopsy
		antifreeze (ethylene glycol)	1	1					ethylene glycol	794 mcg/mL In Whole Blood @ Autopsy
136pa	55 y M				U	Ingst	Int-S	1		
		chemical, unknown	1	1						
137pha	56 y M				A	Derm	Unt-O	1		
		calcium carbide	1	1						
[138ha]	57 y M				A	Ingst	Int-S	3		
		cyanide	1	1						
139ai	57 y M				U	Ingst	Int-S	2		
		antifreeze (ethylene glycol)	1	1						
140	57 y M				A	Ingst+ Inhal+ Derm	Unt-M	1		
		cleaner (ammonia)	1	1						
		freon	2	2						
141p	58 y F				A	Inhal	Unt-E	1		
		cyanide	1	1						
		carbon monoxide	2	2						
142	58 y M				A	Ingst	Int-S	1		
		potassium hydroxide	1	1						
143a	61 y M				A	Inhal+ Oc+ Derm	Unt-O	1		
		nitrates	1	1						
144h	63 y M				A	Ingst	Int-S	1		
		drain cleaner (acid)	1	1						
145p	69 y M				A	Ingst	Int-S	1		
		antifreeze (ethylene glycol)	1	1					ethylene glycol	417 mg/dL In Serum @ 0 h (pe)
146p	74 y M				A	Inhal+ Derm	Unt-O	1		
		cleaner (ammonia)	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
147	76 y M				A	Ingst	Int-S	1		
		sulfuric acid	1	1						
148p	83 y M				A	Inhal	Unt-E	1		
		cyanide	1	1						
		carbon monoxide	2	2						
149hai	Unknown adult (>= 20 yrs) M			U	Par+ Unk	Unk	3			
		chemical, methemoglobin causing	1	1						
		methylene blue	2	2						
150pa	Unknown age M			A	Inhal+ Derm	Unt-O	1			
		calcium carbide	1	1						
151pi	Unknown age U			A	Inhal	Int-S	1			
		chemical, unknown	1	1						
See Also case 8, 152, 153, 170, 182, 207, 212, 215, 225, 232, 772, 1105, 1728, 1818										
Cleaning Substances (Household)										
152ha	2 y M				A	Ingst	Unt-G	1		
		hydrofluoric acid	1	1						
		phosphoric acid	2	2						
[153pha]	2 y M				A	Ingst	Unt-G	1		
		hydrofluoric acid	1	1						
		chemical, unknown	2	2						
154ph	20 y F				A	Ingst	Int-A	1		
		cleaner (household)	1	1						
155i	30 y M				A	Ingst+ Aspir	Unk	2		
		laundry detergent, liquid	1	1						
156ph	38 y F				A	Inhal	Unt-M	3		
		disinfectant	1	1						
		hypochlorite	2	2						
157ha	44 y F				A	Ingst	Int-S	1		
		disinfectants (pine oil)	1	1						
		ethanol (non-beverage)	2	2						
158	52 y M				A	Ingst	Int-U	2		
		cleaner (household)	1	1						
159	56 y M				A	Ingst	Int-S	1		
		toilet bowl cleaner (acid)	1	1						
		plant hormone	2	2						
160a	57 y F				C	Ingst	Int-S	1		
		drain cleaner (alkali)	1	1						
		metformin	2	2					metformin	240 mg/L In Whole Blood @ Autopsy
		antifungal cream	3	3						
161ha	59 y F				A	Ingst	Int-S	3		
		hypochlorite	1	1						
		cleaner (anionic/ nonionic)	2	2						
162pa	62 y M				A	Ingst	Int-S	1		
		drain cleaner (sulfuric acid)	1	1						
163h	62 y M				A	Ingst	Int-S	3		
		laundry detergent, liquid	1	1						
		drug, unknown	2	2						
164	73 y F				A	Ingst	Int-S	1		
		toilet bowl cleaner (acid)	1	1						
165	78 y M				A	Ingst	Unt-G	1		
		drain cleaner (alkali)	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
166h	83 y F				A	Ingst	Unt-M	3		
		cleaner (household)	1	1						
167	88 y F				A	Ingst+ Aspir	Unt-G	3		
		laundry detergent	1	1						
168h	91 y M				A	Ingst	Int-S	2		
		toilet bowl cleaner (acid)	1	1						
169a	94 y M				A	Ingst+ Aspir	Unt-M	2		
		cleaner (alkali)	1	1						
170p	20 + y M				A	Inhal	Int-S	1		
		toilet bowl cleaner (acid)	1	1						
		sulfur	2	2						
		hydrogen sulfide	3	3						
171h	40 + y F				A	Ingst	Int-S	2		
		drain cleaner (hydrochloric acid)	1	1						
172p	Unknown adult (> = 20 yrs) M				U	Inhal	Int-S	2		
		toilet bowl cleaner (acid)	1	1						
		hydrogen sulfide	2	2						
See also case 928, 1050, 1556										
Cosmetics/Personal Care Products										
[173ha]	2 y F				A	Ingst+ Aspir	Unt-G	1		
		mineral oil	1	1						
[174p]	29 y F				A/C	Inhal	Int-A	1		
		hair spray	1	1					1,1-difluoroethane	25 mcg/mL In Blood (unspecified) @ Autopsy
175	88 y M				A	Ingst+ Aspir	Unt-G	3		
		shampoo	1	1						
See also case 1072, 1991										
Deodorizers										
176ph	20 y M				A	Inhal	Int-A	2		
		air freshener (aerosol)	1	1						
Fumes/Gases/Vapors										
177p	2 y F				A	Inhal	Unt-E	1		
		smoke	1	1						
178ph	5 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	21.4% In Whole Blood @ 1 h (pe)
		smoke	1	1					carboxyhemoglobin	3.1% In Whole Blood @ 4 h (pe)
179ph	5 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	51% In Blood (unspecified) @ Unknown
180pi	9 y M				A	Inhal	Unt-E	1		
		smoke	1	1						
181ph	10 y F				A	Inhal	Unt-E	1		
		smoke	1	1						
182ph	11 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	30.2% In Blood (unspecified) @ Unknown
		cyanide	2	2						
183pai	13 y F				A	Inhal	Unt-E	1		
		smoke	1	1						
184ph	14 y M				A	Inhal	Unt-E	2		
		smoke	1	1					carboxyhemoglobin	41.9% In Blood (unspecified) @ 2 h (pe)
[185h]	20 y M				A	Inhal	Int-S	1		
		hydrogen sulfide	1	1						
186ai	20 y M				U	Inhal	Int-S	1		
		helium	1	1						
187ph	23 y F				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	36% In Whole Blood @ 0.5 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		smoke	1	1					carboxyhemoglobin	9.4% In Whole Blood @ 4 h (pe)
188pai	24 y M				A	Inhal	Int-S	1		
		carbon monoxide	1	1						
189i	25 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
190p	25 y M				A	Inhal	Unt-O	1		
		hydrogen sulfide	1	1						
191pi	28 y M				A	Inhal	Unt-E	1		
		smoke	1	1						
192pa	29 y F				C	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	59% In Whole Blood @ Autopsy
193p	29 y M				A	Inhal	Int-S	1		
		carbon monoxide	1	1						
194pai	33 y F				A	Ingst+ Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	40% In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	260 mg/dL In Blood (unspecified) @ Autopsy
195ph	34 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	3.1% In Blood (unspecified) @ Unknown
		carbon monoxide	1	1					carboxyhemoglobin	38.4% In Blood (unspecified) @ Unknown
		smoke	2	2						
		ethanol	3	3					ethanol	50 mg/dL In Blood (unspecified) @ Unknown
		ethanol	3	3					ethanol	73 mg/dL In Blood (unspecified) @ Unknown
196p	35 y M				A	Inhal	Unt-M	1		
		carbon monoxide	1	1						
197ai	36 y F				U	Inhal	Int-S	1		
		methane	1	1						
198ph	37 y M				A	Inhal	Int-S	1		
		hydrogen sulfide	1	1						
199pa	38 y M				A	Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	75% In Whole Blood @ Autopsy
200pai	39 y M				A	Inhal	Unt-E	3		
		carbon monoxide	1	1					carboxyhemoglobin	22% In Blood (unspecified) @ Autopsy
201pai	39 y F				C	Ingst+ Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	50% In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	240 mg/dL In Whole Blood @ Autopsy
202ai	40 y F				U	Ingst+ Inhal	Int-A	1		
		carbon monoxide	1	1					carboxyhemoglobin	76% In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
		diphenhydramine	3	3					diphenhydramine	1.5 mcg/mL In Whole Blood @ Autopsy
203ph	41 y M				U	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	86% In Blood (unspecified) @ Autopsy
204pai	42 y M				A	Inhal+ Unk	Int-S	3		
		carbon monoxide	1	1						
		diphenhydramine	2	2					diphenhydramine	0.2 mg/L In Blood (unspecified) @ Autopsy
		quetiapine	3	3					quetiapine	0.2 mg/L In Blood (unspecified) @ Autopsy
205pai	43 y F				A	Ingst+ Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	15% In Blood (unspecified) @ Autopsy
		smoke	2	2						
		tramadol	3	3						
		cyclobenzaprine	4	4						
206pai	44 y F				A	Inhal	Unt-E	1		
		smoke	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		carbon monoxide	2	2						
		ethanol	3	3						
207ph	44 y F				A	Ingst+ Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	60.8% In Blood (unspecified) @ 30 m (pe)
		cyanide	2	2						
		ethanol	3	3					ethanol	290 mg/dL In Serum @ 30 m (pe)
		acetaminophen/opioid	4	4					acetaminophen	40 mcg/mL In Blood (unspecified) @ 30 m (pe)
208ph	44 y F				A	Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	37.2% In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	320 mg/dL In Blood (unspecified) @ Unknown
209p	45 y M				A	Inhal	Unt-G	1		
		carbon monoxide	1	1						
210h	45 y M				U	Ingst+ Inhal	Int-S	2		
		carbon monoxide	1	1						
		acetaminophen	2	2						
		diphenhydramine	3	3						
		meclizine	4	4						
		alprazolam	5	5						
		venlafaxine	6	6						
		topiramate	7	7						
		bupropion	8	8						
211	46 y M				A	Unk	Unk	1		
		carbon monoxide	1	1					carboxyhemoglobin	27% In Serum @ Unknown
212ph	46 y M				A	Inhal	Unt-E	1		
		smoke	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	27.4% In Blood (unspecified) @ Unknown
		cyanide	3	3						
213pai	47 y F				A	Inhal	Unt-E	3		
		smoke	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	5% In Blood (unspecified) @ Autopsy
214pai	49 y M				A	Inhal+ Derm	Unk	1		
		smoke	1	1					carboxyhemoglobin	32% In Blood (unspecified) @ Autopsy
215ha	49 y M				A	Ingst+ Inhal	Unt-E	1		
		smoke	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	12% In Serum @ 1 h (pe)
		chemical, methemoglobin causing	3	3					methemoglobin	10.8% In Serum @ 1 h (pe)
		ethanol	4	4					ethanol	0.199 g/dL In Serum @ 1 h (pe)
216ai	50 y M				U	Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	58% In Blood (unspecified) @ Autopsy
217h	50 y F				U	Inhal	Int-S	2		
		propane	1	1						
218p	50 y F				A/C	Ingst+ Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	65% In Blood (unspecified) @ Autopsy
		amphetamines (bath salts)	2	2						
		diphenhydramine	3	3					diphenhydramine	1348 ng/mL In Blood (unspecified) @ Autopsy
		ibuprofen	4	4						
219pai	52 y M				A	Ingst+ Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	57% In Blood (unspecified) @ Autopsy
		methadone	2	2					methadone	0.4 mg/L In Blood (unspecified) @ Autopsy
		ethanol	3	3						
220p	52 y F				A	Inhal	Unt-E	3		
		carbon monoxide	1	1						
221pai	55 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	60% In Blood (unspecified) @ Autopsy
222pai	56 y M				A	Ingst+ Inhal	Int-S	1		
		carbon monoxide	1	1						
		laxative (stimulant)	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
223pai	57 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	49% In Blood (unspecified) @ Autopsy
224p	57 y M				A	Inhal	Int-S	1		
		carbon monoxide	1	1						
225h	59 y M				A	Inhal+ Derm	Unt-E	1		
		smoke	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	20% In Blood (unspecified) @ Unknown
		cyanide	3	3					cyanide	0.8 mg/L In Blood (unspecified) @ Unknown
[226pha]	60 y F				A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	29% In Blood (unspecified) @ Unknown
227p	60 y M				U	Inhal	Unk	2		
		carbon monoxide	1	1					carboxyhemoglobin	34% In Blood (unspecified) @ Unknown
[228pha]	62 y M				A	Inhal	Unt-O	2		
		asphyxiants, simple	1	1						
229pai	64 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
		smoke	2	2						
		laxative (stimulant)	3	3						
230pi	64 y M				A	Inhal	Unt-E	1		
		smoke	1	1						
231pai	64 y F				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	15% In Blood (unspecified) @ Autopsy
232a	67 y F				A	Inhal	Unt-E	3		
		smoke	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	9% In Blood (unspecified) @ Unknown
		cyanide	3	3						
233pai	67 y M				A	Inhal	Unt-O	1		
		carbon monoxide	1	1						
234phai	70 y F				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	40% In Blood (unspecified) @ Autopsy
235pai	72 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
		smoke	2	2						
236h	73 y F				A	Inhal	Unt-E	3		
		smoke	1	1					carboxyhemoglobin	0.7% In Whole Blood @ 1 h (pe)
237pai	78 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	60% In Blood (unspecified) @ Autopsy
238ph	80 y F				A	Inhal	Unt-G	1		
		carbon dioxide	1	1						
239pha	82 y F				A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	55% In Blood (unspecified) @ Autopsy
240pi	82 y F				A	Inhal	Unt-E	1		
		smoke	1	1						
241pai	84 y F				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
		hurricane	2	2						
242pai	84 y M				A	Inhal	Unt-E	1		
		smoke	1	1						
243pai	85 y M				A	Inhal	Unt-E	1		
		smoke	1	1					carboxyhemoglobin	40% In Blood (unspecified) @ Autopsy
244pai	85 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
		hurricane	2	2						
245ph	89 y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	70% In Whole Blood @ 30 m (pe)
246pai	92 y F				A	Inhal	Unt-E	1		
		smoke	1	1						
247p	20 + y M				A	Inhal	Unt-E	1		
		carbon monoxide	1	1						
248p	Unknown adult (> = 20 yrs) F			A	Inhal	Unt-E	1			
		carbon monoxide	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
249p	Unknown adult (> = 20 yrs) M				A	Inhal	Unt-E	1		
		hydrogen sulfide	1	1						
250p	Unknown adult (> = 20 yrs) M				A	Inhal	Int-S	3		
		carbon monoxide	1	1						
251p	Unknown age M				A	Inhal	Int-S	2		
		hydrogen sulfide	1	1						
See also case 141, 148, 170, 172, 792										
Heavy Metals										
[252ha]	39 y M				U	Ingst	Oth-M	1		
		thallium	1	1						
Hydrocarbons										
253	2 y F				A	Ingst	Unt-G	1		
		lighter fluids-naphtha	1	1						
254	3 y M				A	Ingst	Unt-G	2		
		gasoline	1	1						
255phai	8 y F				U	Unk	Int-A	1		
		freon	1	1					1,1-difluoroethane	8.6 mg/L In Blood (unspecified) @ Autopsy
256ph	14 y M				U	Inhal	Int-M	2		
		freon	1	1						
257pa	15 y F				A	Inhal	Int-A	1		
		freon	1	1						
258ai	15 y F				U	Inhal	Int-A	2		
		freon	1	1						
259ph	15 y M				A	Ingst+ Aspir	Unk	2		
		gasoline	1	1						
260ai	17 y M				U	Inhal	Int-A	2		
		freon 22	1	1						
261p	22 y F				A	Inhal	Int-A	2		
		freon	1	1						
[262pha]	22 y F				A	Inhal	Int-A	1		
		freon	1	1						
263pa	23 y M				C	Inhal	Int-A	2		
		freon	1	1						
264ai	23 y M				U	Inhal	Int-A	2		
		freon	1	1						
265ph	25 y M				A	Inhal	Int-A	1		
		freon	1	1						
		ethanol	2	2						
266	25 y M				A	Inhal	Int-A	1		
		freon	1	1					1,1-difluoroethane	65 mcg/mL In Blood (unspecified) @ Unknown
[267pha]	25 y M				A	Inhal	Int-A	1		
		freon	1	1						
268	26 y M				A	Inhal	Int-A	3		
		freon	1	1						
		fentanyl (transdermal)	2	2						
269p	26 y M				C	Inhal	Int-A	2		
		freon	1	1						
		phencyclidine	2	2						
270p	28 y M				A	Inhal	Unt-E	1		
		freon	1	1						
271a	32 y M				A	Inhal	Int-A	1		
		freon	1	1						
272ai	32 y M				U	Inhal	Int-A	2		
		freon	1	1						
273	35 y M				C	Inhal	Int-A	2		
		freon	1	1						
274ai	37 y M				U	Inhal	Unk	2		
		toluene	1	1						
275	38 y M				C	Inhal	Int-A	2		
		freon	1	1						
276	41 y M				A/C	Inhal	Int-A	2		
		freon	1	1						
277ai	43 y M				U	Ingst+ Inhal	Int-A	2		
		freon	1	1						
		tramadol	2	2					tramadol	0.5 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		laxative (stimulant)	4	4						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
278p	44 y M				U	Inhal	Int-A	1		
		freon	1	1					1,1-difluoroethane	32 mcg/mL In Unknown @ Autopsy
		ethanol	2	2					ethanol	0.029% In Unknown @ Autopsy
279ai	47 y M				U	Inhal	Int-A	2		
		freon	1	1						
280	11 m F				A	Ingst+ Aspir	Unt-G	1		
		lamp oil	1	1						
[281ha]	22 m F				A	Ingst+ Aspir	Unt-G	1		
		lamp oil	1	1						
282pai	40 + y M				A	Inhal+ Derm	Unt-O	1		
		toluene	1	1						
See also case 54, 140, 285										
Mushrooms										
[283ha]	67 y F				A	Ingst	AR-F	2		
		mushrooms, cyclopeptides	1	1						
Other/Unknown Nondrug Substances										
284ha	39 y M				A	Par	Int-A	2		
		hyperthermia	1	1						
		heroin	2	2						
See Also case 241, 244										
Paints and Stripping Agents										
285pha	11 y M				A	Ingst+ Inhal	Int-A	1		
		paint (aerosol)	1	1						
		lighter fluids-naphtha	2	2						
		ethanol	3	3					ethanol	0% (wt/Vol) In Serum @ 6 h (pe)
		acetaminophen	4	4					acetaminophen	48 mcg/mL In Serum @ 6 h (pe)
		oxycodone	5	5					oxycodone	310 ng/mL In Plasma @ 6 h (pe)
		oxycodone	5	5					oxycodone	460 ng/mL In Serum @ 6 h (pe)
		oxymorphone	6	6					oxymorphone	210 ng/mL In Serum @ 6 h (pe)
		oxymorphone	6	6					oxymorphone	350 ng/mL In Plasma @ 6 h (pe)
		midazolam	7	7					midazolam	30 ng/mL In Serum @ 6 h (pe)
286ph	32 y M				U	Inhal+ Unk	Int-A	2		
		paint (aerosol)	1	1						
		acetaminophen	2	2					acetaminophen	264 mcg/mL In Blood (unspecified) @ 2 d (pe)
		ethanol	3	3					ethanol	234 mg/dL In Blood (unspecified) @ 1 h (pe)
287p	55 y M				C	Inhal	Int-A	2		
		paint (aerosol)	1	1						
		warfarin	2	2						
288p	62 y M				A	Inhal	Unt-O	1		
		ammonium hydroxide/ dichloromethane/ methanol/aromatic hydrocarbons/ hydrocarbon propellant	1	1						
Pesticides										
289h	25 y M				A	Ingst	Int-S	1		
		phosphine	1	1						
290h	26 y M				U	Ingst	AR-D	3		
		brodifacoum	1	1						
291	31 y M				A	Ingst	Int-S	1		
		phosphine	1	1						
292h	39 y M				A	Ingst	Int-S	1		
		glyphosate	1	1						
293a	55 y F				A	Ingst	Int-S	1		
		rodenticide (antocoagulant)	1	1						
294	56 y M				A	Ingst	Int-S	1		
		malathion	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
[295h]	57 y F				A	Ingst	Int-S	1		
		malathion	1	1						
296	61 y F				U	Ingst	Int-S	1		
		paraquat	1	1						
		glyphosate	2	2						
297a	63 y M				C	Ingst	Int-S	2		
		glyphosate	1	1						
		ethanol	2	2					ethanol	200 mg/mL In Whole Blood @ Unknown
298h	63 y F				A	Ingst	Int-S	1		
		phosphine	1	1						
299h	67 y M				A	Derm	Unt-O	3		
		2,4-Dichlorophenoxy-acetic acid (2,4-D)	1	1						
		2,4-Dichlorophenoxy-acetic acid (2,4-D)	2	2						
300	71 y M				A	Ingst	Unt-G	2		
		organophosphate	1	1						
301	73 y M				A	Ingst	Unk	3		
		rodenticide (antocoagulant)	1	1						
		analgesic, unknown	2	2						
		benzodiazepine	3	3						
302ha	73 y M				A	Ingst	Int-S	3		
		malathion	1	1						
303	89 y M				A	Ingst+ Aspir	Unt-M	2		
		flea shampoo	1	1						
See also case 110, 1355										
Plants										
[304pha]	25 y M				A	Ingst	Int-M	1		
		ibogaine	1	1					ibogaine	0.98 mcg/mL In Vitreous @ Autopsy
		ibogaine	1	1					ibogaine	1.8 mcg/mL In Blood (unspecified) @ Autopsy
		ibogaine	1	1					ibogaine	2.2 mcg/mL In Blood (unspecified) @ Autopsy
		ibogaine	1	1					ibogaine	4.2 Other (see abst) In Liver @ Autopsy
[305pa]	28 y M				A	Ingst+ Derm	Int-S	1		
		Aconitum napellus	1	1						
		ethanol	2	2						
306pa	47 y M				A	Ingst	Int-S	1		
		Solanum dulcamara	1	1						
		bupropion	2	2					bupropion	1.8 Other (see abst) In Liver @ Autopsy
		bupropion	2	2					bupropion	7.8 mcg/mL In Serum @ Autopsy
		citalopram	3	3					citalopram	10 mcg/mL In Liver @ Autopsy
		citalopram	3	3					citalopram	2.4 mcg/mL In Serum @ Autopsy
		zolpidem	4	4					zolpidem	0.12 mcg/mL In Serum @ Autopsy
See also case 1759										
Swimming Pool/Aquarium										
307h	36 y M				A/C	Ingst	Int-S	2		
		algicide	1	1						
Pharmaceutical Exposures										
Analgesics										
[308a]	2 y F				A	Ingst	Unk	1		
		methadone	1	1					methadone	219 ng/mL In Blood (unspecified) @ 24 h (pe)
309	2 y M				A	Ingst	Unt-G	1		
		methadone	1	1						
310ai	2 y M				U	Unk	Unk	2		
		morphine	1	1					morphine (free)	0.4 mcg/mL In Vitreous @ Autopsy
		morphine	1	1					morphine (free)	1.3 mcg/mL In Whole Blood @ Autopsy
		morphine	1	1					morphine (free)	1.6 mg/kg In Liver @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
[311pha]	9 y M				A	Ingst	Int-M	1		
		methadone	1	1						
312ai	13 y M				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.82 mcg/mL In Whole Blood @ Autopsy
313ai	14 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.4 mcg/mL In Blood (unspecified) @ Unknown
314	14 y F				U	Ingst	Int-S	3		
		tramadol	1	1						
		hydrocodone	2	2						
315p	15 y F				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	474 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ propoxyphene	2	2						
316p	15 y F				A	Ingst	Int-S	1		
		methadone	1	1						
		sertraline	2	2						
		baclofen	3	3						
		ondansetron	4	4						
		acetaminophen/ hydrocodone	5	5						
		levothyroxine	6	6						
		ibuprofen	7	7						
317h	16 y F				A	Ingst	Int-S	1		
		oxycodone (extended release)	1	1						
318a	16 y M				A	Ingst	Int-S	2		
		tramadol	1	1						
		baclofen	2	2						
		lisinopril	3	3						
		ibuprofen	4	4						
319pa	16 y M				A	Unk	Unk	1		
		oxymorphone (extended release)	1	1						
		alprazolam	2	2						
		marijuana	3	3						
320	16 y F				U	Ingst	Int-S	2		
		methadone	1	1						
321ai	16 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.25 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
322	16 y F				A	Ingst	Int-S	1		
		colchicine	1	1						
323h	17 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1						
		antihistamine	2	2						
		ibuprofen	3	3						
[324pha]	17 y M				A	Ingst	Int-M	1		
		methadone	1	1					methadone	420 ng/mL In Serum @ Unknown
		methadone	1	1					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	483 ng/mL In Serum @ Unknown
325	17 y F				A	Ingst	Int-S	1		
		colchicine	1	1						
		sildenafil	2	2						
		salicylate	3	3						
326ai	18 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.27 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	2	2					nordiazepam	1.6 mcg/mL In Blood (unspecified) @ Unknown
327ai	18 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.04 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	244 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		skeletal muscle relaxant	3	3					meprobamate	4.7 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	8.8 mcg/mL In Whole Blood @ Autopsy
328p	18 y F				A/C	Ingst	Int-S	2		
		oxymorphone (extended release)	1	1						
		alprazolam	2	2						
329ph	18 y M				A	Ingst	Int-S	1		
		methadone	1	1						
		food, spoiled	2	2						
330ai	18 y M				U	Ingst+ Unk	Int-A	2		
		methadone	1	1					methadone	0.16 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2						
331ai	18 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	200 ng/mL In Whole Blood @ Autopsy
		hydromorphone	3	3						
332pi	18 y M				A	Ingst	Int-S	2		
		acetaminophen/opioid	1	1						
		benzodiazepine	2	2						
333ph	18 y M				U	Ingst	Int-U	2		
		oxycodone	1	1						
334pa	19 y M				U	Ingst	Int-M	1		
		oxymorphone	1	1					oxymorphone	30 mcg/L In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	10 mcg/L In Blood (unspecified) @ Autopsy
335p	19 y M				A	Ingst	Int-A	2		
		methadone	1	1					methadone	270 ng/mL In Blood (unspecified) @ Autopsy
		methadone	1	1					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	41.7 ng/mL In Blood (unspecified) @ Autopsy
336pa	19 y M				A	Ingst	Int-U	1		
		methadone	1	1					methadone	0.4 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	2	2						
337p	19 y M				U	Ingst	Int-S	2		
		methadone	1	1						
338ai	19 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	55 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.13% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.16% (wt/Vol) In Vitreous @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.05 mcg/mL In Whole Blood @ Autopsy
339ai	19 y M				U	Ingst	Int-A	2		
		codeine	1	1					codeine	0.15 mcg/mL In Whole Blood @ Autopsy
		oxymorphone	2	2					oxymorphone	47 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.18 mcg/mL In Whole Blood @ Autopsy
340h	19 y F				A	Ingst	Int-S	2		
		opioid	1	1						
		amphetamines (bath salts)	2	2						
341ai	19 y M				U	Unk	Int-A	2		
		fentanyl	1	1					fentanyl	16.2 ng/mL In Whole Blood @ Autopsy
342ai	20 y F				U	Ingst	Int-A	2		
		propoxyphene	1	1					propoxyphene	1.9 mcg/mL In Whole Blood @ Autopsy
		propoxyphene	1	1					norpropoxyphene	2.6 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	2	2					alprazolam	98 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
343ai	20 y M				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	4.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	96 ng/mL In Whole Blood @ Autopsy
		carisoprodol	3	3						
344ai	20 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.15 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	5.1 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	9.3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	109 ng/mL In Whole Blood @ Autopsy
		ethanol	4	4						
345ai	20 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	1.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	132 ng/mL In Whole Blood @ Autopsy
346h	20 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	192 mcg/mL In Blood (unspecified) @ 12 h (pe)
347ai	20 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.24 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
348ai	20 y M				U	Ingst+ Par+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.03 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.03 mcg/mL In Whole Blood @ Autopsy
		codeine	3	3						
349ai	20 y M				U	Par	Int-A	2		
		droperidol/fentanyl	1	1					fentanyl	25.1 ng/mL In Whole Blood @ Autopsy
350pha	20 y M				A	Ingst	Int-A	1		
		oxymorphone (extended release)	1	1					oxymorphone	75.2 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	4.9 ng/mL In Blood (unspecified) @ Autopsy
		citalopram	3	3					citalopram	115 ng/mL In Blood (unspecified) @ Autopsy
		carisoprodol	4	4						
		zolpidem	5	5						
		clonazepam	6	6						
		THC homolog	7	7						
351h	21 y F				A/C	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	83 mg/mL In Unknown @ Unknown
352pai	21 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	13 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.06% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.1% (wt/Vol) In Vitreous @ Autopsy
		acetaminophen/ hydrocodone	3	3						
353ph	21 y F				A/C	Ingst	Int-S	2		
		oxycodone	1	1						
		benzodiazepine	2	2						
		ethanol	3	3						
354ai	21 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxymorphone	27 ng/mL In Whole Blood @ Autopsy
355ai	21 y M				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	1.7 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	2	2					ethanol	0.07% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
		alprazolam	3	3					alprazolam	46 ng/mL In Whole Blood @ Autopsy
356p	21 y M				A	Unk	Int-A	2		
		opioid	1	1						
357ai	21 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.14% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.24% (wt/Vol) In Urine (quantitative only) @ Autopsy
358p	21 y F				A/C	Ingst	Int-S	1		
		methadone	1	1						
		acetaminophen/ codeine	2	2					acetaminophen	1 mcg/mL In Blood (unspecified) @ 1 d (pe)
		lorazepam	3	3						
359p	21 y F				U	Par	Int-A	3		
		buprenorphine	1	1						
360pai	22 y F				A	Ingst	Int-U	1		
		methadone	1	1					methadone	0.6 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	0.08 mg/L In Blood (unspecified) @ Autopsy
		citalopram	3	3						
361h	22 y M				U	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	163.4 mcg/mL In Serum @ Unknown
		venlafaxine	2	2						
362ai	22 y M				U	Ingst	Int-A	3		
		methadone	1	1					methadone	0.17 mcg/mL In Blood (unspecified) @ Unknown
363ai	22 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.42 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	83 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3					tramadol	5.7 mcg/mL In Whole Blood @ Autopsy
364ai	22 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.39 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
365ai	22 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.03 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	50 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
366pai	22 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	116 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.13% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.14% (wt/Vol) In Vitreous @ Autopsy
		cocaine	3	3						
367ai	22 y M				U	Ingst+ Aspir+ Unk	Int-A	2		
		morphine	1	1						
		acetaminophen/ hydrocodone	2	2						
		oxycodone	3	3					oxymorphone	16 ng/mL In Brain @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	4	4						
368ai	22 y F				U	Ingst+ Unk	Int-A	2		
		oxymorphone	1	1					oxymorphone	36 ng/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		amphetamine	3	3						
		oxycodone	4	4						
369	22 y M				A	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
		valproic acid	2	2						
370ai	22 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.13 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.13% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.15% (wt/Vol) In Vitreous @ Autopsy
371	22 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	131.7 mg/dL In Blood (unspecified) @ 1 h (pe)
372pai	23 y M				A	Par+ Unk	Int-U	1		
		methadone	1	1						
		cocaine	2	2						
		clonazepam	3	3						
		promethazine	4	4						
373ha	23 y F				C	Ingst	Int-M	1		
		acetaminophen	1	1					acetaminophen	83 mcg/mL In Serum @ 2 d (pe)
374pai	23 y F				A	Ingst	Int-U	1		
		methadone	1	1						
		cocaine	2	2						
		trazodone	3	3						
		bupropion	4	4						
		alprazolam	5	5						
375pai	23 y M				A	Ingst+ Inhal	Int-U	1		
		methadone	1	1						
		hydromorphone	2	2						
376ai	23 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.19 mcg/mL In Serum @ Unknown
377pai	23 y F				A	Ingst+ Inhal	Int-A	1		
		oxymorphone	1	1						
		ethanol	2	2						
378h	23 y F				U	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	13.9 mcg/mL In Blood (unspecified) @ Unknown
379ai	23 y F				U	Ingst	Int-A	2		
		methadone	1	1						
		clonazepam	2	2						
		midazolam	3	3						
		paroxetine	4	4						
380ha	23 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	813 mg/L In Blood (unspecified) @ Unknown
381	23 y F				U	Ingst	Int-S	1		
		acetaminophen/ codeine	1	1					acetaminophen	22 mcg/mL In Serum @ Unknown
		metaxalone	2	2						
		escitalopram	3	3						
		quetiapine	4	4						
382ai	23 y M				U	Ingst+ Unk	Int-A	2		
		oxymorphone	1	1					oxymorphone	85 ng/mL In Whole Blood @ Autopsy
		cocaine	2	2						
		alprazolam	3	3						
383ai	23 y M				U	Ingst	Int-A	2		
		fentanyl	1	1					fentanyl	6.3 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.12% (wt/Vol) In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	2	2					ethanol	0.15% (wt/Vol) In Vitreous @ Autopsy
384ai	23 y F				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	91 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	132 ng/mL In Whole Blood @ Autopsy
385a	23 y M				A/C	Ingst	Int-S	1		
		salicylate	1	1					salicylate	75.9 mg/dL In Serum @ 28 h (pe)
		salicylate	1	1					salicylate	91.3 mg/dL In Serum @ 34 h (pe)
		amphetamine	2	2						
		diphenhydramine	3	3					diphenhydramine	1.7 mcg/mL In Blood (unspecified) @ Unknown
		trazodone	4	4						
386ai	23 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.16 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	43 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
387ph	23 y M				A/C	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					morphine	0.02 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					morphine	0.024 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.182 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.23 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	1	1					acetaminophen	11.9 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	20 mg/L In Blood (unspecified) @ Autopsy
		carisoprodol	2	2					meprobamate	13 mg/L In Blood (unspecified) @ Autopsy
		carisoprodol	2	2					meprobamate	14 mg/L In Blood (unspecified) @ Unknown
		carisoprodol	2	2					carisoprodol	2.5 mg/L In Blood (unspecified) @ Unknown
		carisoprodol	2	2					carisoprodol	2.7 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	3	3					alprazolam	0.04 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	3	3					alprazolam	0.04 mg/L In Blood (unspecified) @ Unknown
		amphetamine	4	4						
388ai	23 y M				U	Ingst+ Unk	Int-S	2		
		morphine	1	1					morphine (free)	0.53 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	165 ng/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	0.06 mcg/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxymorphone	33 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
389pai	24 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.36 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	14 ng/mL In Whole Blood @ Autopsy
390pa	24 y M				U	Ingst	Int-A	1		
		methadone	1	1					methadone	0.1 mg/L In Blood (unspecified) @ 1 h (pe)
		benzodiazepine	2	2					alprazolam	38 ng/mL In Blood (unspecified) @ 1 h (pe)
		benzodiazepine	2	2					alprazolam	47.4 ng/mL In Blood (unspecified) @ 2 d (pe)
		diazepam	3	3					nordiazepam	27 ng/mL In Blood (unspecified) @ 1 h (pe)
		gabapentin	4	4					gabapentin	0.1 mg/L In Blood (unspecified) @ 1 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
391	24 y M				U	Ingst	Int-S	2		
		acetaminophen/ butalbital/caffeine	1	1						
392pa	24 y F				U	Ingst+ Derm	Unk	1		
		fentanyl (transdermal)	1	1					fentanyl	2.9 ng/mL In Whole Blood @ Autopsy
		fentanyl (transdermal)	1	1					norfentanyl	2.9 ng/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	1.2 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3						
393pha	24 y M				A	Ingst	Int-S	1		
		hydromorphone	1	1						
		alprazolam*	2	2						
		clonazepam*	3	2						
394ai	24 y M				U	Ingst	Int-A	2		
		morphine	1	1					morphine (free)	0.04 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	80 ng/mL In Whole Blood @ Autopsy
395h	24 y M				U	Unk	Int-A	1		
		morphine	1	1						
		amphetamines (bath salts)	2	2						
396a	24 y M				U	Ingst	Int-A	1		
		methadone	1	1						
		acetaminophen	2	2						
397ai	24 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.53 mcg/mL In Whole Blood @ Autopsy
		hydromorphone	2	2					hydromorphone	33 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3						
398ai	24 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.21 mcg/mL In Whole Blood @ Autopsy
399p	24 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	137 mcg/mL In Blood (unspecified) @ 1 d (pe)
		ethanol	2	2						
		ibuprofen	3	3						
		carisoprodol	4	4						
400h	25 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	43.1 mcg/mL In Blood (unspecified) @ Unknown
		alcohol, unknown	2	2						
401ai	25 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.27 mcg/mL In Whole Blood @ Autopsy
		carisoprodol	2	2						
402	25 y M				U	Unk	Int-S	2		
		acetaminophen	1	1					acetaminophen	291 mcg/mL In Blood (unspecified) @ 12 h (pe)
403ai	25 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.5 mcg/mL In Whole Blood @ Autopsy
404ai	25 y F				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.3 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.12 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaethylene	0.13 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaethylene	0.16 mg/kg In Brain @ Autopsy
		cocaine	2	2					benzoylecognine	0.39 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.19% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.22% (wt/Vol) In Vitreous @ Autopsy
405	25 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	152.7 mcg/mL In Blood (unspecified) @ 17 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
406ai	25 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.49 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	37 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	147 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3						
407a	26 y F				U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen	12.5 mcg/mL In Serum @ Unknown
408p	26 y M				U	Ingst	Unk	1		
		acetaminophen	1	1						
		diphenhydramine	2	2						
409pai	26 y F				A	Ingst	Int-A	1		
		oxycodone	1	1					oxycodone	1.1 mg/L In Blood (unspecified) @ Autopsy
		tramadol	2	2					tramadol	0.2 mg/L In Blood (unspecified) @ Autopsy
		trazodone	3	3					trazodone	0.4 mg/L In Blood (unspecified) @ Autopsy
410pha	26 y F				A	Ingst	Unk	1		
		methadone	1	1						
		ethanol	2	2					ethanol	57 mg/dL In Blood (unspecified) @ Unknown
		benzodiazepine	3	3						
411pai	26 y F				A	Ingst+ Par	Int-A	1		
		morphine	1	1						
		alprazolam	2	2						
		trazodone	3	3						
412pai	26 y M				A	Ingst	Int-A	1		
		methadone	1	1						
		oxycodone	2	2						
		alprazolam	3	3						
413ai	26 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.08 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	115 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	12.1 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	3.3 mcg/mL In Whole Blood @ Autopsy
414ai	26 y M				U	Ingst	Int-A	3		
		tramadol	1	1					tramadol	4.1 mcg/mL In Whole Blood @ Autopsy
415pa	26 y F				U	Ingst+ Derm	Unk	2		
		fentanyl	1	1					fentanyl	17 ng/mL In Whole Blood @ Autopsy
		fentanyl	1	1					norfentanyl	5 ng/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.04 mcg/mL In Whole Blood @ Autopsy
416	26 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1						
417ai	26 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	1.4 mcg/mL In Whole Blood @ Autopsy
418pai	26 y M				U	Ingst	Int-A	3		
		methadone	1	1					methadone	0.26 mcg/mL In Whole Blood @ Autopsy
		methadone	1	1					methadone	0.94 Other (see abst) In Brain @ Autopsy
419ai	26 y M				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.15 mcg/mL In Whole Blood @ Autopsy
		venlafaxine	2	2					venlafaxine	1.1 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		quetiapine	4	4						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
420p	26 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	113 mg/dL In Whole Blood @ Unknown
		acetaminophen	2	2					acetaminophen	54 mcg/mL In Whole Blood @ Unknown
421	26 y M				C	Ingst	Int-M	2		
		acetaminophen/ hydrocodone	1	1						
422ai	26 y F				U	Ingst+ Unk	Unk	2		
		droperidol/fentanyl	1	1					fentanyl	151 ng/mL In Liver @ Autopsy
		droperidol/fentanyl	1	1					fentanyl	29.6 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.51 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.59 mg/kg In Liver @ Autopsy
		oxycodone	2	2					oxymorphone	27 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	556 mg/kg In Liver @ Autopsy
423a	26 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	57.7 mg/dL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	122 mg/dL In Blood (unspecified) @ Unknown
		ibuprofen	3	3						
424pa	26 y M				U	Ingst	Unk	3		
		acetaminophen/ oxycodone	1	1					oxycodone	0.26 mg/L In Blood (unspecified) @ Unknown
		citalopram	2	2					citalopram	0.47 mg/L In Blood (unspecified) @ Unknown
		citalopram	2	2					citalopram	2.7 mg/kg In Liver @ Autopsy
		zolpidem	3	3						
		alprazolam	4	4						
		trazodone	5	5						
		promethazine	6	6						
425	26 y M				A/C	Ingst	Int-A	2		
		methadone	1	1					methadone metabolite	0.25 mg/L In Blood (unspecified) @ Autopsy
		methadone	1	1					methadone	1.3 mg/L In Blood (unspecified) @ Autopsy
426pai	27 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.78 mcg/mL In Whole Blood @ Autopsy
427pha	27 y F				A	Ingst	Int-U	2		
		hydrocodone/ ibuprofen	1	1						
		benzodiazepine	2	2					alprazolam	0.02 mg/L In Blood (unspecified) @ Autopsy
		phencyclidine	3	3					phencyclidine	0.013 mg/L In Blood (unspecified) @ Autopsy
428pa	27 y F				A/C	Ingst+ Aspir	Int-M	1		
		morphine	1	1					morphine	246 ng/mL In Blood (unspecified) @ Autopsy
429	27 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	345.6 mcg/mL In Blood (unspecified) @ 1 h (pe)
		drug, unknown	2	2						
		isotretinoin	3	3						
		mirtazapine	4	4						
		paroxetine	5	5						
430ha	27 y M				A	Ingst+ Inhal	Int-A	2		
		acetaminophen/ hydrocodone	1	1						
		ethanol	2	2						
		amphetamine	3	3						
431ai	27 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.36 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	3	3					alprazolam	38 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
432ai	27 y F				A	Ingst	Int-U	2		
		oxycodone	1	1					oxycodone	0.23 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	15 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	14.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	9.7 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3						
433	27 y M				U	Ingst	Int-S	2		
		tramadol	1	1						
		quetiapine	2	2						
		trazodone	3	3						
434ai	27 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	9.6 ng/mL In Whole Blood @ Autopsy
		propoxyphene	2	2					propoxyphene	0.64 mcg/mL In Whole Blood @ Autopsy
		propoxyphene	2	2					norpropoxyphene	0.87 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3						
435pai	27 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.46 mcg/mL In Whole Blood @ Autopsy
436pa	27 y M				A	Unk	Unk	1		
		morphine	1	1					morphine	50000 ng/mL In Urine (quantitative only) @ 1 h (pe)
		hydromorphone	2	2					hydromorphone	417 ng/mL In Urine (quantitative only) @ 1 h (pe)
		oxazepam	3	3					oxazepam	357 ng/mL In Urine (quantitative only) @ 1 h (pe)
		temazepam	4	4					temazepam	196 ng/mL In Urine (quantitative only) @ 1 h (pe)
		alprazolam	5	5					alprazolam	299 ng/mL In Urine (quantitative only) @ 1 h (pe)
		marijuana	6	6					delta-9-carboxy-thc	13 ng/mL In Urine (quantitative only) @ 1 h (pe)
437ai	27 y F				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	2.8 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2						
		laxative (stimulant)	3	3						
438ai	27 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	30 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.15% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.18% (wt/Vol) In Vitreous @ Autopsy
439	27 y F				A	Ingst	Int-A	1		
		acetaminophen*	1	1					acetaminophen	28 ng/mL In Blood (unspecified) @ Unknown
		oxymorphone (extended release)*	2	1						
		barbiturate	3	2						
		benzodiazepine	4	3						
		marijuana	5	4						
440ai	27 y F				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.41 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	18 ng/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.12 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3						
441p	27 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		cyclobenzaprine	2	2						
		citalopram	3	3						
		bromocriptine	4	4						
		clomiphene	5	5						
442a	27 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	116.7 mg/dL In Serum @ 9 h (pe)
443	27 y F				A/C	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	80 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	86 mcg/mL In Blood (unspecified) @ 4 h (pe)
		tramadol	2	2						
444	27 y M				A	Ingst	Int-S	2		
		ibuprofen	1	1						
445pai	28 y M				A	Ingst	Int-U	1		
		morphine	1	1						
		clonazepam	2	2						
		clomipramine	3	3						
446pai	28 y F				A	Par+ Unk	Int-U	1		
		meperidine	1	1						
		nortriptyline	2	2						
		promethazine	3	3						
		diphenhydramine	4	4						
		metoclopramide	5	5						
		diazepam	6	6						
447ai	28 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	54 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
448pha	28 y M				A	Ingst	Int-A	2		
		morphine	1	1					morphine (total)	1846 ng/mL In Blood (unspecified) @ Autopsy
449	28 y M				A	Ingst	Int-U	2		
		methadone	1	1						
450pai	28 y F				U	Ingst	Unt-U	1		
		methadone	1	1					methadone	180 ng/mL In Whole Blood @ Autopsy
		amphetamine	2	2					amphetamine	93 ng/mL In Whole Blood @ Autopsy
		citalopram	3	3						
451ai	28 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.37 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	68 ng/mL In Whole Blood @ Autopsy
452a	28 y M				A	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
		clonazepam	2	2					clonazepam	28 ng/mL In Blood (unspecified) @ Unknown
		tramadol	3	3					tramadol	930 ng/mL In Blood (unspecified) @ Unknown
453	28 y M				A	Ingst+ Unk	Int-S	2		
		methadone	1	1						
		cocaine	2	2						
454ai	28 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	79 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	61 ng/mL In Whole Blood @ Autopsy
455ai	28 y F				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.18 mcg/mL In Whole Blood @ Autopsy
456pi	28 y M				U	Ingst	Int-A	1		
		oxycodone	1	1						
		ethanol	2	2						
457	28 y M				A	Ingst	Int-S	2		
		salicylate	1	1					salicylate	102 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	99 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		amphetamines (bath salts)	3	3						
458ai	28 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.22 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		fluoxetine	3	3						
459ai	28 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.38 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
460ai	28 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.66 mcg/mL In Whole Blood @ Autopsy
461pa	29 y F				A	Ingst	Int-A	1		
		oxycodone	1	1					oxycodone	435 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		alprazolam	3	3					alprazolam	106 ng/mL In Blood (unspecified) @ Autopsy
462	29 y F				U	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	66.9 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	66 mg/dL In Blood (unspecified) @ Unknown
463ha	29 y M				U	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.034 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	1	1					acetaminophen	30 mcg/mL In Blood (unspecified) @ Unknown
		carisoprodol	2	2						
464pai	29 y M				A	Unk	Int-U	1		
		oxycodone	1	1						
		alprazolam	2	2						
465p	29 y M				A	Ingst	Int-S	3		
		oxycodone	1	1						
		zolpidem	2	2						
466	29 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	240 mg/L In Serum @ Unknown
467pai	29 y M				U	Unk	Int-U	1		
		oxycodone (extended release)	1	1					oxymorphone	0.217 mg/L In Blood (unspecified) @ Autopsy
		oxycodone (extended release)	1	1					oxycodone	0.57 mg/L In Blood (unspecified) @ Autopsy
468ai	29 y M				U	Par	Int-A	2		
		morphine	1	1					morphine (free)	0.19 mcg/mL In Whole Blood @ Autopsy
		morphine	1	1					morphine (free)	4.7 mcg/mL In Urine (quantitative only) @ Autopsy
		acetaminophen/ hydrocodone	2	2						
469ai	29 y M				U	Unk	Int-S	2		
		morphine	1	1					morphine (free)	1.1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2						
		trazodone	3	3						
470ha	29 y M				U	Ingst	Int-S	1		
		salicylate	1	1					salicylate	13 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	32 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	3	3					ethanol	36 mg/dL In Blood (unspecified) @ Unknown
471ai	29 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.15 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	124 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	72 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		carisoprodol	3	3					meprobamate	35.8 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	4	4						
		laxative (stimulant)	5	5						
472ai	29 y M				U	Ingst	Int-S	2		
		methadone	1	1					methadone	1.5 mg/kg In Brain @ Autopsy
473ai	29 y M				U	Ingst	Int-S	2		
		methadone	1	1					methadone	0.35 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	70 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
474ai	29 y F				U	Par	Int-A	2		
		oxycodone	1	1					oxycodone	0.4 mcg/mL In Whole Blood @ Autopsy
475p	29 y M				A/C	Ingst	Int-U	2		
		hydromorphone	1	1						
		trazodone	2	2						
		zolpidem	3	3						
		alprazolam	4	4						
		mirtazapine	5	5						
476pai	30 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	134 ng/mL In Whole Blood @ Autopsy
		quetiapine	3	3						
		carisoprodol	4	4						
		phentermine	5	5						
477a	30 y M				A	Ingst	Int-U	2		
		acetaminophen/ oxycodone	1	1					acetaminophen	58.3 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	59 ng/mL In Blood (unspecified) @ Autopsy
478pai	30 y M				A	Ingst+ Unk	Int-A	1		
		methadone	1	1						
		cyclobenzaprine	2	2						
		fluoxetine	3	3						
		clonazepam	4	4						
		ethanol	5	5						
		hydrocodone	6	6						
479ai	30 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.19 mcg/mL In Whole Blood @ Autopsy
		clonazepam	2	2					clonazepam	56 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3						
480ai	30 y M				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.06 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		alprazolam	3	3						
		paroxetine	4	4						
481ai	30 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.53 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.78 mg/kg In Liver @ Autopsy
482ai	30 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.15 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.16% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.18% (wt/Vol) In Vitreous @ Autopsy
483ai	30 y M				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	1.4 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
484pa	30 y F				A	Ingst	Int-S	1		
		methadone	1	1					methadone	1600 ng/mL In Blood (unspecified) @ Autopsy
		citalopram	2	2					desmethylcitalopram	191.8 ng/mL In Blood (unspecified) @ Autopsy
		citalopram	2	2					citalopram	340 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	54.8 ng/mL In Blood (unspecified) @ Autopsy
485	30 y F				A	Ingst	Int-U	2		
		acetaminophen	1	1						
486ai	30 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.57 ng/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	15 ng/mL In Whole Blood @ Autopsy
487ai	30 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.8 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	73 ng/mL In Whole Blood @ Autopsy
		morphine	3	3						
488ai	30 y M				U	Ingst	Unk	2		
		methadone	1	1					methadone	0.67 mg/kg In Brain @ Autopsy
		ethanol	2	2					ethanol	0.05% (wt/Vol) In Whole Blood @ Autopsy
489ai	30 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.49 mg/kg In Brain @ Autopsy
490ph	30 y F				A/C	Ingst	Int-S	1		
		oxycodone	1	1						
		carisoprodol	2	2						
491ai	30 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.47 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		diazepam	3	3						
492pha	30 y F				U	Ingst	Unk	1		
		methadone	1	1						
		doxepin	2	2						
		benzodiazepine	3	3						
		anticonvulsant	4	4						
		antidepressant (SSRI)	5	5						
493ai	30 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.64 mcg/mL In Whole Blood @ Autopsy
494ai	30 y M				U	Ingst+ Aspir	Int-A	2		
		methadone	1	1					methadone	0.09 mcg/mL In Blood (unspecified) @ Unknown
		oxycodone	2	2					oxycodone	0.08 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	3	3						
495a	30 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	20.2 mcg/mL In Serum @ Unknown
		hydrocodone	2	2					hydrocodone (free)	0.102 mg/L In Blood (unspecified) @ Unknown
496ai	30 y M				U	Ingst	Int-S	2		
		tramadol	1	1					tramadol	2 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.9 mcg/mL In Whole Blood @ Autopsy
		venlafaxine	3	3					venlafaxine	1.6 mcg/mL In Whole Blood @ Autopsy
		quetiapine	4	4						
497ai	30 y F				U	Ingst	Int-A	3		
		methadone	1	1					methadone	0.13 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	2	2					sertraline	0.37 mcg/mL In Whole Blood @ Autopsy
498a	30 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	305 mcg/mL In Serum @ 10 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
499ph	30 y F				A	Ingst	Int-A	2		
		acetaminophen/ oxycodone	1	1					acetaminophen	40.6 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2						
500h	30 y F				C	Ingst	Int-A	3		
		fentanyl	1	1						
		acetaminophen/ hydrocodone	2	2						
501pai	31 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.09 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.25 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	84 ng/mL In Whole Blood @ Autopsy
502	31 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	200 mcg/mL In Plasma @ Unknown
		warfarin	2	2						
503pai	31 y M				A	Ingst	Int-A	1		
		hydrocodone	1	1						
		doxylamine	2	2						
		chlorpheniramine	3	3						
		dextromethorphan	4	4						
		olanzapine	5	5						
		zolpidem	6	6						
504ai	31 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.8 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.24% (wt/Vol) In Vitreous @ Autopsy
		alprazolam	3	3						
		temazepam	4	4						
505pa	31 y F				A	Ingst	Int-A	1		
		fentanyl	1	1					norfentanyl	0.72 ng/mL In Blood (unspecified) @ Unknown
		fentanyl	1	1					fentanyl	6.3 ng/mL In Blood (unspecified) @ Unknown
		clonazepam	2	2					7-aminoclonazepam	23 ng/mL In Blood (unspecified) @ Unknown
		clonazepam	2	2					clonazepam	9 ng/mL In Blood (unspecified) @ Unknown
		alprazolam	3	3					alprazolam	12 ng/mL In Blood (unspecified) @ Unknown
		laxative (stimulant)	4	4					sertraline	83 ng/mL In Blood (unspecified) @ Unknown
		zolpidem	5	5					zolpidem	39 ng/mL In Blood (unspecified) @ Unknown
506ai	31 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	133 ng/mL In Whole Blood @ Autopsy
		promethazine	3	3					promethazine	0.58 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4						
507ai	31 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.08 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	55 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	30.9 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	46.6 mcg/mL In Whole Blood @ Autopsy
508ai	31 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
509ai	31 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.18 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.19 mcg/mL In Whole Blood @ Autopsy
		zolpidem	3	3					zolpidem	0.8 mcg/mL In Whole Blood @ Autopsy
510pa	31 y M				A/C	Ingst	Int-U	1		
		oxymorphone	1	1					oxymorphone	0.16 mg/L In Blood (unspecified) @ Autopsy
		oxycodone	2	2					oxycodone	0.28 mg/L In Blood (unspecified) @ Autopsy
		diazepam	3	3					diazepam	0.043 mg/L In Blood (unspecified) @ Autopsy
		diazepam	3	3					nordiazepam	39 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	4	4					alprazolam	0.1 mg/L In Blood (unspecified) @ Autopsy
		mirtazapine	5	5						
511ai	31 y M				U	Ingst+ Unk	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.15 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					amphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.4 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					amphetamine	1.3 mg/kg In Liver @ Autopsy
		methamphetamine	2	2					methamphetamine	6.1 mg/kg In Liver @ Autopsy
		ethanol	3	3					ethanol	0.09% (wt/Vol) In Whole Blood @ Autopsy
512ai	31 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.54 mcg/mL In Whole Blood @ Autopsy
513a	31 y F				A	Unk	Int-U	1		
		morphine	1	1						
		methadone	2	2						
		benzodiazepine	3	3						
514ai	31 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.38 mcg/mL In Whole Blood @ Autopsy
515ai	31 y M				U	Par	Int-A	2		
		fentanyl	1	1					fentanyl	8.9 ng/mL In Whole Blood @ Autopsy
516ai	31 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.07 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.12 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3						
		skeletal muscle relaxant	4	4						
517	31 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	655 mcg/mL In Blood (unspecified) @ Unknown
		quetiapine	2	2						
518ai	32 y M				A	Ingst	Int-A	1		
		oxycodone	1	1					oxycodone	0.2 mg/L In Blood (unspecified) @ Autopsy
		morphine	2	2					morphine (free)	43 mcg/L In Blood (unspecified) @ Autopsy
		diazepam	3	3					diazepam	0.1 mg/L In Blood (unspecified) @ Autopsy
		bupropion	4	4					bupropion	0.1 mg/L In Blood (unspecified) @ Autopsy
		paroxetine	5	5					paroxetine	0.1 mg/L In Blood (unspecified) @ Autopsy
		dextromethorphan	6	6					dextromethorphan	0.2 mg/L In Blood (unspecified) @ Autopsy
		trazodone	7	7					trazodone	0.07 mg/L In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
519ai	32 y M				A	Ingst	Int-U	1		
		oxycodone	1	1						
		trazodone	2	2						
		doxylamine	3	3						
		mirtazapine	4	4						
		citalopram	5	5						
		acetaminophen	6	6						
520ai	32 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.12 mcg/mL In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Blood (unspecified) @ Unknown
521ai	32 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.13 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.09% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.11% (wt/Vol) In Vitreous @ Autopsy
522ph	32 y M				A	Ingst+ Derm	Int-U	2		
		fentanyl	1	1						
		diclofenac	2	2						
		ethanol	3	3						
523ha	32 y F				A/C	Ingst	Int-S	1		
		acetaminophen	1	1						
524ai	32 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.15 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	3 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	7 mcg/mL In Whole Blood @ Autopsy
525ai	32 y F				U	Ingst+ Unk	Int-A	2		
		oxymorphone	1	1					oxymorphone	68 ng/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.87 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	146 ng/mL In Whole Blood @ Autopsy
526ai	32 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.32 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	59 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.18% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.21% (wt/Vol) In Vitreous @ Autopsy
		acetaminophen/ hydrocodone	4	4						
527pa	32 y M				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
528	32 y M				A	Ingst	Int-S	1		
		salicylate	1	1						
		buspirone	2	2						
529h	33 y M				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	45.2 mcg/mL In Serum @ Unknown
530	33 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	42 mg/dL In Serum @ 3 h (pe)
		salicylate	1	1					salicylate	84 mg/dL In Serum @ 9.5 h (pe)
		diphenhydramine	2	2						
		antidepressant (SSRI)	3	3						
		melatonin	4	4						
531a	33 y F				A/C	Ingst	Int-S	1		
		salicylate	1	1					salicylate	32 mg/dL In Serum @ 2 h (pe)
		salicylate	1	1					salicylate	460 mcg/mL In Serum @ Autopsy
		salicylate	1	1					salicylate	62 mg/dL In Serum @ 5 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		omeprazole	2	2						
		ethanol	3	3					ethanol	160 mg/dL In Serum @ Unknown
		acetaminophen/ hydrocodone	4	4						
532a	33 y F				A	Ingst	Unk	1		
		acetaminophen	1	1						
		benzodiazepine*	3	2						
		opioid*	2	2						
		azathiorpine	4	3						
533ai	33 y F				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.11 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.28 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	68 ng/mL In Whole Blood @ Autopsy
534ai	33 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.81 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.1% (wt/Vol) In Whole Blood @ Autopsy
535ai	33 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydromorphone	33 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	98 ng/mL In Whole Blood @ Autopsy
536pha	33 y M				U	Par	Int-U	1		
		fentanyl (transdermal)	1	1					fentanyl	3.5 ng/mL In Blood (unspecified) @ Unknown
537	33 y F				A/C	Unk	Int-U	3		
		opioid	1	1						
		benzodiazepine	2	2						
		drug, unknown	3	3						
538	33 y M				A/C	Ingst	Int-S	1		
		methadone	1	1						
		amlodipine	2	2						
539ai	33 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.27 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	1	1					hydromorphone	16 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	15.5 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	3 mcg/mL In Whole Blood @ Autopsy
540	33 y M				A/C	Ingst	Int-M	1		
		salicylate	1	1					salicylate	17 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	28 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	44 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	70.7 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	96 mg/dL In Serum @ Unknown
541	33 y F				A	Ingst	Int-A	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	189.1 mcg/mL In Serum @ Unknown
542ai	33 y F				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	11 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.14 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	1.9 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	4	4						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diazepam	5	5						
		alprazolam	6	6						
543ai	33 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.22 mcg/mL In Whole Blood @ Autopsy
		doxepin	2	2					doxepin	0.63 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	1.2 mcg/mL In Whole Blood @ Autopsy
		trazodone	4	4						
		quetiapine	5	5						
544pai	34 y M				A	Ingst	Int-U	1		
		morphine	1	1						
		oxycodone	2	2					oxycodone	0.2 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	3	3					alprazolam	0.04 mg/L In Blood (unspecified) @ Autopsy
545pai	34 y M				A	Ingst	Int-U	1		
		methadone	1	1					methadone	1.3 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	0.08 mg/L In Blood (unspecified) @ Autopsy
		promethazine	3	3					promethazine	0.3 mg/L In Blood (unspecified) @ Autopsy
546pai	34 y M				A	Inhal+ Unk	Int-U	1		
		oxycodone	1	1						
		clonazepam	2	2						
		citalopram	3	3						
		trazodone	4	4						
547ai	34 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.26 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.15 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	237 ng/mL In Whole Blood @ Autopsy
548ai	34 y F				U	Ingst	Int-A	2		
		opioid	1	1					fentanyl	17.1 ng/mL In Whole Blood @ Autopsy
549ai	34 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.23 mcg/mL In Whole Blood @ Autopsy
		mirtazapine	2	2						
		clonazepam	3	3						
		diazepam	4	4						
550ai	34 y M				U	Ingst	Int-S	2		
		oxymorphone	1	1						
		alprazolam	2	2					alprazolam	202 ng/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	1 mcg/mL In Whole Blood @ Autopsy
551ai	34 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.5 mcg/mL In Whole Blood @ Autopsy
552ai	34 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.2% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Vitreous @ Autopsy
553pai	34 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.14 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
554p	34 y M				A/C	Ingst	Int-S	2		
		oxycodone	1	1						
		cocaine	2	2						
555pa	34 y F				U	Ingst	Int-U	1		
		methadone	1	1					methadone	528 ng/mL In Serum @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	2	2					ethanol	36 mg/dL In Blood (unspecified) @ Autopsy
556ai	34 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.19 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	45 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
557ai	34 y M				U	Ingst	Unk	2		
		methadone	1	1					methadone	0.3 mcg/mL In Whole Blood @ Autopsy
558ai	34 y M				U	Par	Int-A	2		
		oxycodone	1	1					oxycodone	0.24 mcg/mL In Blood (unspecified) @ Unknown
559	34 y F				C	Ingst	Int-M	1		
		acetaminophen	1	1						
560	35 y M				A	Ingst	Int-S	2		
		acetaminophen/ oxycodone	1	1						
561pai	35 y M				A	Ingst+ Unk	Int-M	1		
		methadone	1	1						
		cocaine	2	2						
		clonazepam	3	3						
562pai	35 y F				U	Par	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.3 mcg/mL In Whole Blood @ Autopsy
		phentermine	2	2						
563ai	35 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.04 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.06 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	91 ng/mL In Whole Blood @ Autopsy
		amitriptyline	4	4						
564ai	35 y M				U	Ingst	Int-A	2		
		propoxyphene	1	1					propoxyphene	2.9 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Vitreous @ Autopsy
565pha	35 y F				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	54 mcg/mL In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone	679 mg/L In Blood (unspecified) @ Autopsy
		hydroxyzine	2	2						
		skeletal muscle relaxant	3	3						
		meprobamate	4	4						
		promethazine	5	5						
		venlafaxine	6	6						
		topiramate	7	7						
566pa	35 y F				A	Inhal	Int-A	1		
		methadone	1	1					methadone	360 ng/mL In Whole Blood @ 1 d (pe)
		methadone	1	1					alprazolam	63 ng/mL In Whole Blood @ 1 d (pe)
		benzodiazepine	2	2						
567ai	35 y M				U	Ingst	Int-A	2		
		codeine	1	1					codeine	1.2 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.15% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Vitreous @ Autopsy
		diazepam	3	3						
		laxative (stimulant)	4	4						
568	35 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	21 mcg/mL In Blood (unspecified) @ 30 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
569ha	35 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	137.5 mg/dL In Blood (unspecified) @ Unknown
570pha	35 y M				A	Ingst	Unt-G	2		
		methadone	1	1					methadone	0.24 mg/L In Blood (unspecified) @ Autopsy
571h	35 y F				U	Ingst	Unt-T	3		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.026 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.027 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					oxycodone	0.061 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					oxycodone	0.068 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	34 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	75.6 mcg/mL In Blood (unspecified) @ Unknown
572ph	35 y F				A/C	Ingst	Int-U	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	49.9 mcg/mL In Blood (unspecified) @ Unknown
573ai	35 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	2	2					diphenhydramine	2.3 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		doxepin	4	4						
574ai	35 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.26 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	35 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
575ai	36 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	7.3 mg/kg In Liver @ Autopsy
576ai	36 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	75 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		ethanol	3	3					ethanol	0.22% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.27% (wt/Vol) In Vitreous @ Autopsy
577a	36 y M				U	Ingst	Unk	3		
		morphine	1	1						
		tramadol	2	2						
		risperidone	3	3						
		quetiapine	4	4						
		skeletal muscle relaxant	5	5						
		alprazolam	6	6						
		hydromorphone	7	7						
578h	36 y F				C	Ingst	Unt-T	2		
		acetaminophen	1	1						
579ph	36 y M				U	Unk	Int-A	2		
		opioid	1	1						
		ethanol	2	2					ethanol	195 mg/dL In Blood (unspecified) @ 1 h (pe)
580ha	36 y F				C	Ingst	Unk	3		
		acetaminophen/ codeine	1	1					acetaminophen	58 mcg/mL In Blood (unspecified) @ Unknown
		oxycodone	2	2						
		morphine	3	3						
581pha	36 y F				A	Ingst	Int-U	1		
		acetaminophen/ oxycodone	1	1					oxycodone	110 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2						
582p	36 y M				A	Ingst	Int-A	1		
		fentanyl (transdermal)	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
583ai	36 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	2.9 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.29 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
584ai	36 y F				U	Par	Int-A	2		
		oxycodone	1	1					oxycodone	0.12 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxycodone	0.17 mcg/mL In Whole Blood @ Autopsy
585pa	37 y M				A/C	Unk	Int-S	2		
		oxycodone	1	1					oxycodone (total)	0.6 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (total)	0.39 mcg/mL In Whole Blood @ Autopsy
586ai	37 y F				U	Ingst	Int-S	2		
		tramadol	1	1					tramadol	6.3 mcg/mL In Blood (unspecified) @ Unknown
		citalopram	2	2					citralopram	1.4 mcg/mL In Blood (unspecified) @ Unknown
		hydroxyzine	3	3						
587ai	37 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1						
		alprazolam	2	2					alprazolam	432 ng/mL In Whole Blood @ Autopsy
588ai	37 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.23 mcg/mL In Whole Blood @ Autopsy
		chlorpheniramine	2	2					chlorpheniramine	0.66 mcg/mL In Whole Blood @ Autopsy
589	37 y F				U	Ingst	Int-U	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	130 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	65 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ propoxyphene	2	2						
		acetaminophen	3	3						
		salicylate	4	4					salicylate	34 mcg/mL In Blood (unspecified) @ Unknown
590ai	37 y F				U	Ingst+ Unk	Int-A	2		
		tramadol	1	1					tramadol	1.4 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	3.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	8.4 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	3	3						
		acetaminophen/ hydrocodone	4	4					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
591pa	37 y M				A	Ingst	Int-S	1		
		methadone	1	1					methadone	130 ng/mL In Blood (unspecified) @ Autopsy
		lorazepam	2	2						
		citalopram	3	3					citalopram	38 ng/mL In Blood (unspecified) @ Autopsy
		cotinine	4	4						
		caffeine	5	5					caffeine	1 Other (see abst) In Blood (unspecified) @ Autopsy
592	37 y F				A/C	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	585 mcg/mL In Blood (unspecified) @ Unknown
		amphetamines (bath salts)	2	2						
593ha	37 y F				C	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	33 mcg/mL In Serum @ 10 m (pe)
594ai	37 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	28.2 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	149 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ hydrocodone	3	3					hydrocodone	1.1 mcg/mL In Whole Blood @ Autopsy
		phentermine	4	4						
595pai	38 y M				A	Unk	Int-M	1		
		fentanyl	1	1						
596pai	38 y F				A	Inhal+ Unk	Int-A	1		
		morphine	1	1						
		fentanyl	2	2						
		venlafaxine	3	3						
597ai	38 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.25 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		ethanol	3	3					ethanol	0.18% (wt/Vol) In Serum @ Autopsy
		ethanol	3	3					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
		citalopram	4	4						
598ai	38 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.33 mcg/mL In Serum @ Autopsy
		oxymorphone	2	2						
		diphenhydramine	3	3						
		tramadol	4	4						
		cyclobenzaprine	5	5						
599a	38 y F				U	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	193 mcg/mL In Serum @ 0 h (pe)
		alprazolam*	3	2						
		venlafaxine (extended release)*	2	2						
		zolpidem*	4	2						
600ai	38 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.59 mcg/mL In Whole Blood @ Autopsy
601ai	38 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.41 mcg/mL In Whole Blood @ Autopsy
602ai	38 y M				U	Ingst+ Aspir	Int-A	2		
		methadone	1	1					methadone	0.29 mcg/mL In Whole Blood @ Autopsy
603pai	38 y F				U	Ingst	Int-A	3		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.27 mcg/mL In Whole Blood @ Autopsy
		metaxalone	2	2					metaxalone	34 Other (see abst) In Liver @ Autopsy
		metaxalone	2	2					metaxalone	5.5 mcg/mL In Whole Blood @ Autopsy
		tramadol	3	3					tramadol	3.7 mcg/mL In Whole Blood @ Autopsy
		tramadol	3	3					tramadol	5.9 Other (see abst) In Liver @ Autopsy
		bupropion	4	4						
		diphenhydramine	5	5						
		citalopram	6	6						
		amitriptyline	7	7						
604ai	38 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.24 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.22 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3						
		beta blocker	4	4						
		trazodone	5	5						
		duloxetine	6	6						
605ha	38 y F				A/C	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	13.3 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone (free)	53 ng/mL In Blood (unspecified) @ Autopsy
606pa	38 y F				U	Unk	Unk	2		
		oxycodone	1	1					oxycodone (total)	365 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	1	1					oxymorphone	76.5 ng/mL In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diazepam	2	2					diazepam	170 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					nordiazepam	199 ng/mL In Blood (unspecified) @ Autopsy
		carisoprodol	3	3					carisoprodol	8.4 mcg/mL In Blood (unspecified) @ Autopsy
		carisoprodol	3	3					meprobamate	9.2 mcg/mL In Blood (unspecified) @ Autopsy
607ai	38 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.15 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.21 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3						
		diazepam	4	4						
608	38 y F				C	Ingst	Int-A	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	21 mcg/mL In Plasma @ 1 d (pe)
609ai	38 y F				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.14 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2						
		valproic acid	3	3						
610ai	38 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.47 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.08 mcg/mL In Whole Blood @ Autopsy
611ai	38 y F				U	Ingst+ Unk	Int-A	2		
		codeine	1	1					codeine	0.29 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.95 mcg/mL In Whole Blood @ Autopsy
612pai	39 y F				A	Ingst	Int-U	1		
		methadone	1	1					methadone	12 mg/kg In Liver @ Autopsy
		alprazolam*	2	2					alprazolam	0.1 mg/kg In Liver @ Autopsy
		promethazine*	3	2					promethazine	12 mg/kg In Liver @ Autopsy
		ethanol	4	4						
613pai	39 y M				A	Ingst+ Par	Int-A	1		
		morphine	1	1						
		ethanol	2	2					ethanol	0.04% In Blood (unspecified) @ Autopsy
		quinine	3	3						
614h	39 y M				A/C	Ingst	Unk	1		
		acetaminophen	1	1					acetaminophen	13 mcg/mL In Serum @ Unknown
615ai	39 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.26 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	12.6 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	8.8 mcg/mL In Whole Blood @ Autopsy
616ai	39 y F				U	Par	Int-A	2		
		fentanyl	1	1					fentanyl	19.5 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		oxycodone	3	3						
617a	39 y F				A/C	Ingst	Int-S	1		
		tramadol	1	1					tramadol	10000 ng/mL In Blood (unspecified) @ 5 m (pe)
		tramadol	1	1					o-demethyl tramadol	1700 ng/mL In Whole Blood @ Autopsy
		benzodiazepine	2	2					clonazepam	33 ng/mL In Blood (unspecified) @ 5 m (pe)
		benzodiazepine	2	2					7-aminoclonaze-pam	40 ng/mL In Blood (unspecified) @ 5 m (pe)
		cyclobenzaprine	3	3					cyclobenzaprine	16 ng/mL In Whole Blood @ Autopsy
618ai	39 y M				U	Ingst+ Unk	Int-U	2		
		morphine	1	1					morphine (free)	0.24 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	2	2					alprazolam	96 ng/mL In Whole Blood @ Autopsy
		paroxetine	3	3						
619ai	39 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.11 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.32% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.38% (wt/Vol) In Vitreous @ Autopsy
620pa	39 y F				U	Ingst	Int-U	2		
		hydrocodone	1	1					hydrocodone	274 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					nordiazepam	650 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					diazepam	687 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ diphenhydramine	3	3						
		lisinopril	4	4						
		tramadol	5	5						
		promethazine	6	6						
		trazodone	7	7						
621pa	39 y M				U	Ingst	Int-U	2		
		methadone	1	1					methadone	487 ng/mL In Blood (unspecified) @ Autopsy
		methadone	1	1					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	63.5 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	46.8 ng/mL In Blood (unspecified) @ Autopsy
622ai	39 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.14 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.05 mcg/mL In Whole Blood @ Autopsy
623h	39 y F				U	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1						
624ai	39 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	40 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	1.1 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	8.2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.05 mcg/mL In Whole Blood @ Autopsy
		alprazolam	4	4					alprazolam	130 ng/mL In Whole Blood @ Autopsy
625ai	39 y F				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.21 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2						
		quetiapine	3	3						
626pa	39 y F				A/C	Ingst	Int-S	1		
		tramadol	1	1					o-demethyl tramadol	0.91 mg/L In Blood (unspecified) @ Unknown
		tramadol	1	1					tramadol	6.4 mg/L In Blood (unspecified) @ Unknown
		gabapentin	2	2					gabapentin	39 mg/L In Blood (unspecified) @ Unknown
		clonazepam	3	3					clonazepam	0.042 mg/L In Blood (unspecified) @ Unknown
		clonazepam	3	3					7-aminoclonaze-pam	0.12 mg/L In Blood (unspecified) @ Unknown
		tapentadol	4	4					tapentadol	0.82 mg/L In Blood (unspecified) @ Unknown
627a	39 y M				A	Ingst+ Par	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	389 mg/L In Plasma @ Unknown
		lorazepam	2	2						
		alprazolam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	4	4						
		androgen	5	5						
		nandrolone	6	6						
		metaxalone	7	7						
		ibuprofen	8	8						
628ai	39 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.9 mcg/mL In Whole Blood @ Autopsy
629pai	40 y M				A	Unk	Int-U	1		
		methadone	1	1						
		heroin	2	2						
		oxycodone	3	3						
		diphenhydramine	4	4						
		promethazine	5	5						
630pai	40 y F				A	Ingst+ Inhal	Int-A	1		
		methadone	1	1						
		oxycodone	2	2						
		diazepam	3	3						
		ethanol	4	4						
631pha	40 y F				U	Unk	Int-U	2		
		oxycodone	1	1					oxycodone	2084 mg/mL In Blood (unspecified) @ Autopsy
		oxycodone	1	1					oxycodone	2084 ng/mL In Blood (unspecified) @ Autopsy
632p	40 y M				A	Ingst	Int-S	1		
		methadone	1	1						
		acetaminophen/ oxycodone	2	2					acetaminophen	7.3 mcg/mL In Serum @ Unknown
		benzodiazepine	3	3						
633	40 y F				A	Ingst	Unk	1		
		acetaminophen	1	1						
634ai	40 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy
		doxepin	2	2					nordoxepin	0.8 mcg/mL In Whole Blood @ Autopsy
		doxepin	2	2					doxepin	0.95 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	0.41 mcg/mL In Whole Blood @ Autopsy
635ai	40 y F				U	Unk	Int-U	2		
		morphine	1	1					morphine (free)	0.29 mcg/mL In Whole Blood @ Autopsy
636ai	40 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.82 mcg/mL In Whole Blood @ Autopsy
		fentanyl	2	2					fentanyl	5.1 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3					tramadol	1.9 mcg/mL In Whole Blood @ Autopsy
		alprazolam	4	4						
		diazepam	5	5						
637ai	40 y M				U	Ingst	Int-A	2		
		propoxyphene	1	1					norpropoxyphene	1.4 mcg/mL In Whole Blood @ Autopsy
		propoxyphene	1	1					propoxyphene	1.7 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.26% (wt/Vol) In Vitreous @ Autopsy
638ai	40 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.52 mcg/mL In Whole Blood @ Autopsy
639ai	40 y F				U	Ingst	Int-A	2		
		codeine	1	1					codeine	5.4 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	2.5 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	3	3						
		amitriptyline	4	4						
640ai	40 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.4 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	2	2					alprazolam	49 ng/mL In Whole Blood @ Autopsy
641h	40 y F				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1						
642ai	40 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.29 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					amphetamine	0.08 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.36 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.08 mcg/mL In Whole Blood @ Autopsy
643ai	40 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	2.9 mg/kg In Liver @ Autopsy
		citalopram	2	2					citralopram	27.7 mg/kg In Liver @ Autopsy
644ai	40 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.29 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	0.65 mcg/mL In Whole Blood @ Autopsy
645ha	40 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	133 mg/dL In Serum @ 8 h (pe)
646h	40 y M				C	Unk	Unk	3		
		caffeine/salicylamide/ salicylate*	2	1						
		cocaine*	1	1						
647ai	40 y F				U	Par	Int-A	2		
		fentanyl	1	1					fentanyl	17.6 ng/mL In Whole Blood @ Autopsy
		fentanyl	1	1					fentanyl	19.4 ng/mL In Vitreous @ Autopsy
648ai	40 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.59 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	2	2						
649ai	40 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.54 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2						
650pa	40 y F				U	Ingst+ Inhal	Unk	3		
		acetaminophen/ oxycodone	1	1					oxycodone	0.035 mg/L In Blood (unspecified) @ 4 h (pe)
		ethanol	2	2					ethanol	30 mg/dL In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	70 mg/dL In Blood (unspecified) @ 4 h (pe)
		diphenhydramine*	3	3					diphenhydramine	0.56 mg/L In Blood (unspecified) @ 4 h (pe)
		THC homolog*	4	3						
651pa	40 y M				A/C	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	124 ng/mL In Blood (unspecified) @ Autopsy
		lorazepam	2	2					lorazepam	62.2 ng/mL In Blood (unspecified) @ Autopsy
		hydrocodone	3	3					hydrocodone	22.3 ng/mL In Blood (unspecified) @ Autopsy
652ai	40 y M				U	Ingst	Int-A	2		
		hydromorphone	1	1					hydromorphone	83 ng/mL In Whole Blood @ Autopsy
		methocarbamol	2	2						
		tricyclic antidepressant	3	3						0.23 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4					nordiazepam	0.44 mcg/mL In Plasma @ Autopsy
653ai	40 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.11 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.12 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	2	2					ethanol	0.14 mcg/mL In Urine (quantitative only) @ Autopsy
654	40 y F				C	Ingst	Int-A	1		
		acetaminophen/ oxycodone	1	1					acetaminophen	214.4 mcg/mL In Blood (unspecified) @ 48 h (pe)
655h	40 y F				C	Ingst	Int-M	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	107 mcg/mL In Blood (unspecified) @ Unknown
656pai	41 y M				A	Ingst+ Unk	Int-M	1		
		methadone	1	1						
		promethazine	2	2						
		dextromethorphan	3	3						
		paroxetine	4	4						
657pai	41 y M				A	Unk	Int-A	1		
		morphine	1	1						
		cocaine	2	2						
658ai	41 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	5.5 ng/mL In Blood (unspecified) @ Unknown
		propoxyphene	2	2						
		ethanol	3	3					ethanol	0.1% (wt/Vol) In Serum @ Unknown
		ethanol	3	3					ethanol	0.19% (wt/Vol) In Urine (quantitative only) @ Unknown
659	41 y M				A	Ingst	Int-S	3		
		hydrocodone/ homatropine	1	1						
		benztropine	2	2						
		furosemide	3	3						
		levothyroxine	4	4						
		olanzapine	5	5						
660ai	41 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.32 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	106 ng/mL In Whole Blood @ Autopsy
661	41 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	578 mcg/mL In Blood (unspecified) @ Unknown
662p	41 y F				U	Unk	Int-S	3		
		opioid	1	1						
663ai	41 y M				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	24.9 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
		mirtazapine	3	3						
		cyclobenzaprine	4	4						
		citalopram	5	5						
664ai	41 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.24 mcg/mL In Blood (unspecified) @ Unknown
		amphetamine	2	2						
665ha	41 y F				A/C	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	69 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ diphenhydramine	1	1					acetaminophen	95 mcg/mL In Blood (unspecified) @ Unknown
666ai	41 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.21 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.14% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Vitreous @ Autopsy
667ai	41 y F				U	Ingst	Int-S	2		
		oxycodone	1	1					oxycodone	16.3 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		nortriptyline	3	3						
		promethazine	4	4						
668pai	42 y M				A	Ingst	Int-U	1		
		methadone	1	1					methadone	0.4 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	2	2					clonazepam	0.066 mg/L In Blood (unspecified) @ Autopsy
669ai	42 y M				A	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.09 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		alprazolam	3	3						
670h	42 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	18 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone (free)	77 ng/mL In Serum @ Unknown
671pai	42 y F				A	Unk	Int-U	1		
		oxycodone	1	1						
		cocaine	2	2						
		quetiapine	3	3						
672ai	42 y M				U	Derm+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	19.8 ng/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.1 mcg/mL In Whole Blood @ Autopsy
673h	42 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	51.8 mcg/mL In Blood (unspecified) @ Unknown
		ibuprofen	2	2						
		ethanol	3	3						
674ai	42 y M				U	Ingst	Int-S	2		
		oxycodone	1	1					oxycodone	2.2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		alprazolam	3	3						
675ai	42 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.24 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	96 ng/mL In Whole Blood @ Autopsy
676h	42 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	23.4 mg/mL In Serum @ 6 h (pe)
		ethanol	2	2					ethanol	222 mg/dL In Serum @ 6 h (pe)
677ha	42 y F				A/C	Ingst	Int-S	1		
		acetaminophen/ oxycodone	1	1					acetaminophen	252 mcg/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen/ oxycodone	1	1					oxycodone	383 ng/mL In Blood (unspecified) @ 2.5 h (pe)
		acetaminophen/ oxycodone	1	1					acetaminophen	76.1 mcg/mL In Blood (unspecified) @ 2.5 h (pe)
		cyclobenzaprine	2	2					cyclobenzaprine	146 ng/mL In Blood (unspecified) @ 2.5 h (pe)
		propoxyphene	3	3					norpropoxyphene	132 ng/mL In Blood (unspecified) @ 2.5 h (pe)
678ai	42 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.26 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	124 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	48 ng/mL In Whole Blood @ Autopsy
679ai	42 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.16 mcg/mL In Whole Blood @ Autopsy
		bupropion	2	2						
		citalopram	3	3					citralopram	1.1 mcg/mL In Whole Blood @ Autopsy
680p	42 y F				A/C	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	185 ng/mL In Serum @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		skeletal muscle relaxant	2	2						
681ai	42 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.11 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		tizanidine	3	3					tizanidine	5.3 ng/mL In Whole Blood @ Autopsy
		alprazolam	4	4						
		citalopram	5	5						
682pha	42 y F				A/C	Ingst	Int-S	1		
		oxycodone (extended release)	1	1					oxycodone	0.2 mg/L In Serum @ 2 h (pe)
		methadone *	2	2					methadone	0.17 mg/kg In Liver @ Autopsy
		pregabalin *	3	2						
		alprazolam	4	3						
683ai	42 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.22 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	118 ng/mL In Whole Blood @ Autopsy
		hydroxychloroquine	3	3						15 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4						526 mg/kg In Liver @ Autopsy
		promethazine	5	5						
		anticonvulsant (pyrrolidinone)	6	6						
		methadone	7	7					methadone	0.06 mcg/mL In Whole Blood @ Autopsy
684	42 y F				A/C	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen	128 mcg/mL In Serum @ Unknown
685ha	42 y F				C	Ingst	Int-M	2		
		acetaminophen	1	1						
686ai	42 y M				U	Ingst+ Aspir	Int-A	2		
		tramadol	1	1					tramadol	2.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		diazepam	3	3						
687ai	42 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.14 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2					diazepam	0.56 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2					nordiazepam	0.91 mcg/mL In Whole Blood @ Autopsy
688ai	42 y M				U	Ingst	Int-A	2		
		oxymorphone	1	1					oxymorphone	74 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
689ai	42 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.38 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.31 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
690ai	43 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	14.9 ng/mL In Whole Blood @ Autopsy
		fentanyl	1	1					fentanyl	19.7 ng/mL In Vitreous @ Autopsy
		tramadol	2	2						
		diphenhydramine	3	3						
		citalopram	4	4						
		trazodone	5	5						
691ha	43 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	15 mg/L In Blood (unspecified) @ 2 d (pe)
		zolpidem	2	2						
692h	43 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	78 mg/L In Serum @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
693pai	43 y F				A	Unk	Int-U	1		
		methadone	1	1						
		quetiapine	2	2						
		ethanol	3	3						
694ai	43 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	17.1 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
695ai	43 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.19 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	184 ng/mL In Whole Blood @ Autopsy
696pai	43 y M				A	Unk	Int-A	1		
		fentanyl	1	1						
		oxycodone	2	2						
		diazepam	3	3						
		alprazolam	4	4						
		phenytoin	5	5						
		fluoxetine	6	6						
697p	43 y M				A/C	Ingst	Unk	2		
		oxycodone	1	1					oxymorphone	13.4 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	1	1					oxycodone	275 ng/mL In Blood (unspecified) @ Autopsy
		tizanidine	2	2						
		alprazolam	3	3					alprazolam	39.3 ng/mL In Blood (unspecified) @ Autopsy
		duloxetine	4	4						
		pregabalin	5	5						
698ai	43 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.29 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.14 mcg/mL In Blood (unspecified) @ Unknown
		skeletal muscle relaxant	3	3					meprobamate	3.5 mcg/mL In Blood (unspecified) @ Unknown
		skeletal muscle relaxant	3	3					carisoprodol	6.3 mcg/mL In Blood (unspecified) @ Unknown
		cyclobenzaprine	4	4						
		citalopram	5	5						
699ai	43 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	12.7 ng/mL In Whole Blood @ Autopsy
		fentanyl	1	1					fentanyl	3 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.24 mcg/mL In Whole Blood @ Autopsy
		venlafaxine	3	3						
		promethazine	4	4						
700h	43 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1						
701p	43 y F				A/C	Ingst	Unk	2		
		opioid	1	1						
		cocaine	2	2						
		benzodiazepine	3	3						
702pai	43 y M				C	Ingst+ Derm	Int-A	1		
		fentanyl (transdermal)	1	1					fentanyl	0.055 mg/kg In Liver @ Autopsy
		fentanyl (transdermal)	1	1					fentanyl	12 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	0.016 mg/L In Blood (unspecified) @ Autopsy
		phenobarbital	3	3					phenobarbital	31 mg/L In Blood (unspecified) @ Autopsy
		lamotrigine	4	4						
		cyclobenzaprine	5	5						
		dextromethorphan	6	6						
703ha	43 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	272 mg/L In Serum @ 1 h (pe)
704ph	43 y F				U	Unk	Int-U	2		
		hydromorphone	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		morphine	2	2						
		alprazolam	3	3						
705	43 y F				A	Ingst+ Derm	Int-S	1		
		fentanyl	1	1						
		bupropion	2	2						
		amitriptyline	3	3						
706pa	43 y M				U	Ingst	Unk	2		
		hydrocodone	1	1					hydrocodone	17.4 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	2	2					oxycodone	6.5 ng/mL In Blood (unspecified) @ Autopsy
		gabapentin	3	3						
		buprenorphine	4	4					buprenorphine	16.2 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	5	5					ethanol	0.167% In Blood (unspecified) @ Autopsy
707	43 y M				U	Ingst	Int-S	2		
		salicylate	1	1					salicylate	102.7 mg/dL In Serum @ 9 h (pe)
		alprazolam	2	2						
708ha	43 y M				C	Ingst	Int-S	1		
		salicylate	1	1						
		amitriptyline	2	2						
		acetaminophen/ oxycodone	3	3						
		citalopram	4	4						
709	43 y M				C	Ingst	Int-U	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	109 mcg/mL In Plasma @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	91.9 mcg/mL In Plasma @ 4 h (pe)
710ai	43 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	3.2 mcg/mL In Whole Blood @ Autopsy
711	43 y M				A	Ingst	Int-S	2		
		salicylate	1	1					salicylate	102 mg/dL In Blood (unspecified) @ 11 h (pe)
		salicylate	1	1					salicylate	93 mg/dL In Blood (unspecified) @ 7 h (pe)
		salicylate	1	1					salicylate	96.4 mg/dL In Blood (unspecified) @ 9 h (pe)
712	43 y M				A/C	Ingst	Int-S	1		
		acetaminophen/ oxycodone	1	1						
		diazepam	2	2						
		duloxetine	3	3						
		diclofenac	4	4						
		skeletal muscle relaxant	5	5						
713ai	43 y F				U	Ingst	Unk	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.31 mcg/mL In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.37 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	2	2						
714ai	43 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	34.2 ng/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.03 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3						
715ai	43 y F				U	Ingst	Int-A	1		
		acetaminophen	1	1					acetaminophen	1209 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		venlafaxine	3	3						
716h	43 y F				C	Ingst	Int-M	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	68 mcg/mL In Blood (unspecified) @ Unknown
717	43 y F				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	144 mg/dL In Serum @ 6 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
718a	44 y F				A	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen	36.4 mcg/mL In Blood (unspecified) @ Unknown
719pai	44 y M				A	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.2 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.13 mcg/mL In Whole Blood @ Autopsy
		dicyclomine	3	3						
		citalopram	4	4						
		trazodone	5	5						
720pai	44 y F				A	Ingst	Int-A	2		
		methadone	1	1					methadone	0.28 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.12 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	58 ng/mL In Whole Blood @ Autopsy
721	44 y F				U	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	866 mg/L In Serum @ Unknown
722ai	44 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.14 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	0.09% (wt/Vol) In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	0.11% (wt/Vol) In Serum @ Unknown
723ai	44 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.51 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		diazepam	3	3						
		midazolam	4	4						
		promethazine	5	5						
		citalopram	6	6						
724ai	44 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	59 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.05% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.06% (wt/Vol) In Vitreous @ Autopsy
725h	44 y F				U	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	67.2 mcg/mL In Unknown @ Unknown
726	44 y F				A/C	Ingst	Int-S	2		
		tramadol	1	1						
		quetiapine	2	2						
		duloxetine	3	3						
		lisinopril	4	4						
		metaxalone	5	5						
		cyclobenzaprine	6	6						
		eszopiclone	7	7						
		gabapentin	8	8						
727pai	44 y M				U	Ingst	Unk	2		
		methadone	1	1					methadone	0.79 Other (see abst) In Brain @ Autopsy
728ai	44 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.2 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.15 mcg/mL In Whole Blood @ Autopsy
729p	44 y F				U	Ingst	Int-S	2		
		acetaminophen	1	1						
		ethanol	2	2						
730ph	44 y M				A	Par	Unt-G	1		
		oxycodone	1	1						
		alprazolam	2	2						
731ai	44 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.18 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		amitriptyline	2	2					amitriptyline	0.67 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	1.1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	1.3 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	1.8 mcg/mL In Whole Blood @ Autopsy
		zolpidem	3	3					zolpidem	0.26 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4						
		paroxetine	5	5						
		diphenhydramine	6	6						
		lorazepam	7	7					lorazepam	0.18 mcg/mL In Whole Blood @ Autopsy
732h	45 y F				A/C	Ingst	Unt-T	3		
		acetaminophen	1	1					acetaminophen	24 mcg/mL In Serum @ Unknown
		ibuprofen	2	2						
733pa	45 y F				A/C	Ingst	Int-A	1		
		hydromorphone	1	1					hydromorphone	57 ng/mL In Blood (unspecified) @ Unknown
		hydroxyzine	2	2					hydroxyzine	440 ng/mL In Blood (unspecified) @ Unknown
		gabapentin	3	3					gabapentin	6.7 mg/L In Blood (unspecified) @ Unknown
		mirtazapine	4	4						
		zolpidem	5	5						
		diphenhydramine	6	6						
		dextromethorphan	7	7						
		promethazine	8	8						
		fluoxetine	9	9						
		acetaminophen/ hydrocodone	10	10						
		alprazolam	11	11						
		lorazepam	12	12						
734ai	45 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	16.9 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.16 mcg/mL In Whole Blood @ Autopsy
		metaxalone	3	3					metaxalone	4.8 mcg/mL In Whole Blood @ Autopsy
735	45 y F				A	Ingst	Unt-G	3		
		acetaminophen	1	1						
736a	45 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	710 mg/L In Blood (unspecified) @ 12 h (pe)
737	45 y M				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	723 mcg/mL In Blood (unspecified) @ Unknown
738h	45 y F				A/C	Ingst	Int-S	3		
		oxycodone (extended release)	1	1						
		alprazolam	2	2						
		gabapentin	3	3						
739ai	45 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.1 mcg/mL In Whole Blood @ Autopsy
740ai	45 y M				U	Ingst	Int-A	2		
		codeine	1	1						
		methadone	2	2					methadone	0.19 mcg/mL In Whole Blood @ Autopsy
741ai	45 y M				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	1.3 mcg/mL In Whole Blood @ Autopsy
742	45 y F				A	Ingst	Int-S	1		
		acetaminophen/ oxycodone	1	1					acetaminophen	107 mcg/mL In Blood (unspecified) @ 50 h (pe)
		acetaminophen/ oxycodone	1	1					acetaminophen	249 mcg/mL In Blood (unspecified) @ 15 h (pe)
		acetaminophen/ oxycodone	1	1					acetaminophen	56 mcg/mL In Blood (unspecified) @ 36 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
743ai	45 y M				U	Ingst+ Unk	Int-A	2		
		codeine	1	1					morphine (free)	0.76 mcg/mL In Whole Blood @ Autopsy
		codeine	1	1					codeine	3.3 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.73 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3						
		ethanol	4	4					ethanol	0.02% (wt/Vol) In Vitreous @ Autopsy
		ethanol	4	4					ethanol	0.02% (wt/Vol) In Whole Blood @ Autopsy
		butalbital	5	5						
		caffeine	6	6						
		temazepam	7	7						
744ai	45 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.31 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.15 mcg/mL In Whole Blood @ Autopsy
745	45 y M				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
		alprazolam	2	2						
		ethanol	3	3						
746a	45 y F				U	Ingst+ Unk	Int-M	1		
		acetaminophen	1	1					acetaminophen	10.4 mg/L In Whole Blood @ Autopsy
		acetaminophen	1	1					acetaminophen	66.7 mcg/mL In Serum @ Unknown
		cocaine	2	2					benzoylecognine	0.03 mg/L In Blood (unspecified) @ Autopsy
		oxycodone	3	3					oxycodone	0.03 mg/L In Blood (unspecified) @ Autopsy
		fentanyl	4	4					fentanyl	0.007 mg/L In Blood (unspecified) @ Autopsy
747	45 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	193 mcg/mL In Serum @ 1 h (pe)
		cocaine	2	2						
		tricyclic antidepressant	3	3						
748ha	45 y F				A/C	Ingst	Int-U	1		
		acetaminophen	1	1					acetaminophen	61 mcg/mL In Blood (unspecified) @ Unknown
749ai	45 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	21.6 ng/mL In Vitreous @ Autopsy
		fentanyl	1	1					fentanyl	22.8 ng/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	0.64 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	2.1 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		diphenhydramine	4	4						
		promethazine	5	5						
		laxative (stimulant)	6	6						
		quetiapine	7	7						
750ai	45 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.3 mcg/mL In Whole Blood @ Autopsy
751p	45 y F				U	Ingst	Int-S	1		
		fentanyl (transdermal)	1	1						
752pai	46 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.76 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.24% (wt/Vol) In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
753pai	46 y M				A	Ingst	Int-M	1		
		oxycodone	1	1						
754pai	46 y M				A	Ingst	Int-S	1		
		oxycodone	1	1						
		cyclobenzaprine	2	2						
		laxative (stimulant)	3	3						
755h	46 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	179 mcg/mL In Blood (unspecified) @ Unknown
		tricyclic antidepressant	2	2						
756ai	46 y F				U	Unk	Int-A	2		
		fentanyl	1	1					fentanyl	19.6 ng/mL In Whole Blood @ Autopsy
757ai	46 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.62 mcg/mL In Whole Blood @ Autopsy
758ai	46 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.74 mcg/mL In Whole Blood @ Autopsy
		lorazepam	2	2					lorazepam	0.99 mcg/mL In Whole Blood @ Autopsy
759ai	46 y F				U	Ingst+ Unk	Int-A	2		
		hydrocodone	1	1					hydrocodone	0.2 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.05 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3						
760p	46 y F				A	Ingst	Int-S	1		
		acetaminophen/ oxycodone	1	1						
		carisoprodol	2	2						
		gabapentin	3	3						
		butalbital/caffeine/ salicylate	4	4						
		acetaminophen/ hydrocodone	5	5						
		tricyclic antidepressant	6	6						
761ai	46 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.17 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	4.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	5 mcg/mL In Whole Blood @ Autopsy
762h	46 y F				U	Ingst	Int-S	3		
		salicylate	1	1					salicylate	41.1 mg/dL In Blood (unspecified) @ 1 h (pe)
763pai	47 y F				A	Ingst	Int-U	1		
		morphine	1	1					morphine (free)	460 mcg/L In Blood (unspecified) @ Autopsy
		oxycodone	2	2					oxycodone	0.1 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	3	3						
		trazodone	4	4					trazodone	0.6 mg/L In Blood (unspecified) @ Autopsy
		citalopram	5	5					citalopram	1.6 mg/L In Blood (unspecified) @ Autopsy
		ethanol	6	6					ethanol	0.15% In Blood (unspecified) @ Autopsy
764ph	47 y F				C	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1						
		acetaminophen	2	2					acetaminophen	30 mcg/mL In Serum @ Unknown
		carisoprodol	3	3						
		benzodiazepine	4	4						
765pai	47 y F				A	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.96 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		skeletal muscle relaxant	3	3					meprobamate	13.5 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		skeletal muscle relaxant	3	3					carisoprodol	17.3 mcg/mL In Whole Blood @ Autopsy
766pai	47 y F				A	Ingst+ Unk	Int-A	1		
		methadone	1	1						
		diphenhydramine	2	2						
767pai	47 y M				A	Ingst+ Unk	Int-U	1		
		morphine	1	1						
		ethanol	2	2						
768pai	47 y M				A	Unk	Int-A	1		
		morphine	1	1						
769h	47 y F				U	Ingst	Int-S	3		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	85 mcg/mL In Blood (unspecified) @ Unknown
		meloxicam	2	2						
		carisoprodol	3	3						
770pai	47 y M				A	Ingst+ Unk	Int-U	1		
		morphine	1	1						
		methadone	2	2						
		ethanol	3	3						
771h	47 y M				U	Unk	Int-S	2		
		salicylate	1	1					salicylate	53 mg/dL In Blood (unspecified) @ Unknown
		valproic acid	2	2					valproic acid	129 mcg/mL In Blood (unspecified) @ Unknown
		methanol	3	3						
772ha	47 y F				A/C	Ingst	Int-S	2		
		ibuprofen	1	1						
		ethanol	2	2					ethanol	190 mg/dL In Blood (unspecified) @ Unknown
		antifreeze (ethylene glycol)	3	3					ethylene glycol	17 mg/dL In Blood (unspecified) @ Unknown
		benzodiazepine	4	4						
773p	47 y M				A/C	Ingst	Unk	2		
		diazepam*	2	1					diazepam	28 ng/mL In Whole Blood @ Autopsy
		diazepam*	2	1					nordiazepam	61 ng/mL In Whole Blood @ Autopsy
		methadone*	1	1					methadone	540 ng/mL In Whole Blood @ Autopsy
		methadone*	1	1					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	65 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3					tramadol	1300 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3					o-demethyl tramadol	200 ng/mL In Whole Blood @ Autopsy
		hydroxyzine	4	4					hydroxyzine	630 ng/mL In Whole Blood @ Autopsy
774ai	47 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.31 mcg/mL In Whole Blood @ Autopsy
		venlafaxine	2	2						
		quetiapine	3	3						
		diazepam	4	4						
		zolpidem	5	5						
775pha	47 y F				A/C	Ingst	Int-S	2		
		morphine (extended release)	1	1					morphine	0.71 mcg/mL In Serum @ 10 m (pe)
		diazepam	2	2					temazepam	0.05 mcg/mL In Serum @ 10 m (pe)
		diazepam	2	2					diazepam	0.19 mcg/mL In Serum @ 10 m (pe)
		diazepam	2	2					nordiazepam	0.7 mcg/mL In Serum @ 10 m (pe)
776ai	47 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.05 mcg/mL In Blood (unspecified) @ Unknown
		butalbital	2	2					butalbital	6.7 mcg/mL In Blood (unspecified) @ Unknown
777ai	47 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.36 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
778ph	47 y F				A	Ingst+ Derm	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	62 mcg/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen/opioid	2	2						
		hydroxyzine	3	3						
		diazepam	4	4						
		clonazepam	5	5						
779ai	47 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.3 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.03% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Vitreous @ Autopsy
		cyclobenzaprine	3	3						
		quetiapine	4	4						
780pai	47 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.35 mcg/mL In Serum @ Autopsy
		methadone	1	1					methadone	0.42 mcg/mL In Whole Blood @ Unknown
		alprazolam	2	2						
781	47 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1						
782ai	47 y F				U	Derm	Int-A	2		
		fentanyl	1	1					fentanyl	41.6 ng/mL In Whole Blood @ Autopsy
		diazepam	2	2						
783ha	47 y F				C	Ingst	Int-M	1		
		acetaminophen	1	1					acetaminophen	41 mcg/mL In Serum @ Unknown
784ai	47 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.71 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	188 ng/mL In Whole Blood @ Autopsy
		venlafaxine	3	3						
785p	47 y F				A	Ingst	Int-S	1		
		methadone	1	1						
		drug, unknown	2	2						
786ai	47 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.16 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3						
787ph	47 y M				U	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	182 mcg/mL In Blood (unspecified) @ 14 h (pe)
		ethanol	2	2					ethanol	12 mg/dL In Blood (unspecified) @ 14 h (pe)
		diphenhydramine	3	3						
788ai	47 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	11 ng/mL In Vitreous @ Autopsy
		fentanyl	1	1					fentanyl	23.4 ng/mL In Whole Blood @ Autopsy
		trazodone	2	2						
		diazepam	3	3						
		fluoxetine	4	4						
789ai	47 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.47 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	0.84 mcg/mL In Whole Blood @ Autopsy
		promethazine	4	4						
790ai	47 y M				U	Ingst+ Unk	Int-A	2		
		droperidol/fentanyl	1	1					fentanyl	16.3 ng/mL In Blood (unspecified) @ Unknown
		oxycodone	2	2					oxycodone	0.05 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
791ai	47 y F				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.61 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	15 ng/mL In Whole Blood @ Autopsy
		citalopram	2	2					citralopram	1.2 mcg/mL In Whole Blood @ Autopsy
		amphetamine	3	3					amphetamine	0.25 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	4	4						
792a	47 y M				A	Ingst+ Inhal	Int-S	1		
		acetaminophen	1	1					acetaminophen	752 mcg/mL In Plasma @ Unknown
		carbon monoxide	2	2					carboxyhemoglobin	23% In Serum @ Unknown
		acetaminophen/ dextromethorphan/ doxalamine	3	3						
793ai	47 y F				U	Ingst	Unk	2		
		methadone	1	1					methadone	1.1 mcg/mL In Whole Blood @ Autopsy
		orphenadrine	2	2						
		laxative (stimulant)	3	3						
794ai	47 y F				U	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.29 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	78 ng/mL In Whole Blood @ Autopsy
		phentermine	3	3					phentermine	0.48 mcg/mL In Whole Blood @ Autopsy
795	47 y F				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	110.9 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2						
796a	47 y M				A	Ingst	Unt-M	1		
		methadone*	1	1					methadone	290 ng/mL In Whole Blood @ Autopsy
		topiramate*	2	1					topiramate	7.4 mcg/mL In Whole Blood @ Autopsy
		marijuana	3	3					delta-9-carboxy-thc	7.1 ng/mL In Whole Blood @ Autopsy
797pa	48 y F				A/C	Ingst	Unt-G	1		
		methadone	1	1					methadone	0.3 mcg/mL In Blood (unspecified) @ Autopsy
		diphenhydramine	2	2					diphenhydramine	0.08 mcg/mL In Blood (unspecified) @ Autopsy
		verapamil	3	3					verapamil	0.08 mcg/mL In Blood (unspecified) @ Autopsy
		oxycodone (extended release)	4	4						
		gabapentin	5	5						
798pai	48 y M				A	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.26 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.24% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.28% (wt/Vol) In Vitreous @ Autopsy
799pai	48 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.32 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	106 ng/mL In Whole Blood @ Autopsy
		methamphetamine	3	3						
		ethanol	4	4					ethanol	0.1% (wt/Vol) In Whole Blood @ Autopsy
800ai	48 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.16 mcg/mL In Blood (unspecified) @ Unknown
		verapamil	2	2					verapamil	3.3 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	3	3					alprazolam	101 ng/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
801ai	48 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.1 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2						
802ph	48 y F				U	Unk	Unk	2		
		opioid	1	1						
		methadone	2	2						
		benzodiazepine	3	3						
		drug, unknown	4	4						
803ai	48 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.28 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.59 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3					amitriptyline	0.47 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4						
804	48 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	21 mcg/mL In Blood (unspecified) @ 48 h (pe)
		acetaminophen	1	1					acetaminophen	267 mcg/mL In Blood (unspecified) @ 4 h (pe)
805	48 y M				C	Ingst	Unt-T	2		
		acetaminophen	1	1						
806ai	48 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.62 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2					citralopram	1.7 mcg/mL In Whole Blood @ Autopsy
807ai	48 y F				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.12 mcg/mL In Whole Blood @ Autopsy
		venlafaxine	2	2						
		amitriptyline	3	3						
		metoclopramide	4	4						
		citalopram	5	5						
808ai	48 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.31 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.08 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		skeletal muscle relaxant	4	4					meprobamate	14.1 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4					carisoprodol	6.9 mcg/mL In Whole Blood @ Autopsy
809ai	48 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.18 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	2.6 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	4.8 mcg/mL In Whole Blood @ Autopsy
810ai	48 y F				U	Ingst+ Unk	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.2 mcg/mL In Whole Blood @ Autopsy
		fentanyl	2	2					fentanyl	27.3 ng/mL In Whole Blood @ Autopsy
		fentanyl	2	2					fentanyl	4.6 ng/mL In Whole Blood @ Autopsy
		doxepin	3	3					nordoxepin	0.13 mcg/mL In Whole Blood @ Autopsy
		doxepin	3	3					doxepin	1.1 mcg/mL In Whole Blood @ Autopsy
811ai	48 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.3 mcg/mL In Whole Blood @ Autopsy
812ai	48 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.82 mcg/mL In Whole Blood @ Autopsy
		temazepam	2	2					temazepam	2.8 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	3	3					alprazolam	2.3 ng/mL In Whole Blood @ Autopsy
813ph	48 y F				A	Ingst	Int-S	1		
		morphine	1	1						
		amitriptyline	2	2						
814ai	48 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.06 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	2.6 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	13.8 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	6.9 mcg/mL In Whole Blood @ Autopsy
		butalbital	4	4						
		lamotrigine	5	5						
815h	48 y F				U	Ingst	Unk	2		
		acetaminophen	1	1						
[816ha]	48 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	0 mg/L In Serum @ 2.5 d (pe)
		acetaminophen	1	1					acetaminophen	77 mg/L In Serum @ 1.5 d (pe)
817	48 y F				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1						
		morphine	2	2						
		acetaminophen/ diphenhydramine	3	3						
818ph	48 y F				A	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen	37.4 mcg/mL In Serum @ Unknown
819pai	49 y M				A	Ingst	Int-U	1		
		morphine	1	1					morphine (free)	340 mcg/L In Blood (unspecified) @ Autopsy
		citalopram	2	2					citalopram	1.3 mg/L In Blood (unspecified) @ Autopsy
		oxycodone	3	3						
820h	49 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	361 mcg/mL In Blood (unspecified) @ 14 h (pe)
		benzodiazepine	2	2						
821pai	49 y M				A	Ingst	Int-S	1		
		tramadol	1	1						
		amitriptyline	2	2						
		acetaminophen/ oxycodone	3	3						
822pi	49 y M				U	Ingst	Int-A	2		
		acetaminophen/ butalbital/caffeine	1	1						
		acetaminophen/ hydrocodone	2	2						
		alprazolam	3	3						
		ethanol	4	4						
823phai	49 y M				A	Unk	Int-U	1		
		methadone	1	1						
		clonazepam	2	2						
		alprazolam	3	3						
		promethazine	4	4						
		diphenhydramine	5	5						
824ai	49 y F				U	Ingst+ Unk	Int-A	2		
		methadone	1	1					methadone	0.29 mcg/mL In Whole Blood @ Autopsy
		amphetamine	2	2					amphetamine	0.19 mcg/mL In Whole Blood @ Autopsy
		amphetamine	2	2					amphetamine	0.92 mg/kg In Liver @ Autopsy
		alprazolam	3	3						
		venlafaxine	4	4					venlafaxine	0.97 mcg/mL In Whole Blood @ Autopsy
825ai	49 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.19 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2						
		diazepam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
826ai	49 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	2.8 mcg/mL In Vitreous @ Autopsy
		tramadol	2	2					tramadol	4.9 mcg/mL In Whole Blood @ Autopsy
		metoclopramide	3	3						
827ai	49 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	12.3 ng/mL In Whole Blood @ Autopsy
		diazepam	2	2						
828ai	49 y F				U	Ingst	Int-S	2		
		oxycodone	1	1					oxycodone	0.36 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	70 ng/mL In Whole Blood @ Autopsy
829ph	49 y F				U	Ingst+ Aspir	Int-S	1		
		methadone	1	1						
		amitriptyline	2	2					nortriptyline	175 ng/mL In Serum @ Unknown
		amitriptyline	2	2					amitriptyline	222 ng/mL In Serum @ Unknown
		fluoxetine	3	3						
		gabapentin	4	4						
830pa	49 y F				A/C	Inhal	Int-A	2		
		acetaminophen/ oxycodone	1	1					oxymorphone	61.4 ng/mL In Blood (unspecified) @ Autopsy
		hydrocodone	2	2						
		gabapentin	3	3						
		loratadine	4	4						
831ai	49 y M				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	9.4 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	59 ng/mL In Whole Blood @ Autopsy
832h	49 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	16.6 ng/mL In Serum @ 9 h (pe)
		oxycodone	1	1					oxycodone	658 ng/mL In Urine (quantitative only) @ 9 h (pe)
		oxymorphone	2	2					oxymorphone	195 ng/mL In Urine (quantitative only) @ 9 h (pe)
		THC homolog	3	3						
		amphetamines (bath salts)	4	4						
833	49 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	49.4 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	79 mg/dL In Serum @ Unknown
		benzodiazepine	2	2						
834a	49 y F				U	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	122 mcg/mL In Serum @ 8 h (pe)
		acetaminophen	1	1					acetaminophen	144 mcg/mL In Serum @ 4 h (pe)
		alprazolam	2	2						
		drug, unknown	3	3						
835ai	49 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2						
836ai	49 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.19 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	99 ng/mL In Whole Blood @ Autopsy
		mirtazapine	3	3						
		quetiapine	4	4						
837	49 y F				U	Ingst	Int-M	3		
		acetaminophen/ hydrocodone	1	1						
		gabapentin	2	2						
838p	49 y M				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	12 mg/L In Blood (unspecified) @ Unknown
		clonazepam	2	2						
		diazepam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
839	49 y M				U	Unk	Unk	3		
		methadone	1	1						
		oxycodone	2	2						
		benzodiazepine	3	3						
840ai	49 y M				U	Ingst+ Derm+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	4 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.18 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.04% (wt/Vol) In Vitreous @ Autopsy
		ethanol	3	3					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
		diazepam	4	4						
		tramadol	5	5						
		chlordiazepoxide	6	6						
841	49 y F				A	Ingst	Unt-M	3		
		acetaminophen	1	1					acetaminophen	112 mcg/mL In Blood (unspecified) @ Unknown
842h	49 y M				U	Ingst	Unk	3		
		acetaminophen	1	1					acetaminophen	47 mcg/mL In Serum @ Unknown
		ethanol	2	2					ethanol	155 mg/dL In Serum @ Unknown
843	49 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1						
		diazepam	2	2					acetaminophen	1166 mcg/mL In Blood (unspecified) @ Unknown
844ai	49 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.39 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.06% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
		citalopram	3	3						
845	49 y F				A	Ingst	Int-S	2		
		opioid	1	1						
		tramadol	2	2						
		trazodone	3	3						
		laxative (stimulant)	4	4						
		tricyclic antidepressant	5	5						
846ai	49 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	18.3 ng/mL In Whole Blood @ Autopsy
		codeine	2	2					codeine	0.12 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4						
		laxative (stimulant)	5	5						
847ai	49 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.26 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	10.6 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	99 ng/mL In Whole Blood @ Autopsy
		mirtazapine	4	4						
		promethazine	5	5						
		zolpidem	6	6						
848ai	49 y M				U	Ingst	Int-S	2		
		tapentadol	1	1					tapentadol	15.7 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	23.6 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.05% (wt/Vol) In Vitreous @ Autopsy
		codeine	4	4						
		chlordiazepoxide	5	5						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diazepam	6	6						
849pha	49 y M				U	Ingst	Unk	1		
		oxycodone	1	1						
		diazepam	2	2					diazepam	470 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					nordiazepam	50 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	3	3						
850pai	50 y F				A	Ingst	Int-A	1		
		oxycodone	1	1						
		promethazine	2	2						
		methadone	3	3						
851pai	50 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.51 mcg/mL In Blood (unspecified) @ Unknown
852h	50 y F				A/C	Ingst	Int-M	2		
		acetaminophen/ butalbital/caffeine	1	1					acetaminophen	41 mcg/mL In Serum @ Unknown
853pa	50 y M				A/C	Ingst	Int-S	1		
		tramadol	1	1					tramadol	100 ng/mL In Blood (unspecified) @ 5 m (pe)
		heroin	2	2					morphine (free)	190 ng/mL In Blood (unspecified) @ 5 m (pe)
		ethanol	3	3					ethanol	230 mg/dL In Blood (unspecified) @ 5 m (pe)
854	50 y M				C	Ingst	Int-M	1		
		acetaminophen	1	1						
855ha	50 y F				U	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	187 mg/L In Serum @ Unknown
		lorazepam	2	2						
856ai	50 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.12 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.22% (wt/Vol) In Vitreous @ Autopsy
857ai	50 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.17 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.39 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.54 mcg/mL In Whole Blood @ Autopsy
		metoclopramide	3	3						
		laxative (stimulant)	4	4					sertraline	0.56 mcg/mL In Whole Blood @ Autopsy
858h	50 y F				A/C	Ingst	Int-S	1		
		acetaminophen*	1	1					acetaminophen	102 mg/dL In Blood (unspecified) @ 2 d (pe)
		hydroxychloroquine*	2	1						
		hydroxyzine	3	3						
		ethanol	4	4					ethanol	29 mg/dL In Blood (unspecified) @ 2 h (pe)
		salicylate	5	5					salicylate	20 mg/dL In Blood (unspecified) @ 2 h (pe)
859	50 y F				A	Ingst	Int-M	3		
		acetaminophen	1	1						
860ai	50 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.08 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Vitreous @ Autopsy
861ai	50 y F				A	Derm	Int-A	2		
		fentanyl (transdermal)	1	1					fentanyl	24.2 ng/mL In Whole Blood @ Autopsy
		fentanyl (transdermal)	1	1					fentanyl	45.8 ng/mL In Vitreous @ Autopsy
862	50 y F				U	Ingst	Int-S	2		
		oxycodone	1	1					oxycodone	0 mg/L In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		benzodiazepine	2	2					lorazepam	0.02 mg/L In Blood (unspecified) @ Autopsy
863ai	50 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.44 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	1	1					hydrocodone	1.1 mcg/mL In Vitreous @ Autopsy
864h	50 y F				C	Ingst	Int-M	1		
		acetaminophen	1	1					acetaminophen	50 mcg/mL In Serum @ 15 m (pe)
865ai	50 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.72 mcg/mL In Whole Blood @ Autopsy
		oxycodone	1	1					oxymorphone	14 ng/mL In Whole Blood @ Autopsy
866ai	50 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.48 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
867ai	50 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.21 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	42 ng/mL In Blood (unspecified) @ Unknown
868ai	50 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.11 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	123 ng/mL In Whole Blood @ Autopsy
		tramadol	3	3						
		diazepam	4	4						
869ai	50 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.46 mcg/mL In Whole Blood @ Autopsy
		hydromorphone	2	2						
		skeletal muscle relaxant	3	3						
		venlafaxine	4	4					venlafaxine	0.84 mcg/mL In Whole Blood @ Autopsy
870ha	50 y F				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	275 mg/L In Serum @ Unknown
		acetaminophen/ diphenhydramine	1	1					acetaminophen	300 mg/L In Blood (unspecified) @ Unknown
871ai	50 y M				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	3.6 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	0.66 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	0.7 mcg/mL In Whole Blood @ Autopsy
872	50 y F				C	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1						
873	50 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1						
		antifreeze (ethylene glycol)	2	2						
874ai	50 y M				U	Ingst	Int-A	2		
		hydromorphone	1	1					hydromorphone	71 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	250 ng/mL In Whole Blood @ Autopsy
875ai	50 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.33 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	1.6 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	3.1 mcg/mL In Whole Blood @ Autopsy
		quetiapine	3	3						
		olanzapine	4	4						
		mirtazapine	5	5						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
876ai	50 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.18 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.63 mcg/mL In Whole Blood @ Autopsy
		temazepam	3	3						
		alprazolam	4	4						
877ai	50 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.66 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	46 ng/mL In Whole Blood @ Autopsy
		temazepam	3	3						
878	51 y F				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1						
879pai	51 y F				U	Ingst	Int-A	2		
		codeine	1	1					codeine	0.42 Other (see abst) In Liver @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.52 Other (see abst) In Liver @ Autopsy
		propoxyphene	3	3					propoxyphene	1.7 Other (see abst) In Liver @ Autopsy
		propoxyphene	3	3					norpropoxyphene	3 Other (see abst) In Liver @ Autopsy
		ethanol	4	4					ethanol	0.17% (wt/Vol) In Vitreous @ Autopsy
		fluoxetine	5	5					norfluoxetine	9 Other (see abst) In Liver @ Autopsy
		fluoxetine	5	5					fluoxetine	9.2 Other (see abst) In Liver @ Autopsy
		amitriptyline	6	6						
880h	51 y F				U	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	87 mcg/mL In Blood (unspecified) @ Unknown
		levetiracetam	2	2						
881ph	51 y F				A/C	Ingst	Int-S	2		
		oxycodone (extended release)	1	1						
		acetaminophen/ hydrocodone	2	2					acetaminophen	22 mcg/mL In Blood (unspecified) @ Unknown
		carisoprodol	3	3						
		morphine (extended release)	4	4						
		diazepam	5	5						
		pancrelipase	6	6						
882a	51 y F				C	Ingst	Int-M	3		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.15 mg/L In Blood (unspecified) @ Unknown
		acetaminophen	2	2						
883pai	51 y F				A	Ingst+ Derm	Int-U	1		
		fentanyl	1	1						
		cyclobenzaprine	2	2						
		fluoxetine	3	3						
884ai	51 y M				U	Ingst	Int-A	2		
		propoxyphene	1	1					propoxyphene	0.42 mcg/mL In Whole Blood @ Autopsy
		propoxyphene	1	1					norpropoxyphene	1.3 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	116 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4					carisoprodol	11.1 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4					meprobamate	11.1 mcg/mL In Whole Blood @ Autopsy
885ai	51 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.3 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.25 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
886pa	51 y M				A/C	Ingst+ Aspir	Int-S	1		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.56 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	1	1					acetaminophen	155 mcg/mL In Serum @ Unknown
		alprazolam	2	2					alprazolam	0.36 mcg/mL In Blood (unspecified) @ Autopsy
		zolpidem	3	3					zolpidem	0.21 mcg/mL In Blood (unspecified) @ Autopsy
		diphenhydramine	4	4					diphenhydramine	0.31 mcg/mL In Blood (unspecified) @ Autopsy
887ai	51 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.07 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	125 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.11% (wt/Vol) In Vitreous @ Autopsy
		ethanol	3	3					ethanol	0.11% (wt/Vol) In Whole Blood @ Autopsy
		skeletal muscle relaxant	4	4					carisoprodol	10.3 mcg/mL In Whole Blood @ Autopsy
		diazepam	5	5						
888ai	51 y M				U	Ingst	Int-A	2		
		fentanyl	1	1					fentanyl	20.5 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
889ai	51 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.13 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	106 ng/mL In Whole Blood @ Autopsy
		meprobamate	3	3						
		skeletal muscle relaxant	4	4					carisoprodol	4.4 mcg/mL In Whole Blood @ Autopsy
890ai	51 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.34 mcg/mL In Whole Blood @ Autopsy
891h	51 y F				U	Ingst	Int-S	2		
		oxycodone	1	1						
		clonazepam	2	2						
		ethanol	3	3					ethanol	19 mg/dL In Blood (unspecified) @ Unknown
892ai	51 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.31 mg/kg In Brain @ Autopsy
893p	51 y F				A/C	Ingst+ Unk	Unk	2		
		hydrocodone*	2	1						
		phenobarbital*	1	1						
		acetaminophen	3	2					acetaminophen	163 mg/L In Blood (unspecified) @ 1 h (pe)
894h	51 y F				U	Ingst	Unk	3		
		acetaminophen	1	1					acetaminophen	11.2 mcg/mL In Serum @ 36 m (pe)
		acetaminophen	1	1					acetaminophen	26.6 mcg/mL In Serum @ 1 m (pe)
895ha	51 y F				U	Par+ Unk	Int-S	3		
		fentanyl	1	1					norfentanyl	42 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl	1	1					fentanyl	73 ng/mL In Blood (unspecified) @ Autopsy
		tramadol	2	2					o-demethyl tramadol	100 ng/mL In Blood (unspecified) @ Autopsy
		tramadol	2	2					tramadol	3900 ng/mL In Blood (unspecified) @ Autopsy
		morphine	3	3					morphine (free)	190 ng/mL In Vitreous @ Autopsy
		morphine	3	3					morphine (free)	62 ng/mL In Blood (unspecified) @ Autopsy
		hydromorphone	4	4					hydromorphone	24 ng/mL In Blood (unspecified) @ Autopsy
896h	51 y F				A	Ingst	Int-S	1		
		morphine	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		tramadol	2	2						
		quetiapine	3	3						
		etodolac	4	4						
		lipozene	5	5						
897a	51 y F				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	74 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	311 mcg/mL In Blood (unspecified) @ Unknown
898ai	51 y F				U	Ingst	Int-A	2		
		morphine	1	1						
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.23% (wt/Vol) In Vitreous @ Autopsy
899ai	51 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	11.4 mg/kg In Liver @ Autopsy
		fluoxetine	2	2					fluoxetine	27.1 mg/kg In Liver @ Autopsy
		fluoxetine	2	2					norfluoxetine	7.6 mg/kg In Liver @ Autopsy
900p	51 y F				U	Ingst	Int-S	3		
		methadone	1	1						
		cyclobenzaprine	2	2						
		temazepam	3	3						
		gabapentin	4	4						
901ai	51 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1						
		oxycodone	2	2					oxycodone	0.17 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	124 ng/mL In Whole Blood @ Autopsy
902ai	51 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.92 mcg/mL In Whole Blood @ Autopsy
		butalbital	2	2					butalbital	5.7 mcg/mL In Whole Blood @ Autopsy
903ai	51 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	1.1 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.26 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.17% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
		diazepam	4	4						
904pa	52 y F				U	Ingst	Unk	3		
		oxymorphone (extended release)	1	1					oxymorphone	120 ng/mL In Whole Blood @ Autopsy
		acetaminophen/codeine	2	2					acetaminophen	33 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/codeine	2	2					codeine (free)	460 ng/mL In Whole Blood @ Autopsy
		butalbital	3	3					butalbital	5.7 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	4	4					amitriptyline	740 ng/mL In Whole Blood @ Autopsy
		dextromethorphan	5	5					dextromethorphan	790 ng/mL In Whole Blood @ Autopsy
905pa	52 y F				U	Ingst	Unk	2		
		methadone	1	1					methadone	0.18 mcg/mL In Whole Blood @ Autopsy
		promethazine	2	2						
		laxative (stimulant)	3	3						
906h	52 y F				C	Ingst	Int-U	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	93 mcg/mL In Serum @ Unknown
907ai	52 y F				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.42 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.11 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					benzoylecognine	1.6 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaethylene	14 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
908ai	52 y M				U	Ingst	Int-A	2		
		morphine	1	1					morphine (free)	0.12 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.16% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Vitreous @ Autopsy
		alprazolam	3	3						
909ai	52 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.14 mcg/mL In Whole Blood @ Autopsy
910ha	52 y M				A	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	9.5 mcg/mL In Serum @ Unknown
		ethanol	2	2						
911ai	52 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.43 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	58 ng/mL In Whole Blood @ Autopsy
		lorazepam	3	3						
		midazolam	4	4						
912ai	52 y M				U	Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.19 mcg/mL In Whole Blood @ Autopsy
913a	52 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1						
914ai	52 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	1.1 mcg/mL In Whole Blood @ Autopsy
915ai	52 y F				U	Ingst+ Derm+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	46.1 ng/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.25 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3					diphenhydramine	2.1 mcg/mL In Whole Blood @ Autopsy
916	52 y M				A	Ingst	Unk	3		
		morphine	1	1						
917ai	52 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.08 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.2% (wt/Vol) In Vitreous @ Autopsy
918a	52 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	515 mcg/mL In Serum @ 10 h (pe)
		acetaminophen	1	1					acetaminophen	639 mcg/mL In Serum @ Unknown
		salicylate	2	2					salicylate	16 mg/dL In Serum @ Unknown
		gabapentin	3	3						
		acetaminophen/ hydrocodone	4	4						
		ethanol	5	5					ethanol	236 mg/dL In Serum @ Unknown
919h	52 y F				U	Ingst	Int-A	1		
		acetaminophen	1	1						
		acetaminophen/ hydrocodone	2	2						
920	52 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1						
921ha	52 y F				A	Ingst	Int-M	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	88 mcg/mL In Serum @ Unknown
922	52 y F				C	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	25.7 mcg/mL In Serum @ 28 h (pe)
923h	52 y F				U	Ingst+ Par	Int-U	2		
		morphine	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ hydrocodone	2	2						
		clonazepam	3	3						
		fosphenytoin	4	4					phenytoin	92 mcg/mL In Serum @ 12 h (pe)
924ai	52 y F				U	Ingst	Unk	2		
		methadone	1	1					methadone	3.8 mg/kg In Liver @ Autopsy
		paroxetine	2	2						
925ai	52 y F				U	Ingst+ Derm	Int-A	2		
		droperidol/fentanyl	1	1					fentanyl	20.6 ng/mL In Whole Blood @ Autopsy
		diazepam	2	2					nordiazepam	1.2 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2					diazepam	1.6 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.07 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4						
926ai	52 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.35 mcg/mL In Serum @ Unknown
		acetaminophen/ hydrocodone	1	1					acetaminophen	149 mcg/mL In Blood (unspecified) @ Unknown
927ai	52 y F				U	Ingst	Int-A	2		
		hydrocodone	1	1					hydrocodone	0.41 mcg/mL In Blood (unspecified) @ Unknown
928h	52 y F				A	Ingst	Int-S	2		
		salicylate	1	1					salicylate	131 mg/dL In Other @ 6 h (pe)
		salicylate	1	1					salicylate	131.8 mg/dL In Unknown @ 2.5 h (pe)
		salicylate	1	1					salicylate	96.8 mg/dL In Unknown @ Unknown
		cleaner (household)	2	2						
929ai	52 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.27 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					meprobamate	13.9 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	4.9 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		alprazolam	4	4						
930h	52 y F				A	Ingst	Int-U	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	204 mcg/mL In Whole Blood @ 25 h (pe)
931ai	52 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.32 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.19 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4						
932ai	52 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1						0.18 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2						0.04 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
933ai	52 y M				U	Ingst+ Unk	Int-A	2		
		oxycodone	1	1					oxycodone	0.18 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.04 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
934ai	52 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	21.5 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
		ethanol	3	3					ethanol	0.02% (wt/Vol) In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
935h	52 y F				U	Ingst+ Unk	Int-S	1		
		acetaminophen	1	1					acetaminophen	62 mcg/mL In Blood (unspecified) @ 5 h (pe)
		escitalopram	2	2						
		oxycodone	3	3						
		benzodiazepine	4	4						
936	52 y M				A	Ingst	Int-M	3		
		acetaminophen	1	1					acetaminophen	70 mcg/mL In Blood (unspecified) @ 1 h (pe)
		ethanol	2	2						
937ai	52 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.12 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
		butalbital	3	3						
		diazepam	4	4						
		clonazepam	5	5						
938	52 y F				U	Ingst	Unk	3		
		acetaminophen/ hydrocodone	1	1					acetaminophen	18.4 mcg/mL In Serum @ 1 h (pe)
		ethanol	2	2						
939	52 y F				A	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	30.3 mg/L In Blood (unspecified) @ Autopsy
		codeine	2	2					codeine	0.07 mg/L In Blood (unspecified) @ Autopsy
		diphenhydramine	3	3					diphenhydramine	0.54 mg/L In Blood (unspecified) @ Autopsy
		doxylamine	4	4					doxylamine	0.14 mg/L In Blood (unspecified) @ Autopsy
940pai	53 y M				A	Unk	Int-U	1		
		fentanyl	1	1						
		cocaine	2	2						
		ethanol	3	3						
941a	53 y F				A/C	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
		acetaminophen/ diphenhydramine	2	2						
		trazodone	3	3						
942ai	53 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.21% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.25% (wt/Vol) In Vitreous @ Autopsy
943pai	53 y M				A	Ingst	Int-U	1		
		methadone	1	1						
		oxycodone	2	2						
		diphenhydramine	3	3						
944ai	53 y M				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	171 Other (see abst) In Liver @ Autopsy
		fentanyl	1	1					fentanyl	20.5 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	90 ng/mL In Whole Blood @ Autopsy
		fluoxetine	3	3						
		mirtazapine	4	4						
		ethanol	5	5					ethanol	0.04% (wt/Vol) In Whole Blood @ Autopsy
945ai	53 y F				U	Ingst	Int-A	2		
		meperidine	1	1						
		ethanol	2	2					ethanol	0.1% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.14% (wt/Vol) In Vitreous @ Autopsy
		butalbital	3	3						
946ai	53 y M				U	Ingst+ Unk	Int-A	3		
		morphine	1	1					morphine (free)	0.08 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.22 mcg/mL In Whole Blood @ Autopsy
947ai	53 y M				U	Ingst	Int-S	2		
		methadone	1	1					methadone	3.8 mcg/mL In Whole Blood @ Autopsy
948ai	53 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.26 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	130 ng/mL In Whole Blood @ Autopsy
949ai	53 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.16 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	57 ng/mL In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	0.4 mcg/mL In Whole Blood @ Autopsy
950ai	53 y F				U	Derm	Int-A	2		
		fentanyl	1	1					fentanyl	9.7 ng/mL In Whole Blood @ Autopsy
951ha	53 y M				A/C	Ingst	Int-U	3		
		acetaminophen	1	1						
952p	53 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	130 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ oxycodone	2	2						
		carisoprodol	3	3						
		clonazepam	4	4						
		phenothiazine	5	5						
		buspirone	6	6						
		gabapentin	7	7						
953ai	53 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.87 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
954ai	53 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.07 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	205 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3						
955ai	53 y F				U	Ingst+ Unk	Unk	2		
		fentanyl	1	1					fentanyl	5.3 ng/mL In Blood (unspecified) @ Unknown
		fentanyl	1	1					fentanyl	9.2 ng/mL In Whole Blood @ Autopsy
		citalopram	2	2						
		cyclobenzaprine	3	3						
		triazolam	4	4						
956ai	53 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.41 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
957ai	53 y F				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	1.7 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	89 ng/mL In Whole Blood @ Autopsy
958h	53 y F				A	Par	Int-U	2		
		opioid	1	1					6-monoacety- lmorphine	0 Other (see abst) In Plasma @ Unknown
		cocaine	2	2						
959ai	53 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.68 mg/kg In Liver @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.82 mg/kg In Liver @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ hydrocodone	2	2					hydromorphone	88 mg/kg In Liver @ Autopsy
		ethanol	3	3						
960h	53 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	169 mcg/mL In Unknown @ Unknown
		acetaminophen/ diphenhydramine	1	1					acetaminophen	60 mcg/mL In Unknown @ Unknown
		ethanol	2	2						
961ai	53 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	3.7 mcg/mL In Whole Blood @ Autopsy
962pai	54 y M				A	Unk	Int-A	1		
		methadone	1	1						
		diazepam	2	2						
963pai	54 y M				A	Unk	Int-A	1		
		methadone	1	1						
		opioid	2	2						
964a	54 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1						
965ai	54 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	29.1 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.06 mcg/mL In Whole Blood @ Autopsy
966ai	54 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.15 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	1.6 mcg/mL In Whole Blood @ Autopsy
		alprazolam	4	4						
		diazepam	5	5						
967	54 y F				U	Ingst	Int-S	2		
		acetaminophen	1	1						
		benzodiazepine	2	2						
968ai	54 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.32 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.17% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19% (wt/Vol) In Vitreous @ Autopsy
969ai	54 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
970ai	54 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.6 mcg/mL In Whole Blood @ Autopsy
		methadone	1	1					methadone	1.3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	75 ng/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3					diphenhydramine	17 mcg/mL In Whole Blood @ Autopsy
971ha	54 y M				C	Ingst	Int-M	2		
		acetaminophen	1	1					acetaminophen	42 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen	1	1					acetaminophen	70.8 mg/L In Serum @ 0 h (pe)
		skeletal muscle relaxant	2	2					meprobamate	10 mcg/mL In Blood (unspecified) @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	5.7 mcg/mL In Blood (unspecified) @ Autopsy
		hydrocodone	3	3					hydrocodone	104 ng/mL In Blood (unspecified) @ Autopsy
		hydromorphone	4	4					hydromorphone	81 ng/mL In Blood (unspecified) @ Autopsy
		lorazepam	5	5						
		midazolam	6	6					midazolam	44 ng/mL In Blood (unspecified) @ Autopsy
		diltiazem	7	7						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
972ai	54 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.63 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	62 ng/mL In Whole Blood @ Autopsy
973	54 y F				A/C	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	41 mcg/mL In Plasma @ Unknown
974	54 y F				A	Ingst	Int-S	2		
		tramadol	1	1						
		pregabalin	2	2						
		opioid	3	3						
		benzodiazepine	4	4						
975pa	54 y M				A/C	Inhal	Int-A	3		
		methadone	1	1					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	28.1 ng/mL In Blood (unspecified) @ Autopsy
		methadone	1	1					methadone	509 ng/mL In Blood (unspecified) @ Autopsy
		methadone	1	1					methadone	5533 ng/mL In Bile @ Autopsy
976	54 y F				A	Ingst	Int-S	3		
		acetaminophen/ codeine	1	1						
		diphenhydramine	2	2						
977	54 y F				U	Unk	Unk	2		
		acetaminophen	1	1						
978ai	54 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxymorphone	0.31 mg/kg In Liver @ Autopsy
		oxycodone	1	1					oxycodone	1 mg/kg In Liver @ Autopsy
979ai	54 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.42 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	0.58 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	1.2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.21 mcg/mL In Whole Blood @ Autopsy
		alprazolam	4	4						
		diazepam	5	5						
980ai	54 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	11.3 ng/mL In Whole Blood @ Autopsy
		fentanyl	1	1					fentanyl	21.5 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.05 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.03% (wt/Vol) In Whole Blood @ Autopsy
981ai	54 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.7 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
982pa	55 y M				U	Ingst+ Derm	Int-U	2		
		droperidol/fentanyl	1	1					fentanyl	10.2 ng/mL In Serum @ Autopsy
		alprazolam	2	2					alprazolam	42.1 ng/mL In Serum @ Autopsy
		cyclobenzaprine	3	3					gabapentin	14.1 ng/mL In Serum @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	153 ng/mL In Serum @ Autopsy
		cyclobenzaprine	3	3					hydroxyzine	18 ng/mL In Serum @ Autopsy
		cyclobenzaprine	3	3					thc (tetrahydrocannabinol)	3.3 ng/mL In Serum @ Autopsy
		marijuana	4	4						
		hydroxyzine	5	5						
		gabapentin	6	6						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
983	55 y M				U	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	47.3 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	19 mg/dL In Blood (unspecified) @ Unknown
984pai	55 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.24 mcg/mL In Whole Blood @ Autopsy
985ai	55 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	2.2 mcg/mL In Whole Blood @ Autopsy
		trazodone	2	2					trazodone	2.7 mcg/mL In Whole Blood @ Autopsy
986	55 y F				C	Ingst	Int-M	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	135 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ diphenhydramine	1	1					acetaminophen	183 mcg/mL In Blood (unspecified) @ Unknown
987ha	55 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	224 mcg/mL In Serum @ Unknown
		opioid	2	2						
988ai	55 y F				A	Ingst+ Unk	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.45 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	3	3					methamphetamine	0.09 mcg/mL In Whole Blood @ Autopsy
989	55 y F				U	Ingst	Int-S	3		
		acetaminophen/ oxycodone	1	1						
		acetaminophen/ hydrocodone	2	2					acetaminophen	1.9 mcg/mL In Blood (unspecified) @ Unknown
		angiotensin-converting enzyme inhibitor	3	3						
		carisoprodol	4	4						
		alprazolam	5	5						
		levothyroxine	6	6						
990ai	55 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.42 mcg/mL In Whole Blood @ Autopsy
991	55 y M				U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen	32.1 mcg/mL In Blood (unspecified) @ 1 h (pe)
992	55 y M				A	Ingst	Int-S	3		
		acetaminophen/ oxycodone	1	1						
		alprazolam	2	2						
993p	55 y M				A	Ingst+ Unk	Int-A	2		
		methadone	1	1						
		opioid	2	2						
		cocaine	3	3						
994ha	55 y F				A	Ingst	Int-S	1		
		methadone	1	1						
		oxycodone	2	2						
995ai	55 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.43 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydromorphone	10 ng/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3						
		amitriptyline	4	4						
		citalopram	5	5						
996ai	55 y M				U	Ingst	Int-A	2		
		tramadol	1	1					tramadol	142 mg/kg In Liver @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	35.4 mg/kg In Liver @ Autopsy
		ethanol	3	3					ethanol	0.09% (wt/Vol) In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
997	55 y M				A	Ingst	Int-U	3		
		salicylate	1	1					salicylate	15.6 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	32.8 mg/dL In Serum @ Unknown
		salicylate	1	1					salicylate	33 mg/dL In Serum @ Unknown
		ethanol	2	2						
998pai	56 y M				A	Ingst+ Par	Int-U	1		
		methadone	1	1					methadone	0.5 mg/L In Blood (unspecified) @ Autopsy
		heroin	2	2					morphine (free)	0 mg/L In Blood (unspecified) @ Autopsy
		diazepam	3	3					nordiazepam	0.5 mg/L In Blood (unspecified) @ Autopsy
999pai	56 y F				A	Ingst	Int-U	1		
		tramadol	1	1					tramadol	2.3 mg/L In Blood (unspecified) @ Autopsy
		methadone	2	2					methadone	0.9 mg/L In Blood (unspecified) @ Autopsy
		quetiapine	3	3						
1000pai	56 y M				A	Ingst+ Unk	Int-U	1		
		oxycodone	1	1					oxycodone	2.1 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaine	0.09 mg/L In Blood (unspecified) @ Autopsy
		olanzapine	3	3					olanzapine	0.4 mg/L In Blood (unspecified) @ Autopsy
		trazodone	4	4					trazodone	0.2 mg/L In Blood (unspecified) @ Autopsy
		paroxetine	5	5					paroxetine	0.5 mg/L In Blood (unspecified) @ Autopsy
		skeletal muscle relaxant	6	6					carisoprodol	12 mg/L In Blood (unspecified) @ Autopsy
1001pai	56 y F				A	Ingst	Int-U	1		
		morphine	1	1						
1002pai	56 y M				A	Ingst+ Unk	Int-A	1		
		morphine	1	1						
		ethanol	2	2						
1003ai	56 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	9.1 ng/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	46 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		tramadol	4	4					tramadol	0.95 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	5	5						
1004h	56 y F				C	Ingst	Int-S	2		
		acetaminophen	1	1						
		ethanol	2	2						
1005ai	56 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.43 mcg/mL In Whole Blood @ Autopsy
1006ai	56 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.11 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	406 ng/mL In Whole Blood @ Autopsy
1007p	56 y M				A	Ingst	AR-D	2		
		oxycodone	1	1						
1008p	56 y M				A/C	Ingst	Int-S	1		
		hydrocodone	1	1						
		alprazolam	2	2						
		carisoprodol	3	3						
1009a	56 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	846 mcg/dL In Blood (unspecified) @ 1 d (pe)
1010p	56 y F				A/C	Par	Int-A	2		
		opioid	1	1						
1011ai	56 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.2 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		temazepam	2	2						
1012ai	56 y M				U	Ingst	Int-U	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.32 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.26% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.29% (wt/Vol) In Vitreous @ Autopsy
1013	56 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
		carisoprodol	2	2						
		trazodone	3	3						
1014ha	56 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	376 mcg/mL In Serum @ Autopsy
		acetaminophen	1	1					acetaminophen	600 mcg/mL In Serum @ 20 m (pe)
		acetaminophen/ oxycodone	2	2						
		acetaminophen/ hydrocodone	3	3					hydrocodone	10000 ng/mL In Urine (quantitative only) @ Autopsy
		acetaminophen/ hydrocodone	3	3					hydrocodone	480 ng/mL In Serum @ Autopsy
		acetaminophen/ hydrocodone	3	3					norpropoxyphene	6445 ng/mL In Urine (quantitative only) @ Autopsy
		lorazepam	4	4					lorazepam	1540 ng/mL In Urine (quantitative only) @ Autopsy
		lorazepam	4	4					lorazepam	27.3 ng/mL In Serum @ Autopsy
1015h	56 y F				A	Ingst	Int-U	2		
		acetaminophen	1	1					acetaminophen	876 mcg/mL In Serum @ Unknown
1016ai	56 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.14 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	2	2						0.64 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	0.16 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	4	4						
		promethazine	5	5						
		ethanol	6	6					ethanol	0.03% (wt/Vol) In Whole Blood @ Autopsy
1017p	57 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	124 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2						
1018pa	57 y F				A	Ingst	Int-S	1		
		fentanyl (transdermal)	1	1					fentanyl	12 ng/mL In Blood (unspecified) @ Unknown
		oxycodone	2	2					oxycodone	27 ng/mL In Blood (unspecified) @ Unknown
		diazepam	3	3					diazepam	0.04 mg/L In Blood (unspecified) @ Autopsy
1019pai	57 y M				A	Unk	Int-U	1		
		fentanyl	1	1						
1020ai	57 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.52 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	70 ng/mL In Blood (unspecified) @ Unknown
		ethanol	3	3					ethanol	0.05% (wt/Vol) In Blood (unspecified) @ Unknown
		ethanol	3	3					ethanol	0.06% (wt/Vol) In Serum @ Unknown
		fluoxetine	4	4					fluoxetine	0.95 mcg/mL In Blood (unspecified) @ Unknown
1021ai	57 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.48 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2					codeine	0.08 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		butalbital	3	3						
1022ai	57 y F				U	Derm	Int-A	2		
		fentanyl	1	1					fentanyl	16.8 ng/mL In Vitreous @ Autopsy
		fentanyl	1	1					fentanyl	21.1 ng/mL In Whole Blood @ Autopsy
1023	57 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
1024ai	57 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.12 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	0.17 mcg/mL In Whole Blood @ Autopsy
		paroxetine	3	3					paroxetine	0.85 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	4	4						
		hyoscyamine	5	5						
		cyclobenzaprine	6	6						
		diltiazem	7	7						
1025ai	57 y M				U	Unk	Int-S	2		
		morphine	1	1					morphine (free)	0.23 mcg/mL In Blood (unspecified) @ Unknown
		morphine	1	1					morphine (free)	0.25 mcg/mL In Serum @ Unknown
1026pa	57 y F				A/C	Ingst	Int-S	1		
		oxycodone	1	1					oxymorphone	13 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	1	1					oxycodone (free)	710 ng/mL In Blood (unspecified) @ Autopsy
		trazodone	2	2					trazodone	0.19 mcg/mL In Blood (unspecified) @ Autopsy
		zolpidem	3	3					zolpidem	47 ng/mL In Blood (unspecified) @ Autopsy
1027	57 y F				U	Ingst	Unk	3		
		acetaminophen	1	1					acetaminophen	10 mcg/mL In Plasma @ Unknown
1028ai	57 y M				U	Ingst+ Unk	Unk	2		
		morphine	1	1					morphine (free)	0.25 mcg/mL In Whole Blood @ Autopsy
		tapentadol	2	2						
		tramadol	3	3					tramadol	0.52 mcg/mL In Vitreous @ Autopsy
		tramadol	3	3					tramadol	0.52 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4					citralopram	1.1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	5	5						
		mirtazapine	6	6						
1029ai	57 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.14 mcg/mL In Whole Blood @ Autopsy
		methadone	1	1					methadone	3.5 mg/kg In Liver @ Autopsy
		venlafaxine	2	2						
1030p	57 y M				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
		ethanol	2	2						
		benzodiazepine	3	3						
1031	57 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	1000 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					fluoxetine	0.19 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					norfluoxetine	0.77 mg/L In Blood (unspecified) @ Autopsy
1032ai	57 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.94 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	67 ng/mL In Serum @ Unknown
1033pai	58 y M				A	Ingst	Int-A	1		
		morphine	1	1						
		alprazolam	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		quetiapine	3	3						
1034pa	58 y M				A	Ingst	Int-U	2		
		oxycodone	1	1					oxycodone	421 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	46 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					7-aminoclon-azepam	6.5 ng/mL In Blood (unspecified) @ Autopsy
1035ai	58 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.23 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.08% (wt/Vol) In Whole Blood @ Autopsy
1036pai	58 y F				A	Ingst	Int-A	1		
		morphine	1	1						
		ethanol	2	2						
		amitriptyline	3	3						
1037pa	58 y F				A/C	Ingst	Int-S	1		
		acetaminophen/ caffeine/salicylate*	1	1					acetaminophen	112 mcg/mL In Serum @ 1.5 h (pe)
		acetaminophen/ caffeine/salicylate*	1	1					acetaminophen	159 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ caffeine/salicylate*	1	1					salicylate	40 mg/dL In Serum @ 15 h (pe)
		acetaminophen/ caffeine/salicylate*	1	1					salicylate	52 mg/dL In Serum @ 7.5 h (pe)
		acetaminophen/ caffeine/salicylate*	1	1					acetaminophen	56 mcg/mL In Serum @ 15 h (pe)
		acetaminophen/ caffeine/salicylate*	1	1					salicylate	56 mg/dL In Serum @ 1.5 h (pe)
		cardiac glycoside*	2	1					digoxin	2.2 ng/mL In Serum @ 7.5 h (pe)
		cardiac glycoside*	2	1					digoxin	2.4 ng/mL In Serum @ 15 h (pe)
		cardiac glycoside*	2	1					digoxin	3.3 ng/mL In Serum @ 1.5 h (pe)
		duloxetine	3	3					duloxetine	93.2 ng/mL In Blood (unspecified) @ Autopsy
		clopidogrel	4	4						
		omeprazole	5	5						
1038ai	58 y M				U	Ingst+ Unk	Int-A	2		
		hydromorphone	1	1					hydromorphone	31 ng/mL In Whole Blood @ Autopsy
		diazepam	2	2						
1039p	58 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	35 mcg/mL In Unknown @ Unknown
1040ai	58 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	1.6 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	2.1 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	3.8 mcg/mL In Whole Blood @ Autopsy
1041ai	58 y F				U	Ingst+ Derm	Int-A	2		
		fentanyl	1	1					fentanyl	23.8 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.08 mcg/mL In Whole Blood @ Autopsy
		promethazine	3	3						
		laxative (stimulant)	4	4						
1042ai	58 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.44 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2						
		laxative (stimulant)	3	3						
1043	58 y F				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1						
1044ai	58 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	10.2 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol	2	2					ethanol	0.09% (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.09% (wt/Vol) In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	94 ng/mL In Whole Blood @ Autopsy
		zolpidem	4	4					zolpidem	0.26 mcg/mL In Whole Blood @ Autopsy
1045ha	58 y F				C	Ingst	Int-M	1		
		acetaminophen	1	1					acetaminophen	173 mcg/mL In Plasma @ 32 h (pe)
1046	58 y F				U	Ingst	Int-U	2		
		acetaminophen	1	1						
1047ai	58 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.64 mcg/mL In Whole Blood @ Autopsy
1048ai	58 y F				U	Ingst	Int-A	3		
		tramadol	1	1					trazodone	2 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.07 mcg/mL In Whole Blood @ Autopsy
1049	58 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	116 mcg/mL In Serum @ 22 h (pe)
		acetaminophen	1	1					acetaminophen	13 mcg/mL In Serum @ 37 h (pe)
		acetaminophen	1	1					acetaminophen	201 mcg/mL In Serum @ 17 h (pe)
		acetaminophen	1	1					acetaminophen	550 mcg/mL In Serum @ Unknown
1050h	59 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	89 mg/dL In Serum @ Unknown
		cleaner (anionic/ nonionic)	2	2						
1051	59 y F				A	Ingst+ Aspir	Int-S	1		
		acetaminophen	1	1					acetaminophen	340 mg/L In Serum @ Unknown
		acetaminophen/ hydrocodone	2	2						
		clonazepam	3	3						
1052h	59 y M				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	390.3 mcg/mL In Serum @ Unknown
		alprazolam	2	2						
1053pa	59 y M				U	Ingst	Unk	2		
		morphine	1	1					morphine (total)	0.15 mcg/mL In Whole Blood @ Autopsy
		hydromorphone	2	2					hydromorphone	1.3 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	0.12 mcg/mL In Whole Blood @ Autopsy
		mirtazapine	4	4						
		duloxetine	5	5						
		propranolol (extended release)	6	6						
		metoprolol	7	7						
1054ai	59 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.52 mcg/mL In Whole Blood @ Autopsy
1055ai	59 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.17 mcg/mL In Whole Blood @ Autopsy
		phentermine	2	2					phentermine	0.55 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	3	3					sertraline	0.27 mcg/mL In Whole Blood @ Autopsy
1056ai	59 y M				A	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.06 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.11 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1057ai	59 y M				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.22 mcg/mL In Whole Blood @ Autopsy
1058	59 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	33 mg/dL In Serum @ 1 d (pe)
		salicylate	1	1					salicylate	84 mg/dL In Serum @ 6 h (pe)
1059ai	59 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.5 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
1060pha	60 y M				A/C	Ingst	Unt-T	1		
		acetaminophen/ oxycodone	1	1					oxycodone	0.3 mg/L In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	0.009 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	3	3					7-aminoclo-nazepam	0.069 mg/L In Blood (unspecified) @ Autopsy
		gabapentin	4	4					gabapentin	30 mg/L In Blood (unspecified) @ Autopsy
1061ai	60 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.44 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.07 mcg/mL In Blood (unspecified) @ Unknown
		butalbital	3	3						
1062ai	60 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.22 mcg/mL In Whole Blood @ Autopsy
1063	60 y M				A/C	Ingst	Int-S	2		
		methadone	1	1						
		lithium	2	2					lithium	1.77 mEq/L In Blood (unspecified) @ 0 m (pe)
1064ai	60 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.05 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	41 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.25% (wt/Vol) In Vitreous @ Autopsy
		ethanol	3	3					ethanol	0.3% (wt/Vol) In Whole Blood @ Autopsy
1065ai	60 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.27 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.14 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxymorphone	24 ng/mL In Whole Blood @ Autopsy
1066ph	60 y M				A	Ingst	Int-M	2		
		morphine	1	1						
1067ai	60 y F				U	Ingst	Int-A	2		
		morphine	1	1					morphine (free)	0.29 mcg/mL In Whole Blood @ Autopsy
1068a	60 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	339 mcg/mL In Blood (unspecified) @ Unknown
1069pha	60 y F				U	Ingst	Int-U	1		
		acetaminophen	1	1					acetaminophen	43 mcg/mL In Serum @ Unknown
1070a	60 y F				A	Ingst	Int-U	2		
		colchicine*	2	1						
		ibuprofen*	1	1						
		drug, unknown	3	2						
		chlorpheniramine	4	4						
		opioid	5	5					morphine	0.05 mg/L In Whole Blood @ Autopsy
		diphenhydramine	6	6						
1071ai	60 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.7 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		oxycodone	2	2					oxycodone	0.13 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3					amitriptyline	0.74 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3					nortriptyline	0.74 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4						
1072	60 y F				A/C	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	49 mcg/mL In Plasma @ Unknown
1073pai	61 y M				A	Unk	Int-U	1		
		methadone	1	1						
1074ai	61 y F				U	Ingst	Int-A	2		
		propoxyphene	1	1					propoxyphene	1.3 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	2	2					sertraline	0.14 mcg/mL In Whole Blood @ Autopsy
1075	61 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	128 mg/dL In Serum @ 5 h (pe)
1076ph	61 y F				A/C	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
1077h	61 y F				C	Ingst	Unt-T	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	50 mcg/mL In Blood (unspecified) @ Unknown
1078ai	61 y M				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.17 mcg/mL In Serum @ Unknown
		morphine	1	1					morphine (free)	0.2 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	2	2						
		ethanol	3	3						
1079	61 y M				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					acetaminophen	224 mcg/mL In Blood (unspecified) @ Unknown
1080ha	61 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	499.6 mg/L In Serum @ Unknown
		benzodiazepine	2	2						
		antipsychotic (atypical)	3	3						
1081ha	61 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	107 mg/dL In Serum @ Unknown
1082ai	61 y F				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.63 mcg/mL In Whole Blood @ Autopsy
1083a	62 y F				A/C	Ingst	Int-S	2		
		codeine	1	1					morphine	0.1 mg/L In Whole Blood @ Unknown
		codeine	1	1					codeine	1.72 mg/L In Whole Blood @ Unknown
		chlordiazepoxide	2	2					chlordiazepoxide	0.03 mg/L In Whole Blood @ Unknown
		desipramine	3	3					desipramine	0.22 mg/L In Whole Blood @ Unknown
		laxative (stimulant)	4	4					sertraline	0.01 mg/L In Whole Blood @ Unknown
		ibuprofen	5	5					ibuprofen	2.2 mg/L In Whole Blood @ Unknown
1084ai	62 y F				U	Ingst+ Unk	Int-A	2		
		morphine	1	1					morphine (free)	0.04 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.22 mcg/mL In Whole Blood @ Autopsy
1085	62 y M				A/C	Unk	Unk	2		
		acetaminophen	1	1					acetaminophen	80 mcg/mL In Blood (unspecified) @ Unknown
1086ai	62 y F				U	Derm	Int-A	2		
		fentanyl	1	1					fentanyl	18.7 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		citalopram	2	2					citralopram	0.71 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	3	3						
1087	62 y M				A/C	Ingst	Int-S	3		
		morphine	1	1						
		warfarin	2	2						
1088ai	62 y F				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.05 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	0.67 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	0.97 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	2.3 mcg/mL In Whole Blood @ Autopsy
1089ha	62 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	476.5 mg/L In Blood (unspecified) @ Unknown
		benzodiazepine	2	2						
		naproxen	3	3						
1090a	62 y F				U	Ingst+ Inhal	Int-S	1		
		acetaminophen*	1	1					acetaminophen	10 mcg/mL In Blood (unspecified) @ Unknown
		drug, unknown*	2	1						
		albuterol	3	2						
1091ai	62 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.23 mcg/mL In Blood (unspecified) @ Unknown
		cyclobenzaprine	2	2					cyclobenzaprine	0.1 mcg/mL In Blood (unspecified) @ Unknown
1092	63 y F				A/C	Ingst	Int-S	1		
		salicylate	1	1					salicylate	126 mg/dL In Blood (unspecified) @ 5 m (pe)
1093ai	63 y M				U	Ingst	Int-A	2		
		methadone	1	1					methadone	0.52 mcg/mL In Whole Blood @ Autopsy
1094pha	63 y M				A/C	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	139 mcg/mL In Serum @ Autopsy
		morphine	2	2					morphine (total)	2.3 mcg/mL In Serum @ Autopsy
		codeine	3	3					codeine	0.16 mcg/mL In Serum @ Autopsy
1095h	63 y M				U	Ingst	Int-U	3		
		acetaminophen/ opioid	1	1						
		alprazolam	2	2						
		cocaine	3	3						
1096ai	63 y M				U	Ingst	Int-A	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.26 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		diazepam	3	3						
1097	64 y M				U	Ingst	Int-S	2		
		morphine	1	1						
1098	64 y M				A/C	Ingst	Int-S	3		
		methadone	1	1						
		benzodiazepine	2	2						
1099	64 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1						
1100ai	64 y M				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	7.4 ng/mL In Whole Blood @ Autopsy
		morphine	2	2						
		diazepam	3	3						
		alprazolam	4	4						
		citalopram	5	5					citralopram	0.96 mcg/mL In Whole Blood @ Autopsy
1101ai	64 y F				U	Ingst+ Derm	Int-S	2		
		fentanyl	1	1					fentanyl	2.6 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	1.3 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	3	3					alprazolam	318 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
1102p	64 y M				U	Ingst	Unk	2		
		opioid	1	1						
		drug, unknown	2	2						
1103pha	64 y M				A/C	Unk	Int-U	2		
		hydromorphone	1	1						
		cocaine	2	2					benzoylecognine	180 ng/mL In Blood (unspecified) @ Autopsy
1104ai	65 y F				U	Unk	Unk	2		
		morphine	1	1					morphine (free)	0.24 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2						
		metoclopramide	3	3						
1105p	65 y F				A	Ingst	Int-S	2		
		meloxicam	1	1						
		quetiapine	2	2						
		acetaminophen	3	3					acetaminophen	155 mcg/mL In Blood (unspecified) @ 1 d (pe)
		chemical, unknown	4	4						
1106h	65 y F				U	Ingst	Unk	1		
		salicylate	1	1					salicylate	170.4 mg/dL In Serum @ Unknown
1107pai	66 y M				A	Inhal	Int-A	1		
		methadone	1	1						
1108ph	66 y F				U	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
		oxycodone	2	2						
		diazepam	3	3						
1109h	66 y F				A/C	Ingst	Int-M	2		
		hydromorphone	1	1						
1110p	66 y M				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
		acetaminophen	2	2						
1111	66 y F				A	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen	307 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2						
		zolpidem	3	3						
		alprazolam	4	4						
1112	66 y F				U	Ingst	Int-U	1		
		acetaminophen	1	1					acetaminophen	105.6 mcg/mL In Serum @ 1 h (pe)
1113ai	66 y M				U	Derm	Int-S	2		
		fentanyl	1	1					fentanyl	0.49 mg/kg In Liver @ Autopsy
		citalopram	2	2						
1114ai	66 y F				U	Ingst	Int-A	2		
		acetaminophen	1	1						
1115h	67 y F				A	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
1116a	68 y F				C	Ingst	Int-M	3		
		salicylate	1	1					salicylate	70.6 mg/L In Blood (unspecified) @ Unknown
1117ai	68 y F				U	Ingst+ Unk	Int-A	2		
		fentanyl	1	1					fentanyl	227 mg/kg In Liver @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.21 mg/kg In Liver @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydromorphone	66 Other (see abst) In Liver @ Autopsy
		verapamil	3	3						
		cyclobenzaprine	4	4						
		laxative (stimulant)	5	5						
1118ai	69 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	0.35 mcg/mL In Whole Blood @ Autopsy
		doxepin	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		citalopram	3	3						
1119ai	70 y M				U	Ingst	Int-A	2		
		hydromorphone	1	1						
1120	71 y F				A	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen	100 mcg/mL In Serum @ Unknown
1121ai	72 y F				U	Ingst	Int-A	2		
		oxycodone	1	1					oxycodone	1.1 mcg/mL In Whole Blood @ Autopsy
1122	72 y M				A	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
1123	73 y M				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	52.2 mg/dL In Serum @ 0 h (pe)
		salicylate	1	1					salicylate	78.9 mg/dL In Serum @ 4 h (pe)
		salicylate	2	2						
1124h	73 y F				A	Ingst	Int-A	2		
		acetaminophen	1	1					acetaminophen	73 mcg/mL In Serum @ Unknown
		benzodiazepine	2	2						
1125	74 y M				A/C	Ingst	Unt-T	1		
		colchicine	1	1						
		warfarin	2	2						
1126hi	74 y F				U	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					acetaminophen	115.9 mcg/mL In Blood (unspecified) @ Unknown
1127h	74 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	59 mcg/mL In Blood (unspecified) @ Unknown
1128	74 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen	1.2 mcg/mL In Blood (unspecified) @ 2 d (pe)
		acetaminophen	1	1					acetaminophen	25 mcg/mL In Blood (unspecified) @ 1 d (pe)
		acetaminophen	1	1					acetaminophen	54.9 mcg/mL In Blood (unspecified) @ 1 h (pe)
1129	74 y F				A/C	Ingst+ Aspir	Int-S	2		
		acetaminophen/ hydrocodone	1	1						
		zolpidem	2	2						
1130	74 y M				A	Unk	Unk	3		
		salicylate	1	1					salicylate	804 mg/L In Blood (unspecified) @ Unknown
1131a	75 y F				U	Ingst	Unk	1		
		acetaminophen	1	1					acetaminophen	99 mcg/mL In Plasma @ Unknown
1132a	75 y F				A	Ingst	Int-S	2		
		acetaminophen/ diphenhydramine	1	1						
		ibuprofen	2	2						
1133	75 y F				A/C	Ingst	Int-S	1		
		salicylate	1	1					risperidone	141 mg/dL In Serum @ 6 s (pa)
		salicylate	1	1					salicylate	160 mg/dL In Serum @ 4 h (pe)
		salicylate	1	1					salicylate	57.4 mg/dL In Serum @ Unknown
1134ai	76 y M				U	Ingst	Int-S	2		
		acetaminophen/ hydrocodone	1	1					hydrocodone	1.2 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.24 mcg/mL In Whole Blood @ Autopsy
		zolpidem	3	3					zolpidem	1 mcg/mL In Whole Blood @ Autopsy
1135	77 y F				A/C	Ingst	Int-S	3		
		acetaminophen/ hydrocodone *	1	1						
		carisoprodol *	2	1						
1136a	77 y F				A	Ingst	Int-S	2		
		acetaminophen/ oxycodone	1	1						
		alprazolam	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1137	77 y F				C	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen	38 mcg/mL In Blood (unspecified) @ Unknown
		Hydromorphone	2	2						
1138	77 y F				U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen	12 mcg/mL In Serum @ Unknown
1139	78 y F				A	Ingst	Int-S	2		
		acetaminophen	1	1						
1140ha	79 y F				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	85 mg/dL In Blood (unspecified) @ Autopsy
		citalopram	2	2					citalopram	130 ng/mL In Blood (unspecified) @ Autopsy
1141	79 y F				A/C	Ingst	Int-S	3		
		morphine (extended release)	1	1						
		metoprolol	2	2						
		insulin	3	3						
1142ha	82 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1						
1143pai	87 y F				A	Ingst	Int-U	3		
		tramadol	1	1					tramadol	2.3 mg/L In Blood (unspecified) @ Autopsy
		fentanyl	2	2						
		hydroxyzine	3	3						
		diphenhydramine	4	4						
		fluoxetine	5	5						
1144ha	87 y F				A	Ingst	Int-S	1		
		salicylate	1	1						
1145pai	88 y F				A	Ingst	AR-D	3		
		oxycodone	1	1					oxycodone	0.2 mg/L In Blood (unspecified) @ Autopsy
1146ha	90 y F				A/C	Ingst	Int-S	2		
		acetaminophen/ tramadol	1	1					acetaminophen	48 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen	2	2						
		oxycodone	3	3					oxycodone (free)	160 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	3	3					oxymorphone	19 ng/mL In Blood (unspecified) @ Autopsy
		citalopram	4	4					citalopram	280 ng/mL In Blood (unspecified) @ Autopsy
1147	91 y F				A	Ingst	Int-S	3		
		acetaminophen/ hydrocodone	1	1						
		citalopram	2	2						
1148a	91 y M				A	Ingst	Int-S	1		
		acetaminophen/ diphenhydramine	1	1					acetaminophen	373.9 mcg/mL In Blood (unspecified) @ Unknown
1149a	92 y F				A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	63.4 mg/dL In Serum @ Unknown
1150	96 y F				A	Ingst	Int-S	2		
		salicylate	1	1					salicylate	70 mg/dL In Blood (unspecified) @ 1 d (pe)
		acetaminophen	2	2					acetaminophen	269 mcg/mL In Blood (unspecified) @ 1 d (pe)
[1151p]	13 m M				A	Ingst	Unt-G	1		
		buprenorphine/ naloxone (film)	1	1					buprenorphine	52 ng/mL In Blood (unspecified) @ Autopsy
		buprenorphine/ naloxone (film)	1	1					buprenorphine	7400 ng/mL In Gastric (stomach content) @ Autopsy
1152i	16 m M				A	Ingst	Unk	2		
		methadone	1	1					methadone	0.33 mg/L In Serum @ Unknown
		methadone	1	1					diphenhydramine	0.4 mg/L In Serum @ Unknown
		diphenhydramine	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1153	30 + y M				A	Ingst	Int-A	2		
		fentanyl (transdermal)	1	1						
		acetaminophen/ oxycodone	2	2						
		ethanol	3	3					ethanol	180 mg/dL In Blood (unspecified) @ 10 h (pe)
		ethanol	3	3					ethanol	248 mg/dL In Blood (unspecified) @ Unknown
1154	60 + y F				C	Ingst	Unt-T	2		
		acetaminophen	1	1						
		ibuprofen	2	2						
1155pa	Unknown adult (> = 20 yrs) F				A	Ingst	Int-S	1		
		acetaminophen/ hydrocodone	1	1					hydrocodone	0.38 mg/dL In Blood (unspecified) @ Autopsy
		acetaminophen/ hydrocodone	1	1					acetaminophen	70 mcg/mL In Blood (unspecified) @ Autopsy
		nicardipine	2	2						
		ethanol	3	3					ethanol	0.046 g/dL In Blood (unspecified) @ Autopsy
		metoprolol	4	4						
		insulin	5	5						
		metformin	6	6						
		cyclobenzaprine	7	7						
		lisinopril	8	8						
		hydrochlorothiazide	9	9						
		clonidine	10	10						
		vitamin D	11	11						
		amoxicillin	12	12						
1156ai	Unknown adult (> = 20 yrs) M				U	Unk	Int-A	2		
		fentanyl	1	1					fentanyl	9.4 ng/mL In Whole Blood @ Autopsy
1157p	Unknown adult (> = 20 yrs) F				U	Ingst	Int-S	2		
		morphine	1	1						
		oxycodone	2	2						
		hydrocodone	3	3						
1158	Unknown adult (> = 20 yrs) U				U	Unk	Unk	2		
		oxymorphone	1	1					oxycodone	0.064 mg/L In Blood (unspecified) @ Autopsy
		hydrocodone	2	2					hydrocodone	0.13 mg/L In Blood (unspecified) @ Autopsy

See Also case 7, 14, 16, 17, 44, 46, 60, 65, 70, 71, 74, 84, 94, 95, 107, 133, 205, 207, 210, 218, 219, 268, 277, 285, 286, 301, 1165, 1166, 1170, 1179, 1183, 1189, 1192, 1193, 1195, 1203, 1204, 1207, 1216, 1228, 1233, 1234, 1239, 1249, 1253, 1254, 1256, 1258, 1267, 1281, 1284, 1289, 1290, 1294, 1297, 1300, 1307, 1310, 1312, 1314, 1317, 1319, 1323, 1326, 1328, 1331, 1332, 1334, 1336, 1339, 1343, 1351, 1358, 1361, 1370, 1378, 1382, 1383, 1392, 1393, 1395, 1398, 1402, 1403, 1404, 1409, 1410, 1413, 1421, 1429, 1433, 1436, 1439, 1462, 1464, 1466, 1469, 1472, 1473, 1485, 1491, 1496, 1501, 1502, 1503, 1512, 1535, 1536, 1554, 1557, 1568, 1571, 1572, 1576, 1588, 1589, 1590, 1592, 1593, 1594, 1597, 1598, 1600, 1601, 1603, 1608, 1609, 1610, 1611, 1613, 1616, 1619, 1621, 1624, 1625, 1628, 1631, 1632, 1635, 1636, 1637, 1639, 1641, 1642, 1645, 1646, 1648, 1649, 1650, 1652, 1653, 1656, 1658, 1659, 1663, 1664, 1667, 1670, 1673, 1678, 1683, 1694, 1697, 1698, 1700, 1703, 1708, 1712, 1713, 1715, 1722, 1729, 1734, 1735, 1741, 1742, 1750, 1753, 1755, 1760, 1765, 1766, 1769, 1774, 1776, 1777, 1778, 1790, 1799, 1802, 1809, 1810, 1817, 1822, 1825, 1835, 1837, 1849, 1855, 1857, 1864, 1865, 1874, 1876, 1880, 1881, 1889, 1890, 1895, 1896, 1899, 1903, 1908, 1909, 1914, 1915, 1916, 1928, 1929, 1931, 1932, 1937, 1941, 1942, 1944, 1945, 1947, 1948, 1949, 1951, 1955, 1958, 1971, 1974, 1978, 1986, 1989, 1990

Anesthetics

1159ph	25 y M				A	Ingst+ Inhal	Int-U	1		
		nitrous oxide	1	1						
		diphenhydramine	2	2					diphenhydramine	0.16 mg/L In Blood (unspecified) @ 12 h (pe)
		diphenhydramine	2	2					diphenhydramine	0.37 mg/L In Blood (unspecified) @ Autopsy
		benzodiazepine	3	3					alprazolam	44 ng/mL In Blood (unspecified) @ Autopsy
		benzodiazepine	3	3					alprazolam	63 ng/mL In Blood (unspecified) @ 12 h (pe)
1160phai	41 y F				A	Inhal	Int-S	1		
		isoflurane	1	1						
[1161h]	50 y M				A	Par	Unt-T	1		
		bupivacaine	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1162ha	60 y F				A	Par	AR-D	3		
		lidocaine	1	1						
See Also case 1689, 1714, 1728, 1786, 1799										
Anticholinergic Drugs										
1163a	50 y M				A/C	Ingst	Int-S	1		
		anticonvulsant*	2	1					lamotrigine	56 mcg/mL In Blood (unspecified) @ 8 h (pe)
		benztropine*	1	1					benztropine mesylate	220 ng/mL In Blood (unspecified) @ 8 h (pe)
		fluoxetine	3	3					norfluoxetine	250 ng/mL In Blood (unspecified) @ 8 h (pe)
		fluoxetine	3	3					fluoxetine	750 ng/mL In Blood (unspecified) @ 8 h (pe)
		mirtazapine	4	4					mirtazapine	200 ng/mL In Blood (unspecified) @ 8 h (pe)
See Also case 659, 1180, 1307, 1436, 1616, 1651, 1693										
Anticoagulants										
1164ha	49 y F				A/C	Ingst	Int-S	1		
		warfarin	1	1						
		venlafaxine	2	2					venlafaxine	1.41 mg/L In Blood (unspecified) @ Autopsy
		lamotrigine	3	3						
		drug, unknown	4	4						
		ethanol	5	5						
1165	49 y M				A/C	Ingst	Int-S	1		
		warfarin	1	1						
		acetaminophen	2	2						
1166p	53 y F				U	Ingst	Int-S	3		
		warfarin	1	1						
		hydromorphone	2	2						
		tizanidine	3	3						
		gabapentin	4	4						
		diazepam	5	5						
1167	64 y F				A/C	Ingst	AR-D	3		
		dabigatran	1	1						
		coagulation factor VIIa	2	2						
1168	74 y F				C	Ingst	AR-D	1		
		dabigatran	1	1						
[1169]	74 y F				C	Ingst	Unt-T	1		
		thrombin inhibitor	1	1						
[1170]	79 y M				A	Ingst	Unt-T	1		
		clopidogrel	1	1						
		salicylate	2	2						
		dabigatran	3	3						
1171	81 y F				C	Ingst	AR-D	3		
		dabigatran	1	1						
1172	81 y F				C	Par	AR-D	1		
		enoxaparin	1	1						
1173ha	83 y F				C	Ingst	AR-D	3		
		thrombin inhibitor	1	1						
1174h	89 y F				A/C	Ingst	Unt-T	2		
		dabigatran	1	1						
1175	93 y M				A	Ingst	AR-D	3		
		dabigatran	1	1						
See Also case 287, 502, 1037, 1087, 1125, 1319, 1407, 1448, 1452, 1508, 1515, 1689										
Anticonvulsants										
1176ai	35 y M				U	Ingst	Unk	2		
		valproic acid	1	1					valproic acid	59.2 mcg/mL In Blood (unspecified) @ Unknown
		amitriptyline	2	2					nortriptyline	0.36 mcg/mL In Blood (unspecified) @ Unknown
		amitriptyline	2	2					amitriptyline	3 mcg/mL In Blood (unspecified) @ Unknown
1177p	36 y F				A/C	Ingst	Int-S	2		
		carbazepine (extended release)	1	1						
		amitriptyline	2	2						
		phenytoin	3	3						
		lorazepam	4	4						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1178a	37 y M				A	Ingst	Int-S	1		
		valproic acid (extended release)	1	1					valproic acid	1122 mg/L In Serum @ 1.5 d (pe)
		olanzapine	2	2						
1179	38 y M				A/C	Ingst	Int-S	2		
		carbamazepine	1	1						
		amitriptyline	2	2						
		acetaminophen/ hydrocodone	3	3						
		cocaine	4	4						
		benzodiazepine	5	5						
1180a	40 y M				A/C	Ingst	Int-S	1		
		valproic acid	1	1					valproic acid	110 mg/L In Serum @ 3 d (pe)
		valproic acid	1	1					valproic acid	196 mg/L In Serum @ 2 d (pe)
		valproic acid	1	1					valproic acid	25 mg/L In Serum @ 5 d (pe)
		valproic acid	1	1					valproic acid	419 mg/L In Serum @ 1 d (pe)
		valproic acid	1	1					valproic acid	43 mg/L In Serum @ 4 d (pe)
		valproic acid	1	1					valproic acid	687 mg/L In Serum @ 0 h (pe)
		benztropine	2	2						
1181i	46 y F				A	Ingst	Int-S	1		
		valproic acid (extended release)	1	1						
1182ph	46 y M				A/C	Ingst	Int-S	2		
		carbamazepine	1	1					carbamazepine	26.8 mcg/mL In Blood (unspecified) @ Unknown
		clonazepam	2	2						
1183	46 y M				A/C	Ingst	Int-S	2		
		valproic acid	1	1					valproic acid	1050 mcg/mL In Serum @ Unknown
		hydroxyzine	2	2						
		ibuprofen	3	3						
		cyclobenzaprine	4	4						
		escitalopram	5	5						
1184ph	47 y F				A	Ingst	Int-S	2		
		carbamazepine	1	1					carbamazepine	79 mg/L In Blood (unspecified) @ Unknown
		valproic acid	2	2					valproic acid	57.9 mg/L In Blood (unspecified) @ 29 h (pe)
1185	49 y M				U	Ingst	Int-S	2		
		valproic acid	1	1					valproic acid	250 mcg/mL In Serum @ 1 d (pe)
		valproic acid	1	1					valproic acid	386 mcg/mL In Serum @ Unknown
1186h	49 y M				A/C	Ingst	Int-S	2		
		valproic acid	1	1						
		clonazepam	2	2						
		haloperidol	3	3						
		lamotrigine	4	4						
		atenolol	5	5						
		omeprazole	6	6						
1187a	50 y M				U	Ingst+ Unk	Int-S	1		
		lamotrigine	1	1					lamotrigine	40 mcg/mL In Blood (unspecified) @ Unknown
		cocaine	2	2						
		clonazepam	3	3						
		citalopram	4	4						
1188pha	67 y F				A	Ingst	Int-S	2		
		valproic acid	1	1					valproic acid	384 mg/L In Blood (unspecified) @ Unknown

See Also case 92, 210, 369, 390, 492, 565, 609, 626, 682, 683, 696, 697, 702, 706, 726, 733, 738, 760, 771, 796, 797, 814, 829, 830, 837, 880, 900, 918, 923, 952, 974, 982, 1060, 1163, 1164, 1166, 1199, 1200, 1201, 1218, 1226, 1230, 1235, 1237, 1253, 1290, 1291, 1300, 1308, 1310, 1326, 1328, 1329, 1355, 1357, 1367, 1430, 1433, 1457, 1467, 1469, 1477, 1481, 1482, 1485, 1486, 1491, 1503, 1507, 1570, 1595, 1608, 1620, 1634, 1654, 1671, 1674, 1681, 1689, 1692, 1694, 1696, 1699, 1704, 1755, 1826

Antidepressants

1189ph	18 y F				A	Ingst	Int-S	1		
		bupropion	1	1						
		ibuprofen	2	2						
		dietary supplement	3	3						
1190	20 y M				A/C	Ingst	Int-S	2		
		citalopram	1	1						
1191ai	21 y F				U	Ingst	Int-S	2		
		amitriptyline	1	1					amitriptyline	4.8 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		nortriptyline	2	2					norvenlafaxine	5.1 mcg/mL In Whole Blood @ Autopsy
1192pa	21 y F				A	Ingst	Int-S	1		
		amitriptyline	1	1					amitriptyline	11 mg/L In Blood (unspecified) @ Autopsy
		tramadol	2	2						
1193ai	22 y F				U	Ingst	Int-S	2		
		amitriptyline	1	1					nortriptyline	1.2 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					amitriptyline	2.6 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					amitriptyline	45.8 mg/kg In Liver @ Autopsy
		amitriptyline	1	1					nortriptyline	7.4 mg/kg In Liver @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.74 mg/kg In Liver @ Autopsy
		tramadol	3	3						
		citalopram	4	4					citralopram	1.2 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4					citralopram	3.6 mg/kg In Liver @ Autopsy
		olanzapine	5	5						
		ethanol	6	6						
1194p	22 y F				A/C	Ingst	Int-S	2		
		citalopram	1	1						
		ethanol	2	2					ethanol	99 mg/dL In Blood (unspecified) @ Unknown
1195ai	23 y M				U	Ingst	Int-S	2		
		amitriptyline	1	1						
		salicylate	2	2					salicylate	211 mcg/mL In Blood (unspecified) @ Unknown
		laxative (stimulant)	3	3					sertraline	0.84 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	4	4						
1196	25 y F				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1						
1197ha	25 y M				A	Ingst	Int-S	1		
		amitriptyline	1	1					nortriptyline	160 ng/mL In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					amitriptyline	2003 ng/mL In Blood (unspecified) @ Autopsy
1198a	25 y F				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1					bupropion	10 mcg/mL In Whole Blood @ Autopsy
1199	26 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1						
		lamotrigine	2	2						
		olanzapine/ fluoxetine	3	3						
1200h	26 y M				A	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		quetiapine	2	2						
		lithium	3	3					lithium	2.9 mEq/L In Serum @ Unknown
		lamotrigine	4	4						
		ethanol	5	5					ethanol	54 mg/dL In Serum @ Unknown
1201pa	26 y F				A/C	Ingst	Int-S	1		
		fluvoxamine	1	1					fluvoxamine	6.5 mg/L In Blood (unspecified) @ Unknown
		clonazepam	2	2					7-aminoclonaze-pam	0.037 mg/L In Blood (unspecified) @ Unknown
		ziprasidone	3	3					ziprasidone	0.011 mg/L In Blood (unspecified) @ Unknown
		atomoxetine	4	4						
		lamotrigine	5	5						
1202ai	27 y M				U	Ingst	Int-S	2		
		doxepin	1	1					nordoxepin	1.4 mcg/mL In Whole Blood @ Autopsy
		doxepin	1	1					doxepin	10.3 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	106 ng/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1203ai	27 y F				U	Ingst	Int-A	2		
		tricyclic antidepressant	1	1						
		benzodiazepine	2	2						
		opioid	3	3					fentanyl	5.9 ng/mL In Blood (unspecified) @ Unknown
1204	28 y M				U	Ingst+ Unk	Int-M	2		
		amphetamine*	1	1					amphetamine	160 ng/mL In Whole Blood @ Autopsy
		doxepin*	2	1						
		tramadol	3	2						
		ethanol	4	3						
		alprazolam	5	5					alprazolam	87 ng/mL In Whole Blood @ Autopsy
1205h	29 y F				U	Ingst	Int-S	2		
		bupropion	1	1						
		buspirone	2	2						
		diazepam	3	3						
		ethanol	4	4						
1206	29 y F				A	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		vilazodone	2	2						
1207ph	30 y F				A	Ingst	Int-S	2		
		tricyclic antidepressant	1	1						
		acetaminophen	2	2					acetaminophen	7 mcg/mL In Blood (unspecified) @ 1 h (pe)
		ethanol	3	3					ethanol	171 mg/dL In Blood (unspecified) @ 1 h (pe)
1208pha	30 y M				A	Ingst	Int-S	1		
		doxepin	1	1					nordoxepin	1080 ng/mL In Blood (unspecified) @ Autopsy
		doxepin	1	1					doxepin	6404 ng/mL In Blood (unspecified) @ Autopsy
1209ha	31 y F				A/C	Ingst	Int-S	1		
		citalopram	1	1					citalopram	150 mg/kg In Liver @ Autopsy
		citalopram	1	1					citalopram	16 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	2	2					7-aminoclonazepam	0.11 mg/L In Blood (unspecified) @ Autopsy
		mirtazapine	3	3					mirtazapine	13 mg/kg In Liver @ Autopsy
		mirtazapine	3	3					mirtazapine	2.3 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	4	4					alprazolam	0.037 mg/dL In Blood (unspecified) @ Autopsy
		cocaine	5	5					benzoylecognine	0.35 mg/L In Blood (unspecified) @ Autopsy
		propranolol	6	6						
		ethanol	7	7						
1210pai	31 y M				A	Ingst	Int-A	1		
		trazodone	1	1						
		ethanol (non-beverage)	2	2						
1211p	32 y F				U	Unk	Unk	2		
		amitriptyline	1	1						
1212	32 y M				A	Ingst	Int-S	3		
		amitriptyline	1	1						
		antidepressant (SSRI)	2	2						
1213h	33 y F				A	Ingst	Int-S	3		
		amitriptyline	1	1						
		hydroxyzine	2	2						
1214p	33 y F				U	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		duloxetine	2	2						
		clonazepam	3	3						
		levothyroxine	4	4						
1215ai	33 y M				U	Ingst	Int-A	2		
		amitriptyline	1	1					amitriptyline	2.6 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		nortriptyline	2	2					norvenlafaxine	0.74 mcg/mL In Blood (unspecified) @ Unknown
1216ai	34 y M				U	Ingst	Int-A	2		
		amitriptyline	1	1					amitriptyline	2.6 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					nortriptyline	2.6 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2					codeine	0.22 mcg/mL In Whole Blood @ Autopsy
1217ai	34 y M				U	Ingst+ Unk	Int-S	2		
		citalopram	1	1					citralopram	6.9 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.12 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.18 mg/kg In Brain @ Autopsy
		cocaine	2	2					benzoylecognine	0.42 mg/kg In Brain @ Autopsy
		cocaine	2	2					benzoylecognine	1.5 mcg/mL In Whole Blood @ Autopsy
1218	35 y F				A	Ingst	Int-S	1		
		fluoxetine	1	1						
		metoprolol	2	2						
		lamotrigine	3	3						
		gabapentin	4	4						
		diazepam	5	5						
1219h	35 y M				A/C	Ingst	Int-S	3		
		amitriptyline	1	1						
		clonazepam	2	2						
		trazodone	3	3						
1220p	35 y F				A	Ingst	Int-S	2		
		amitriptyline	1	1						
1221h	36 y F				U	Ingst	Int-S	2		
		trazodone	1	1						
		zolpidem (extended release)	2	2						
1222pha	36 y M				A	Ingst	Int-S	1		
		citalopram	1	1					citalopram	6100 ng/mL In Blood (unspecified) @ Autopsy
		amphetamine	2	2					amphetamine	0.34 mg/mL In Blood (unspecified) @ Autopsy
		clonidine	3	3						
1223ai	36 y F				U	Ingst	Int-A	2		
		doxepin	1	1					nordoxepin	0.63 mcg/mL In Whole Blood @ Autopsy
		doxepin	1	1					doxepin	4.2 mcg/mL In Whole Blood @ Autopsy
1224	36 y F				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		atenolol	2	2						
		ethanol	3	3						
1225p	37 y F				A	Ingst	Int-S	2		
		citalopram	1	1					citalopram	87 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	2	2						
		amphetamine	3	3						
1226pha	37 y F				U	Ingst	Int-U	2		
		venlafaxine	1	1					o-desmethylvenlafaxine	10 mg/kg In Liver @ Autopsy
		venlafaxine	1	1					venlafaxine	140 mg/kg In Liver @ Autopsy
		venlafaxine	1	1					o-desmethylvenlafaxine	4.6 mg/L In Blood (unspecified) @ Autopsy
		venlafaxine	1	1					venlafaxine	50 mg/L In Blood (unspecified) @ Autopsy
		lamotrigine	2	2					lamotrigine	70 mg/L In Blood (unspecified) @ Autopsy
		trazodone	3	3					meta-chlorophenylpiperazine (mcpp)	0.69 mg/L In Blood (unspecified) @ Autopsy
		trazodone	3	3					trazodone	10 mg/L In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		trazodone	3	3					trazodone	31 mg/kg In Liver @ Autopsy
		trazodone	3	3					meta-chlorophenylpiperazine (mcpp)	7.8 mg/kg In Liver @ Autopsy
		ethanol	4	4					ethanol	90 mg/dL In Blood (unspecified) @ Autopsy
		propranol	5	5					propranolol	2.6 mg/L In Blood (unspecified) @ Autopsy
1227ai	37 y F				U	Ingst	Int-A	2		
		venlafaxine	1	1					venlafaxine	7.3 mcg/mL In Whole Blood @ Autopsy
1228ai	38 y F				U	Ingst	Int-A	2		
		citalopram	1	1					citralopram	2.9 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	73 ng/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	0.07 mcg/mL In Whole Blood @ Autopsy
		hydrocodone	4	4						
1229a	38 y F				U	Ingst+ Unk	Int-S	2		
		citalopram	1	1					citalopram	3.42 mg/L In Blood (unspecified) @ Unknown
		diazepam	2	2					diazepam	0.307 mg/L In Blood (unspecified) @ Unknown
		temazepam	3	3					temazepam	0.232 mg/L In Blood (unspecified) @ Unknown
1230a	39 y F				A	Ingst	Int-S	3		
		escitalopram	1	1					escitalopram	0 Other (see abst) In Blood (unspecified) @ Unknown
		clonazepam	2	2						
		lamotrigine	3	3						
1231p	39 y F				U	Ingst	Int-S	1		
		amitriptyline	1	1						
		metoprolol	2	2						
1232ai	39 y M				U	Ingst	Int-S	2		
		bupropion	1	1					bupropion	8.4 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.06 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.09 mcg/mL In Vitreous @ Autopsy
1233p	39 y M				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		carisoprodol	2	2						
		morphine	3	3						
		oxycodone	4	4						
1234	40 y F				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		tizanidine	2	2						
		antidepressant (SSRI)	3	3						
		allopurinol	4	4						
		acetaminophen/ oxycodone	5	5						
		drug, unknown	6	6						
[1235pha]	40 y M				U	Ingst	Int-S	1		
		amitriptyline	1	1					amitriptyline	2.1 mg/kg In Blood (unspecified) @ 10 m (pe)
		cocaine	2	2					benzoylecognine	0.044 mg/L In Blood (unspecified) @ 10 m (pe)
		gabapentin	3	3					gabapentin	15 mg/L In Blood (unspecified) @ 10 m (pe)
		ethanol	4	4					ethanol	0 mg/dL In Blood (unspecified) @ 10 m (pe)
1236	40 y M				A/C	Ingst	Int-S	1		
		bupropion	1	1						
1237	40 y M				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1						
		lamotrigine	2	2						
		lorazepam	3	3						
[1238ha]	40 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1					hydroxybupropion	10000 mcg/L In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		bupropion	1	1					bupropion	54 mcg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	0 mg/dL In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	307 mg/dL In Serum @ 0 h (pe)
1239pai	41 y M				A	Ingst	Int-U	1		
		amitriptyline	1	1						
		alprazolam	2	2						
		acetaminophen/ hydrocodone	3	3						
		ethanol	4	4						
1240p	41 y F				A	Ingst	Int-S	1		
		venlafaxine	1	1						
		methylphenidate (extended release)	2	2						
		hydroxyzine	3	3						
		buspirone	4	4						
		trazodone	5	5						
		bupropion (extended release)	6	6						
1241a	41 y F				A/C	Ingst+ Unk	Int-S	2		
		amitriptyline	1	1					amitriptyline	13.06 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					nortriptyline	2.56 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaine	0.06 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaethylene	0.07 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	1.15 mg/L In Blood (unspecified) @ Autopsy
		ethanol	3	3					ethanol	0 mg/dL In Blood (unspecified) @ Autopsy
		ethanol	3	3					ethanol	140 mg/dL In Serum @ 0 h (pe)
1242p	41 y F				A/C	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		fenfluramine	2	2						
1243ai	41 y F				U	Ingst	Int-A	2		
		doxepin	1	1					doxepin	580 mg/kg In Liver @ Autopsy
		doxepin	1	1					nordoxepin	63.3 mg/kg In Liver @ Autopsy
1244i	42 y M				A/C	Ingst+ Unk	Unk	3		
		lithium	1	1					lithium	3.8 mEq/L In Blood (unspecified) @ Unknown
1245a	42 y M				A	Ingst	Int-S	1		
		citalopram	1	1						
1246ai	42 y M				U	Ingst	Int-A	2		
		amitriptyline	1	1					amitriptyline	0.62 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					nortriptyline	0.66 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	147 ng/mL In Whole Blood @ Autopsy
		butalbital	3	3					butalbital	2.9 mcg/mL In Whole Blood @ Autopsy
1247pha	43 y F				A	Ingst	Int-S	1		
		amitriptyline	1	1						
		citalopram	2	2						
		bupropion	3	3						
1248	43 y F				A/C	Ingst	Int-S	2		
		amitriptyline	1	1						
		lisinopril	2	2						
		haloperidol	3	3						
		citalopram	4	4						
1249a	43 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1						
		diphenhydramine	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	3	3					alprazolam	0.04 mg/L In Blood (unspecified) @ Unknown
		alprazolam	3	3					alprazolam	0.06 mg/L In Whole Blood @ Autopsy
		ethanol (non-beverage)	4	4					ethanol	0.116 g/dL In Blood (unspecified) @ Unknown
		acetaminophen	5	5					acetaminophen	22 mg/L In Whole Blood @ Autopsy
		acetaminophen	5	5					acetaminophen	72 mcg/mL In Blood (unspecified) @ Unknown
1250ai	43 y F				U	Ingst+ Unk	Int-A	2		
		venlafaxine	1	1					venlafaxine	4.1 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.38 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	3	3					fluoxetine	0.66 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	3	3					norfluoxetine	0.78 mcg/mL In Whole Blood @ Autopsy
		citalopram	4	4					citralopram	0.55 mcg/mL In Whole Blood @ Autopsy
		doxepin	5	5						
		milnacipran	6	6						
1251ai	43 y F				U	Ingst	Int-A	2		
		trazodone	1	1					trazodone	15.8 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	618 ng/mL In Whole Blood @ Autopsy
		citalopram	3	3						
1252	43 y M				A/C	Ingst	Int-S	3		
		amitriptyline	1	1						
		ethanol	2	2						
1253pha	44 y F				A/C	Ingst	Int-S	1		
		paroxetine	1	1						
		tramadol	2	2						
		lamotrigine	3	3					lamotrigine	24 mcg/mL In Serum @ 4 h (pe)
		diflunisal	4	4						
		clonazepam	5	5					clonazepam	13 ng/mL In Serum @ 4 h (pe)
		clonazepam	5	5					7-aminoclonaze-pam	19 ng/mL In Serum @ 4 h (pe)
		ethanol	6	6					ethanol	122 mg/dL In Serum @ 20 m (pe)
		ondansetron	7	7					lorazepam	6.1 ng/mL In Serum @ 4 h (pe)
1254	44 y F				U	Ingst	Int-S	2		
		tricyclic antidepressant	1	1						
		opioid	2	2						
		methadone	3	3						
		benzodiazepine	4	4						
1255ai	44 y M				U	Ingst	Int-A	2		
		paroxetine	1	1					paroxetine	1.7 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2					alprazolam	85 ng/mL In Whole Blood @ Autopsy
		quetiapine	3	3						
1256pha	44 y F				A/C	Ingst	Int-S	3		
		duloxetine	1	1					duloxetine	102 ng/mL In Serum @ 1 h (pe)
		oxycodone	2	2						
1257	44 y F				A	Ingst	Int-S	2		
		tricyclic antidepressant	1	1						
1258p	44 y F				A	Ingst	Int-S	3		
		nortriptyline	1	1						
		clonazepam	2	2						
		acetaminophen	3	3						
		antibiotic, unknown	4	4						
		antibiotic, unknown	5	5						
1259p	44 y F				A/C	Ingst	Int-S	1		
		amitriptyline	1	1						
		ethanol	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1260h	45 y M				U	Ingst	Int-U	2		
		bupropion (extended release)	1	1						
		citalopram	2	2						
1261a	46 y F				A	Ingst	Int-S	3		
		bupropion (extended release)	1	1						
		methamphetamine	2	2						
		phencyclidine	3	3						
		benzodiazepine	4	4						
		paroxetine	5	5						
1262ai	46 y F				U	Ingst	Int-A	3		
		bupropion	1	1					bupropion	3.4 mcg/mL In Whole Blood @ Autopsy
1263ph	46 y F				A/C	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		levocitirizine	2	2						
		temazepam	3	3						
		clonazepam	4	4						
		hydrochlorothiazide	5	5						
		thyroid preparation	6	6						
1264	46 y F				A	Ingst	Int-S	1		
		bupropion	1	1						
		venlafaxine	2	2						
		benzodiazepine	3	3						
		ethanol	4	4						
1265	46 y F				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		verapamil	2	2						
		escitalopram	3	3						
1266pai	47 y M				A	Ingst	Int-S	1		
		amitriptyline	1	1					amitriptyline	5.5 mg/L In Blood (unspecified) @ Autopsy
		bupropion	2	2					bupropion	4.4 mg/L In Blood (unspecified) @ Autopsy
		ethanol	3	3					ethanol	0.22% In Blood (unspecified) @ Autopsy
1267ai	47 y F				U	Ingst	Int-A	2		
		nortriptyline	1	1					norvenlafaxine	1.9 mcg/mL In Vitreous @ Autopsy
		nortriptyline	1	1					norvenlafaxine	3.1 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2					citralopram	0.59 mcg/mL In Vitreous @ Autopsy
		citalopram	2	2					citralopram	0.73 mcg/mL In Whole Blood @ Autopsy
		morphine	3	3					morphine (free)	0.46 mcg/mL In Whole Blood @ Autopsy
1268ha	47 y F				A/C	Ingst	Int-S	1		
		amitriptyline	1	1					thc (tetrahydrocannabinol)	0.002 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					nortriptyline	1.5 mg/L In Blood (unspecified) @ Unknown
		amitriptyline	1	1					nortriptyline	1.7 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					amitriptyline	2.6 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					amitriptyline	4.3 mg/L In Blood (unspecified) @ Unknown
1269	47 y M				A	Ingst+ Inhal	Int-A	2		
		amitriptyline	1	1						
		THC homolog	2	2						
1270ai	47 y M				U	Ingst	Int-A	2		
		doxepin	1	1					nordoxepin	0.17 mcg/mL In Whole Blood @ Autopsy
		doxepin	1	1					doxepin	0.9 mcg/mL In Whole Blood @ Autopsy
1271a	48 y M				A	Ingst	Int-S	1		
		bupropion	1	1					bupropion	999 ng/mL In Unknown @ Autopsy
		ethanol	2	2					ethanol	0.06% In Unknown @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1272	48 y M				U	Ingst	Int-S	2		
		citalopram	1	1						
		ethanol	2	2					ethanol	111 mg/dL In Serum @ Unknown
1273ph	48 y M				A	Ingst	Int-U	2		
		nortriptyline	1	1						
		ethanol	2	2					ethanol	385 mg/dL In Blood (unspecified) @ Unknown
1274	48 y M				A	Ingst	Int-S	3		
		doxepin	1	1						
1275ai	49 y F				U	Ingst	Int-A	2		
		amitriptyline	1	1					amitriptyline	3.5 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					nortriptyline	4.2 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.05% (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.05% (wt/Vol) In Whole Blood @ Autopsy
		citalopram	3	3					citralopram	0.77 mcg/mL In Whole Blood @ Autopsy
		diltiazem	4	4						
[1276ph]	49 y F				A	Ingst	Int-S	1		
		amitriptyline	1	1					amitriptyline	1276 ng/mL In Serum @ 20 h (pe)
		amitriptyline	1	1					nortriptyline	1520 ng/mL In Serum @ 21 h (pe)
		amitriptyline	1	1					amitriptyline	1704 ng/mL In Serum @ 24 h (pe)
		amitriptyline	1	1					amitriptyline	4510 ng/mL In Serum @ 21 h (pe)
		amitriptyline	1	1					nortriptyline	581 ng/mL In Serum @ 15.5 h (pe)
		amitriptyline	1	1					nortriptyline	681 ng/mL In Serum @ 20 h (pe)
		amitriptyline	1	1					nortriptyline	860 ng/mL In Serum @ 24 h (pe)
1277ai	49 y F				U	Ingst	Int-A	2		
		amitriptyline	1	1					nortriptyline	2.2 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					amitriptyline	3.2 mcg/mL In Whole Blood @ Autopsy
[1278ha]	49 y M				A	Ingst	Int-S	1		
		venlafaxine	1	1					venlafaxine	13.5 mg/L In Blood (unspecified) @ Unknown
1279ai	49 y F				U	Ingst	Int-A	2		
		doxepin	1	1					nordoxepin	0.62 mcg/mL In Whole Blood @ Autopsy
		doxepin	1	1					doxepin	3.7 mcg/mL In Whole Blood @ Autopsy
1280ai	49 y F				U	Ingst	Int-S	2		
		mirtazapine	1	1					mirtazapine	37.5 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.11% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.13% (wt/Vol) In Vitreous @ Autopsy
		diazepam	3	3						
		laxative (stimulant)	4	4						
1281p	50 y F				A	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		ethanol	2	2					ethanol	150 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen/ oxycodone	3	3						
		alprazolam	4	4						
1282	50 y M				A	Ingst	Int-S	1		
		venlafaxine (extended release)	1	1						
1283pa	50 y F				A	Ingst+ Unk	Int-U	1		
		bupropion (extended release)	1	1						
		amphetamines (bath salts)	2	2						
		diazepam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diphenhydramine	4	4						
1284pha	51 y F				A	Ingst	Unk	2		
		fluoxetine	1	1						
		ethanol	2	2						
		oxycodone	3	3						
1285	51 y F				A	Ingst	Int-S	2		
		tricyclic antidepressant	1	1						
		benzodiazepine	2	2						
1286p	51 y M				A	Ingst	Int-S	2		
		amitriptyline	1	1						
1287	51 y F				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1						
		amlodipine	2	2						
		duloxetine	3	3						
1288pi	51 y F				A	Ingst	Int-S	2		
		trazodone	1	1						
		clonazepam	2	2						
		temazepam	3	3						
		hydroxyzine	4	4						
		antifreeze (ethylene glycol)	5	5						
1289	51 y F				A	Ingst	Int-S	2		
		cyclic antidepressant, unknown	1	1						
		antidepressant (SSRI)	2	2						
		benzodiazepine	3	3						
		carprofen	4	4						
		benzodiazepine	5	5						
		diuretic, unknown	6	6						
		antibiotic, unknown	7	7						
1290p	51 y F				A	Ingst	Int-A	2		
		antidepressant (SSRI)	1	1						
		methocarbamol	2	2						
		angiotensin-converting enzyme inhibitor	3	3						
		anticonvulsant	4	4						
		benzodiazepine	5	5						
		ibuprofen	6	6						
		doxycline	7	7						
1291	52 y F				A	Ingst	Int-S	1		
		citalopram	1	1						
		valproic acid (extended release)	2	2						
		methocarbamol	3	3						
1292pai	53 y F				A	Ingst	Int-A	1		
		citalopram	1	1					citralopram	1 mg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	0.07% In Blood (unspecified) @ Autopsy
1293pai	53 y F				U	Ingst	Unk	2		
		venlafaxine	1	1					venlafaxine	11.8 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	1.2 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	1.9 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3					diphenhydramine	2.1 mcg/mL In Whole Blood @ Autopsy
1294pa	53 y F				A	Ingst	Int-S	1		
		bupropion	1	1					bupropion	0.53 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	2	2					nortriptyline	0.12 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	2	2					amitriptyline	5.2 mg/L In Blood (unspecified) @ Autopsy
		metformin	3	3					metformin	28 mcg/mL In Blood (unspecified) @ Autopsy
		methadone	4	4					methadone metabolite	0.15 mg/L In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		methadone	4	4					methadone	0.58 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	5	5						
1295phi	53 y F				U	Ingst	Int-S	2		
		trazodone	1	1						
1296p	53 y M				A/C	Ingst	Int-S	3		
		amitriptyline	1	1						
1297pha	53 y M				U	Ingst	Int-M	2		
		trazodone	1	1						
		clonazepam	2	2					clonazepam	17 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	3	3					oxycodone (free)	21 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	4	4						
1298ph	53 y F				A	Ingst	Int-S	1		
		bupropion*	1	1						
		trazodone*	2	1						
		diphenhydramine	3	2						
		loperamide	4	3						
		amphetamine*	5	4						
		bismuth subsalicyclate*	6	4						
1299ai	53 y F				U	Ingst	Int-A	2		
		trazodone	1	1					trazodone	3.3 mcg/mL In Blood (unspecified) @ Unknown
		diphenhydramine	2	2					diphenhydramine	2.4 mcg/mL In Blood (unspecified) @ Unknown
		beta blocker	3	3					metoprolol	3 mcg/mL In Blood (unspecified) @ Unknown
1300	54 y F				U	Ingst	Unk	2		
		amitriptyline	1	1						
		trazodone	2	2						
		caffein/herbs/green tea	3	3						
		caffein/herbs/green tea	4	4						
		gabapentin	5	5						
		lisinopril	6	6						
		lipozene	7	7						
		montelukast	8	8						
		cetirizine	9	9						
		docusate	10	10						
		acetaminophen/ diphenhydramine	11	11						
		prednisone	12	12						
		laxative (stimulant)	13	13						
		hydroxyzine	14	14						
		magnesium salicylate/ pamabrom	15	15						
1301ph	54 y F				A	Ingst	Int-S	2		
		amitriptyline	1	1						
1302ai	54 y F				U	Ingst	Int-A	2		
		amitriptyline	1	1					nortriptyline	0.85 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					amitriptyline	1.4 mcg/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.16 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.1% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.12% (wt/Vol) In Vitreous @ Autopsy
		diazepam	4	4						
		phentermine	5	5					phentermine	0.73 mcg/mL In Whole Blood @ Autopsy
1303p	54 y F				A	Ingst	Int-S	2		
		doxepin	1	1						
		benzodiazepine	2	2						
1304	54 y F				A	Ingst	Int-S	3		
		amitriptyline	1	1						
		angiotensin-converting enzyme inhibitor	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1305	54 y M				A/C	Ingst	Int-S	3		
		desfenlafaxine	1	1						
1306p	55 y M				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		diphenhydramine	2	2						
1307ph	55 y F				A	Ingst	Int-S	2		
		bupropion (extended release)	1	1						
		benztropine	2	2						
		ibuprofen	3	3						
		lorazepam	4	4						
1308	55 y M				A/C	Ingst	Int-S	2		
		amitriptyline	1	1						
		modafinil	2	2						
		gabapentin	3	3						
		tamsulosin	4	4						
		tizanidine	5	5						
		ethanol	6	6					ethanol	260 mg/dL In Blood (unspecified) @ Unknown
		clonazepam	7	7						
		natalizumab	8	8						
		atorvastatin	9	9						
1309ha	56 y M				U	Ingst	Int-S	2		
		imipramine	1	1						
		amlodipine	2	2						
		metoprolol	3	3						
		perphenazine	4	4						
		hydroxyzine	5	5						
		clonazepam	6	6						
		zolpidem	7	7						
1310	56 y F				A	Ingst	Int-S	2		
		cyclic antidepressant, unknown	1	1						
		citalopram	2	2						
		lisinopril	3	3						
		clonazepam	4	4						
		gabapentin	5	5						
		cyclobenzaprine	6	6						
		acetaminophen/butalbital/caffeine	7	7						
		zolpidem	8	8						
		sumatriptan	9	9						
		drug, unknown	10	10						
		naproxen	11	11						
1311ai	56 y M				U	Ingst	Int-A	2		
		bupropion	1	1					bupropion	5.3 mcg/mL In Whole Blood @ Autopsy
1312p	57 y F				A/C	Ingst	Int-S	2		
		amitriptyline	1	1						
		acetaminophen	2	2						
		ethanol	3	3						
1313ai	57 y M				U	Ingst	Int-S	2		
		amitriptyline	1	1					nortriptyline	0.31 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					amitriptyline	1.7 mcg/mL In Whole Blood @ Autopsy
		trazodone	2	2					trazodone	2.2 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.06% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
		citalopram	4	4						
1314ai	57 y M				U	Ingst+ Inhal	Int-S	2		
		amitriptyline	1	1					amitriptyline	2632 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					nortriptyline	5.3 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	1	1					nortriptyline	6 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1315	58 y M				C	Ingst	Int-S	3		
		lithium	1	1					lithium	2.6 mEq/L In Blood (unspecified) @ Unknown
1316ph	58 y F				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1						
		chlropromazine	2	2						
1317pai	59 y F				A	Ingst	Int-S	1		
		bupropion	1	1					bupropion	0.1 mg/L In Blood (unspecified) @ Autopsy
		oxycodone	2	2					oxycodone	1.2 mg/L In Blood (unspecified) @ Autopsy
		tramadol	3	3					tramadol	0.5 mg/L In Blood (unspecified) @ Autopsy
		trazodone	4	4					trazodone	4.1 mg/L In Blood (unspecified) @ Autopsy
1318ai	59 y F				U	Ingst	Unk	2		
		citalopram	1	1					citralopram	32.7 mg/kg In Liver @ Autopsy
1319pa	60 y M				A/C	Ingst	Int-S	2		
		nortriptyline	1	1					nortriptyline	540 ng/mL In Whole Blood @ Autopsy
		diphenhydramine	2	2					diphenhydramine	540 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ diphenhydramine	3	3					dextromethorphan	25 ng/mL In Whole Blood @ Autopsy
		acetaminophen/ diphenhydramine	3	3					acetaminophen	9.6 mcg/mL In Whole Blood @ Autopsy
		fexofenadine	4	4						
		salicylate	5	5						
		drug, unknown	6	6						
		atorvastatin	7	7						
		clopidogrel	8	8						
		metoprolol	9	9						
		amlodipine/ olmesartan	10	10						
		doxylamine	11	11					doxylamine	420 ng/mL In Whole Blood @ Autopsy
1320ai	61 y M				U	Ingst	Int-A	2		
		bupropion	1	1					bupropion	5.5 mcg/mL In Whole Blood @ Autopsy
		chlordiazepoxide	2	2						
1321ai	62 y M				U	Ingst	Int-A	2		
		citalopram	1	1					citralopram	7.8 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.06% (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.08% (wt/Vol) In Vitreous @ Autopsy
1322a	62 y F				A/C	Ingst	Int-S	2		
		citalopram	1	1						
		ethanol	2	2						
		diphenhydramine	3	3						
1323ai	62 y F				U	Ingst+ Unk	Int-A	2		
		doxepin	1	1					doxepin	0.86 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.03 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.15% (wt/Vol) In Vitreous @ Autopsy
		ethanol	3	3					ethanol	0.15% (wt/Vol) In Whole Blood @ Autopsy
		fluoxetine	4	4						
1324h	63 y M				A	Ingst	Int-S	3		
		trazodone	1	1						
		methocarbamol	2	2						
1325h	63 y M				A	Ingst	Int-S	1		
		bupropion (extended release)	1	1						
		zolpidem	2	2						
		ethanol	3	3					ethanol	0.04 Other (see abst) In Unknown @ Unknown
1326	63 y F				A	Ingst	Int-S	2		
		venlafaxine (extended release)	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		bupropion (extended release)	2	2						
		acetaminophen/hydrocodone	3	3						
		ethanol	4	4						
		clonazepam	5	5						
		eszopiclone	6	6						
		acetaminophen	7	7					acetaminophen	40 mcg/mL In Serum @ 4 h (pe)
		topiramate	8	8						
1327pai	64 y F				A	Ingst	Int-S	1		
		venlafaxine	1	1						
1328h	64 y F				A/C	Ingst	Int-S	1		
		desipramine*	2	1						
		diltiazem (extended release)*	1	1						
		venlafaxine	3	3						
		lamotrigine	4	4						
		hydrochlorothiazide	5	5						
		armodafinil	6	6						
		potassium chloride	7	7						
		trifluoperazine	8	8						
		escitalopram	9	9						
		thyroid preparation	10	10						
		pantoprazole	11	11						
		lansoprazole	12	12						
		rovustatin	13	13						
		naproxen	14	14						
		nitrofurantoin	15	15						
		diclofenac	16	16						
		acetaminophen/hydrocodone	17	17						
		acetaminophen/propoxyphene	18	18						
		solifenacin	19	19						
		ciprofloxacin	20	20						
		progestin	21	21						
1329a	65 y F				A	Ingst	Int-S	2		
		venlafaxine	1	1						
		gabapentin	2	2						
		laxative (stimulant)	3	3						
1330	65 y M				A/C	Ingst	Int-S	2		
		amitriptyline	1	1						
		eszopiclone	2	2						
1331pha	66 y F				A/C	Ingst	Int-S	1		
		lithium	1	1						
		escitalopram	2	2						
		methylphenidate	3	3						
		aripiprazole	4	4						
		simvastatin	5	5						
		valacyclovir	6	6						
		propoxyphene	7	7					propoxyphene	1.7 mcg/mL In Blood (unspecified) @ Autopsy
		hydrocodone	8	8					hydrocodone (free)	150 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	9	9					oxycodone (free)	540 ng/mL In Blood (unspecified) @ Autopsy
		triazolam	10	10					benzodiazepines	34 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen	11	11					acetaminophen	400 mcg/mL In Blood (unspecified) @ Autopsy
1332	67 y F				U	Ingst	Int-S	2		
		venlafaxine (extended release)	1	1						
		venlafaxine (extended release)	2	2						
		salicylate	3	3						
		acetaminophen	4	4						
		etodolac	5	5						
		ethanol	6	6						
1333ha	76 y F				A/C	Ingst	Int-S	3		
		amitriptyline	1	1						
1334ph	77 y F				A/C	Ingst	Unt-U	2		
		amitriptyline	1	1						
		acetaminophen/hydrocodone	2	2						
		clonazepam	3	3						
1335	81 y M				A/C	Ingst	Int-S	1		
		tricyclic antidepressant	1	1						
1336pa	95 y M				A	Ingst	Int-S	2		
		buspirone*	2	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		fluoxetine*	1	1					norfluoxetine	180 ng/mL In Whole Blood @ Autopsy
		fluoxetine*	1	1					fluoxetine	200 ng/mL In Whole Blood @ Autopsy
		methylphenidate	3	2						
		nefazodone	4	3						
		acetaminophen	5	4					acetaminophen	350 mcg/mL In Whole Blood @ Autopsy
		hyoscyamine	6	5					dicyclomine	46 ng/mL In Whole Blood @ Autopsy
1337	Unknown adult (> = 20 yrs) M				U	Ingst	Int-U	2		
		bupropion	1	1						
		citalopram	2	2						

See Also case 9, 13, 25, 45, 47, 52, 61, 67, 90, 92, 130, 210, 222, 229, 277, 306, 316, 350, 360, 361, 374, 379, 381, 385, 392, 409, 411, 419, 424, 429, 432, 433, 437, 441, 445, 446, 450, 458, 469, 471, 475, 478, 480, 484, 492, 496, 497, 505, 510, 516, 518, 519, 530, 542, 543, 546, 549, 563, 565, 567, 573, 586, 591, 596, 597, 599, 603, 604, 618, 620, 625, 634, 639, 643, 648, 652, 656, 663, 667, 679, 681, 690, 696, 697, 698, 699, 705, 708, 712, 715, 719, 723, 726, 731, 733, 747, 749, 754, 755, 759, 760, 763, 774, 784, 788, 789, 791, 793, 801, 803, 806, 807, 810, 813, 819, 821, 824, 829, 835, 836, 844, 845, 846, 847, 857, 869, 871, 875, 879, 883, 899, 904, 905, 924, 925, 935, 941, 944, 949, 955, 966, 979, 985, 995, 1000, 1013, 1016, 1020, 1024, 1026, 1028, 1029, 1031, 1036, 1037, 1040, 1041, 1042, 1053, 1055, 1063, 1071, 1074, 1083, 1086, 1088, 1100, 1104, 1113, 1117, 1118, 1140, 1143, 1146, 1147, 1163, 1164, 1176, 1177, 1179, 1183, 1187, 1338, 1343, 1353, 1356, 1357, 1361, 1382, 1383, 1385, 1386, 1390, 1392, 1398, 1403, 1409, 1410, 1413, 1417, 1420, 1421, 1430, 1433, 1434, 1435, 1436, 1438, 1443, 1444, 1451, 1457, 1467, 1469, 1476, 1479, 1481, 1482, 1483, 1486, 1491, 1496, 1503, 1510, 1517, 1523, 1540, 1556, 1595, 1607, 1612, 1616, 1618, 1619, 1620, 1622, 1623, 1629, 1632, 1638, 1639, 1651, 1652, 1654, 1656, 1658, 1661, 1662, 1672, 1673, 1674, 1678, 1682, 1683, 1688, 1692, 1695, 1696, 1699, 1703, 1704, 1705, 1725, 1739, 1767, 1794, 1795, 1807, 1817, 1822, 1826, 1840, 1842, 1843, 1847, 1876, 1880, 1884, 1886, 1887, 1909, 1916, 1920, 1929, 1933, 1943, 1956

Antihistamines

1338ai	18 y M				U	Ingst	Int-A	2		
		diphenhydramine	1	1					diphenhydramine	0.46 mcg/mL In Whole Blood @ Autopsy
		diphenhydramine	1	1					diphenhydramine	5.9 mcg/mL In Whole Blood @ Autopsy
		bupropion	2	2					bupropion	2.2 mg/kg In Liver @ Autopsy
		bupropion	2	2					bupropion	3.7 mcg/mL In Whole Blood @ Autopsy
		zolpidem	3	3					zolpidem	0.7 mcg/mL In Whole Blood @ Autopsy
1339	20 y M				A/C	Ingst	Int-S	2		
		antihistamine	1	1						
		doxylamine	2	2						
		opioid	3	3						
		benzodiazepine	4	4						
1340ha	22 y F				A	Ingst	Int-S	1		
		diphenhydramine	1	1					diphenhydramine	12.3 mg/L In Serum @ Autopsy
		diphenhydramine	1	1					diphenhydramine	31.2 mg/kg In Liver @ Autopsy
1341a	25 y F				U	Ingst	Int-S	1		
		diphenhydramine	1	1						
		ethanol	2	2					ethanol	39 mg/dL In Serum @ Unknown
		cocaine	3	3					cocaethylene	22 ng/mL In Serum @ Unknown
		cocaine	3	3					benzoylecognine	744 ng/mL In Serum @ Unknown
		quetiapine	4	4						
1342pai	28 y M				A	Ingst	Int-S	1		
		diphenhydramine	1	1					diphenhydramine	9.9 mg/L In Blood (unspecified) @ Autopsy
1343ha	29 y F				A	Ingst	Unk	1		
		diphenhydramine	1	1					diphenhydramine	40000 ng/mL In Blood (unspecified) @ Autopsy
		methadone	2	2					eddp (2-ethylidene-1,5-dimethyl-3,3-diphenyl pyrrolidine)	250 ng/mL In Blood (unspecified) @ Autopsy
		methadone	2	2					methadone	490 ng/mL In Blood (unspecified) @ Autopsy
		lithium	3	3					lithium	0 mEq/L In Blood (unspecified) @ Autopsy
1344ai	30 y F				U	Ingst	Int-S	2		
		diphenhydramine	1	1					diphenhydramine	11.5 mcg/mL In Whole Blood @ Autopsy
		doxylamine	2	2					doxylamine	0.63 mcg/mL In Whole Blood @ Autopsy
[1345a]	31 y M				A	Ingst	Int-S	1		
		diphenhydramine	1	1					diphenhydramine	3.3 mg/L In Blood (unspecified) @ Autopsy
[1346ph]	32 y M				A	Ingst	Int-S	1		
		diphenhydramine	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1347	36 y F				A	Ingst	Int-S	1		
		diphenhydramine	1	1						
1348	37 y F				A/C	Ingst	Int-S	3		
		hydroxyzine	1	1						
1349pha	38 y M				A/C	Ingst	Int-S	1		
		diphenhydramine	1	1					diphenhydramine	4.115 mg/L In Blood (unspecified) @ Unknown
		diphenhydramine	1	1					diphenhydramine	9.605 mg/L In Blood (unspecified) @ Autopsy
		metoprolol	2	2						
		hydrochlorothiazide/valsartan	3	3						
		ethanol	4	4						
1350pai	39 y M				A	Ingst	Int-M	1		
		diphenhydramine	1	1						
		doxylamine	2	2						
		dextromethorphan	3	3						
1351a	41 y F				A	Ingst	Int-S	2		
		diphenhydramine	1	1						
		salicylate	2	2					salicylate	43 mg/dL In Plasma @ Unknown
		ethanol	3	3						
1352ha	47 y F				A	Rec	Unt-T	3		
		promethazine	1	1						
1353a	48 y F				A	Ingst	Int-S	1		
		diphenhydramine	1	1					diphenhydramine	37 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	1300 ng/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	3900 ng/mL In Whole Blood @ Autopsy
1354h	50 y F				C	Ingst	Int-M	3		
		hydroxyzine	1	1						
1355	51 y M				A	Ingst	Int-S	2		
		diphenhydramine	1	1						
		glyphosate	2	2						
		valproic acid (extended release)	3	3						
		ziprasidone	4	4						
1356ha	53 y F				A	Ingst	Int-U	2		
		diphenhydramine	1	1					diphenhydramine	6.8 mg/L In Blood (unspecified) @ Unknown
		fluoxetine	2	2						
		risperidone	3	3						
		oxybutynin	4	4						
1357	57 y F				A/C	Ingst	Int-S	1		
		diphenhydramine	1	1						
		lamotrigine	2	2						
		escitalopram	3	3						
		aripiprazole	4	4						
1358ai	68 y F				U	Ingst	Int-A	2		
		diphenhydramine	1	1					diphenhydramine	1.6 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2					codeine	1.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	8.4 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	8.9 mcg/mL In Whole Blood @ Autopsy
		phenobarbital	4	4					phenobarbital	14.8 mcg/mL In Whole Blood @ Autopsy
		temazepam	5	5						
1359	Unknown age M				A	Par	Unt-U	2		
		diphenhydramine	1	1						

See Also case 40, 45, 69, 90, 202, 204, 210, 218, 323, 372, 385, 408, 424, 434, 446, 503, 506, 530, 545, 565, 573, 586, 588, 598, 603, 604, 612, 620, 629, 650, 656, 667, 683, 690, 699, 723, 731, 733, 749, 766, 773, 778, 787, 789, 797, 823, 830, 847, 850, 858, 886, 905, 915, 939, 943, 970, 976, 982, 995, 1016, 1024, 1041, 1070, 1143, 1152, 1159, 1183, 1213, 1240, 1249, 1263, 1283, 1288, 1293, 1298, 1299, 1300, 1306, 1309, 1319, 1322, 1361, 1383, 1392, 1398, 1400, 1426, 1435, 1436, 1438, 1457, 1462, 1469, 1543, 1591, 1593, 1595, 1612, 1642, 1654, 1661, 1673, 1682, 1689, 1691, 1694, 1737, 1750, 1775, 1799, 1801, 1931, 1942

Antimicrobials

[1360h]	33 y F				A/C	Ingst	Int-S	1		
		amantadine	1	1					amantadine	15508 ng/mL In Serum @ 21.8 h (pe)
		amantadine	1	1					amantadine	20508 ng/mL In Serum @ 10.5 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		amantadine	1	1					amantadine	3960 ng/mL In Serum @ 1.5 h (pe)
		diazepam	2	2						
		clonazepam	3	3						
1361pi	39 y M				U	Ingst	Unk	2		
		amoxicilllin	1	1						
		ranitidine	2	2						
		trazodone	3	3						
		acetaminophen/hydrocodone	4	4						
		alprazolam	5	5						
		methadone	6	6						
		amoxicillin	7	7						
1362p	48 y F				A	Par	Int-S	2		
		tilmicosin	1	1						
1363	50 y M				A	Ingst+ Par	Int-S	3		
		tilmicosin	1	1						
		ethanol	2	2						
[1364ph]	51 y M				A	Par	Int-S	2		
		tilmicosin	1	1						
1365	56 y M				C	Ingst	AR-D	2		
		clarithromycin	1	1						
1366ha	58 y M				C	Ingst	AR-D	2		
		nitrofurantoin	1	1						
1367	58 y M				A/C	Ingst	Int-S	2		
		didanosine	1	1						
		darunavir	2	2						
		gabapentin	3	3						
		atorvastain	4	4						
		ritonavir	5	5						
1368	6 m M				A	Par	Unt-T	1		
		azithromycin	1	1						
1369p	Unknown adult (> = 20 yrs) M				A	Par	Int-S	2		
		tilmicosin	1	1						
See Also case 97, 160, 613, 683, 858, 1155, 1258, 1289, 1290, 1328, 1331, 1378, 1430, 1523, 1658, 1688, 1689, 1817, 1851, 1887, 1946										
Antineoplastics										
1370h	43 y M				A	Ingst+ Par	AR-D	3		
		ifosfamide	1	1						
		ethanol	2	2					ethanol	150 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	3	3					acetaminophen	24 mcg/mL In Blood (unspecified) @ Unknown
1371	52 y F				C	Ingst	Unk	3		
		methotrexate	1	1						
1372ai	63 y M				U	Ingst	Unt-T	1		
		methotrexate	1	1						
See Also case 532										
Asthma Therapies										
1373	53 y F				C	Ingst	Unt-T	3		
		theophylline	1	1					theophylline	19.7 mg/L In Whole Blood @ 32 h (pe)
		theophylline	1	1					theophylline	28 mg/L In Blood (unspecified) @ 17 h (pe)
		theophylline	1	1					theophylline	44.2 mg/L In Blood (unspecified) @ 5 h (pe)
		theophylline	1	1					theophylline	44.8 mg/L In Blood (unspecified) @ Unknown
		amlodipine	2	2						
		activated charcoal	3	3						
1374	72 y F				C	Ingst	AR-D	3		
		theophylline	1	1					theophylline	40 mcg/mL In Serum @ Unknown
1375h	80 y F				C	Ingst	AR-D	3		
		theophylline	1	1					theophylline	51.9 mcg/mL In Blood (unspecified) @ Unknown
[1376h]	82 y F				C	Ingst	Unk	2		
		theophylline	1	1					theophylline	76 mg/L In Serum @ 10 h (pe)
		theophylline	1	1					theophylline	83 mg/L In Serum @ 0 h (pe)
1377	84 y M				A/C	Ingst	AR-D	3		
		theophylline	1	1						
See Also case 1090, 1300										

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
Cardiovascular Drugs										
1378a	15 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		clonazepam	2	2						
		tadalafil	3	3						
		acetaminophen/ diphenhydramine	4	4						
		azithromycin	5	5						
1379pa	19 y M				A/C	Ingst	Int-S	1		
		flecainide	1	1					flecainide	5.1 mcg/mL In Blood (unspecified) @ Unknown
1380h	21 y M				A/C	Ingst	Int-S	1		
		verapamil	1	1						
1381	22 y M				A/C	Ingst	Unk	2		
		metoprolol	1	1						
		verapamil	2	2						
		atenolol	3	3						
		amlodipine	4	4						
1382ai	22 y M				U	Ingst+ Unk	Int-A	2		
		metoprolol	1	1					metoprolol	54.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.03 % (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.1 % (wt/Vol) In Whole Blood @ Autopsy
		trazodone	3	3						
		fentanyl	4	4						
		diazepam	5	5						
		zolpidem	6	6						
		quetiapine	7	7						
		fluoxetine	8	8						
1383	25 y M				U	Ingst	Int-S	2		
		atenolol	1	1						
		salicylate	2	2					salicylate	65 mg/dL In Plasma @ Unknown
		acetaminophen/diphenhydramine	3	3					acetaminophen	150 mg/L In Plasma @ Unknown
		venlafaxine	4	4						
		perphenazine	5	5						
		ziprasidone	6	6						
		fluvoxamine	7	7						
		fexofenadine	8	8						
1384ha	26 y F				A/C	Ingst	Int-S	1		
		diltiazem	1	1					diltiazem	160 mg/kg In Liver @ Autopsy
		diltiazem	1	1					diltiazem	17 mg/L In Blood (unspecified) @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	0.83 mg/L In Blood (unspecified) @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	10 mg/kg In Liver @ Autopsy
		alprazolam	3	3					alprazolam	0.16 mg/L In Blood (unspecified) @ Autopsy
		foreign body	4	4						
1385h	27 y M				A	Ingst	Int-S	2		
		verapamil	1	1						
		beta blocker	2	2						
		citalopram	3	3						
		zolpidem	4	4						
		metformin	5	5						
[1386ha]	29 y F				A	Ingst	Int-S	1		
		flecainide	1	1					flecainide	36 mg/L In Blood (unspecified) @ Autopsy
		paroxetine	2	2					paroxetine	1.1 mg/L In Blood (unspecified) @ Autopsy
[1387pha]	30 y M				A/C	Ingst	Int-S	1		
		flecainide	1	1					flecainide	24 mg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	150 mg/dL In Plasma @ Unknown
1388ha	31 y F				A	Ingst+ Inhal	Int-S	1		
		verapamil	1	1						
		carvedilol	2	2						
		lisinopril	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		furosemide	4	4						
		levothyroxine	5	5						
		cocaine	6	6						
1389	31 y F				A	Ingst	Int-S	1		
		carvedilol	1	1						
		diltiazem	2	2						
		amlodipine	3	3						
		torsemide	4	4						
1390	31 y M				A	Ingst	Int-S	1		
		diltiazem (extended release)	1	1						
		lisinopril	2	2						
		mirtazapine	3	3						
1391	31 y M				A/C	Ingst	Int-S	2		
		verapamil	1	1						
		metoprolol	2	2						
		metoclopramide	3	3						
		hydrochlorothiazide/triamterene	4	4						
1392	31 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		losantan	2	2						
		salicylate	3	3						
		salicylate	4	4						
		metformin/sitagliptin	5	5						
		risperidone	6	6						
		sertraline	7	7						
		hydroxyzine	8	8						
		zolpidem	9	9						
		rosuvastatin	10	10						
1393pha	33 y M				A/C	Ingst	Int-S	2		
		beta blocker	1	1						
		lorazepam	2	2					alprazolam	16 ng/mL In Blood (unspecified) @ Autopsy
		lorazepam	2	2					clonazepam	27 ng/mL In Blood (unspecified) @ Autopsy
		lorazepam	2	2					7-aminoclonazepam	630 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	3	3					hydrocodone (free)	11 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	3	3					dihydrocodeine/hydrocodol (free)	15 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	3	3					morphine (free)	250 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	4	4					alprazolam	16 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	4	4					clonazepam	27 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	4	4					7-aminoclonazepam	630 ng/mL In Blood (unspecified) @ Autopsy
		raloxifene	5	5						
1394ph	33 y F				A	Ingst	Int-S	1		
		verapamil	1	1						
		metaxalone	2	2						
1395ha	36 y F				A/C	Ingst	Int-S	1		
		atenolol	1	1					atenolol	6 mg/L In Blood (unspecified) @ Autopsy
		salicylate	2	2					salicylate	19 mg/dL In Serum @ Unknown
1396pai	36 y F				A	Ingst	Int-S	1		
		atenolol	1	1						
1397	36 y F				A/C	Ingst	Int-S	2		
		propafenone	1	1						
1398pa	36 y F				A/C	Ingst	Int-S	1		
		propranolol	1	1					propranolol	3400 ng/mL In Whole Blood @ Autopsy
		acetaminophen*	3	2					acetaminophen	40 mcg/mL In Whole Blood @ Autopsy
		bupropion*	2	2					hydroxybupropion	240 ng/mL In Whole Blood @ Autopsy
		bupropion*	2	2					bupropion	350 ng/mL In Whole Blood @ Autopsy
		salicylate	4	4					salicylate	130 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diphenhydramine	5	5					diphenhydramine	210 ng/mL In Whole Blood @ Autopsy
[1399a]	38 y F				A	Ingst	Int-S	1		
		flecainide	1	1					flecainide	53 mg/L In Serum @ Autopsy
1400pai	38 y M				A	Ingst	Int-S	1		
		clonidine	1	1						
		clonazepam	2	2						
		promethazine	3	3						
		skeletal muscle relaxant	4	4						
1401	38 y M				A/C	Ingst	Int-S	1		
		verapamil	1	1						
		metoprolol	2	2						
1402ai	38 y F				U	Ingst	Int-S	2		
		verapamil	1	1					verapamil	11.1 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2					codeine	0.1 mcg/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	0.17 mcg/mL In Whole Blood @ Autopsy
1403a	38 y M				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		venlafaxine	2	2						
		acetaminophen/hydrocodone	3	3						
		haloperidol	4	4						
		triamterene	5	5						
		alprazolam	6	6						
		diclofenac	7	7						
1404	39 y M				A	Ingst	Int-S	2		
		amlodipine	1	1						
		metoprolol	2	2						
		metoprolol	3	3						
		metformin	4	4						
		hydrochlorothiazide	5	5						
		potassium chloride	6	6						
		furosemide	7	7						
		acetaminophen	8	8					acetaminophen	88 mcg/mL In Blood (unspecified) @ 1 h (pe)
1405	40 y F				A	Ingst	Int-S	1		
		metoprolol	1	1						
1406	40 y F				U	Ingst	Int-S	2		
		amlodipine/benazepril	1	1						
1407	40 y F				A	Ingst	Int-S	2		
		metoprolol	1	1						
		warfarin	2	2						
1408	40 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
1409	41 y F				A	Ingst	Int-S	1		
		verapamil	1	1						
		clonidine	2	2						
		acetaminophen/butalbital/caffeine	3	3						
		citalopram	4	4						
		ethanol	5	5						
1410p	41 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		amitriptyline	2	2						
		acetaminophen/opioid	3	3					acetaminophen	20.6 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	4	4						
		barbiturates (extended release)	5	5						
		benzodiazepine	6	6						
		naproxen	7	7						
1411	41 y F				A	Ingst	Int-S	1		
		verapamil	1	1						
1412	41 y M				A	Ingst	Int-S	2		
		metoprolol	1	1						
		potassium chloride	2	2						
1413	42 y F				A/C	Ingst	Int-S	1		
		calcium antagonist	1	1						
		trazodone	2	2						
		acetaminophen	3	3					acetaminophen	236 mcg/mL In Serum @ 14 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1414a	43 y M				A	Ingst	Int-S	1		
		beta blocker	1	1						
		flecainide	2	2						
1415	43 y F				A/C	Ingst	Int-S	1		
		verapamil	1	1						
1416ha	44 y M				A	Ingst	Int-S	1		
		verapamil	1	1					verapamil	6.47 mg/L In Blood (unspecified) @ Autopsy
		quetiapine	2	2					quetiapine	1.81 mg/L In Blood (unspecified) @ Autopsy
1417	45 y F				A	Ingst	Int-S	2		
		risperidone*	2	1						
		verapamil*	1	1						
		gemfibrozil	3	2						
		citalopram	4	3						
1418h	45 y F				A	Ingst	Int-S	1		
		verapamil	1	1						
1419h	45 y M				U	Ingst	Int-S	2		
		atorvistatin/amlodipine	1	1						
		glyburide/metformin	2	2						
		hydrochlothiazide/losartan	3	3						
		lisinopril	4	4						
		nitroglycerin	5	5						
1420h	45 y F				A	Ingst	Int-S	3		
		verapamil	1	1						
		lithium	2	2					lithium	1.2 mmol/L In Unknown @ Unknown
		lithium	2	2					lithium	1.7 mmol/L In Unknown @ Unknown
1421pai	46 y F				A	Ingst	Int-U	1		
		verapamil	1	1					verapamil	6.3 mg/L In Blood (unspecified) @ Autopsy
		morphine	2	2					morphine (free)	120 mcg/L In Blood (unspecified) @ Autopsy
		amitriptyline	3	3					amitriptyline	1.2 mg/L In Blood (unspecified) @ Autopsy
1422ha	46 y F				A	Ingst	Int-S	1		
		diltiazem (extended release)	1	1					diltiazem	240 ng/mL In Blood (unspecified) @ 3 h (pe)
1423h	46 y M				A	Ingst	Int-U	3		
		hydralazine	1	1						
1424ha	46 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		glipizide/metformin	2	2						
		hydrochlorothiazide	3	3						
		atorvastatin	4	4						
1425p	47 y M				A	Ingst	Int-S	1		
		verapamil	1	1						
		quetiapine	2	2						
		cyclobenzaprine	3	3						
1426h	47 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		hydroxyzine	2	2						
		furosemide	3	3						
		simvastatin	4	4						
		drug, unknown	5	5						
		alprazolam	6	6						
1427ha	47 y F				C	Ingst	Unt-M	3		
		clonidine	1	1					clonidine	6.2 ng/mL In Blood (unspecified) @ Unknown
		amlodipine	2	2						
1428h	47 y M				A	Ingst	Int-S	2		
		propranolol	1	1						
1429a	47 y M				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		lisinopril	2	2						
		beta blocker	3	3						
		salicylate	4	4						
		metformin	5	5						
1430	47 y F				A	Ingst	Int-S	1		
		nebivolol	1	1						
		quetiapine	2	2						
		metoprolol	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		pregabalin	4	4						
		duloxetine	5	5						
		antidepressant	6	6						
		thiazide	7	7						
		ciprofloxacin	8	8						
1431a	47 y M				U	Ingst+ Par	Int-S	1		
		diltiazem (extended release)	1	1						
		cocaine	2	2						
1432a	47 y M				A/C	Ingst	Int-S	1		
		diltiazem (extended release)	1	1						
1433	47 y F				A/C	Ingst	AR-D	2		
		diltiazem	1	1						
		citalopram	2	2						
		iron	3	3						
		acetaminophen/oxycodone	4	4						
		gabapentin	5	5						
		lisinopril	6	6						
		modafinil	7	7						
		trazodone	8	8						
		ethanol	9	9						
1434	48 y M				A/C	Ingst	Int-S	1		
		amlodipine/benazepril	1	1					amlodipine	130 ng/mL In Blood (unspecified) @ Autopsy
		nefazodone	2	2						
		quetiapine	3	3						
		lorazepam	4	4						
		clozapine	5	5						
1435	48 y M				A/C	Ingst	Int-S	3		
		clonidine	1	1						
		promethazine	2	2						
		lorazepam	3	3						
		chlordiazepoxide	4	4						
		paroxetine	5	5						
1436p	48 y F				A/C	Ingst	Int-S	1		
		propranolol	1	1						
		oxycodone	2	2						
		trazodone	3	3						
		clonazepam	4	4						
		hydroxyzine	5	5						
		risperidone	6	6						
		temazepam	7	7						
		benztropine	8	8						
		escitalopram	9	9						
		ondansetron	10	10						
1437h	48 y M				U	Ingst	Int-S	1		
		amlodipine	1	1						
1438h	49 y M				U	Ingst	Int-S	1		
		amlodipine/olmesartan	1	1						
		metoprolol (extended release)	2	2						
		fluoxetine	3	3						
		cimetidine	4	4						
1439h	49 y F				A/C	Ingst	Int-S	1		
		diltiazem	1	1						
		baclofen	2	2						
		acetaminophen/hydrocodone	3	3					acetaminophen	43 mcg/mL In Blood (unspecified) @ 1 h (pe)
		ethanol	4	4					ethanol	272 mg/dL In Whole Blood @ 1 h (pe)
		diazepam	5	5						
1440	49 y F				U	Ingst	Unk	3		
		metoprolol	1	1						
1441a	49 y M				U	Ingst	Int-S	1		
		verapamil	1	1					verapamil	1.6 mg/L In Blood (unspecified) @ Unknown
1442ph	50 y F				U	Ingst	Int-S	2		
		verapamil	1	1						
		alprazolam	2	2						
1443pa	51 y M				A/C	Ingst	Int-S	1		
		atenolol	1	1					atenolol	3700 ng/mL In Blood (unspecified) @ 6 h (pe)
		trazodone	2	2					trazodone	1.9 mcg/mL In Blood (unspecified) @ 6 h (pe)

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		citalopram	3	3					citralopram	1700 ng/mL In Blood (unspecified) @ 6 h (pe)
1444ha	51 y F				A	Ingst	Int-S	1		
		carvedilol*	2	1						
		diltiazem*	3	1					diltiazem	2.4 mg/L In Blood (unspecified) @ Autopsy
		dofetilide*	1	1						
		bupropion	4	4					threobupropion	0.7 mg/L In Blood (unspecified) @ Autopsy
		ramipril	5	5						
1445p	51 y F				A	Ingst	Int-S	2		
		nifedipine	1	1						
1446h	53 y F				A/C	Ingst	Int-S	1		
		diltiazem	1	1						
1447pai	53 y M				A	Ingst	AR-D	1		
		lisinopril	1	1						
1448h	53 y M				A/C	Ingst	Int-S	1		
		diltiazem	1	1					diltiazem	100 ng/mL In Serum @ 5 d (pe)
		propranolol	2	2					propranolol	53 ng/mL In Serum @ 5 d (pe)
		warfarin	3	3						
1449	53 y M				A	Ingst	Int-S	3		
		verapamil	1	1						
		quinapril	2	2						
		cocaine	3	3						
1450h	53 y F				U	Ingst	Int-S	2		
		verapamil	1	1						
		metformin	2	2						
1451	53 y F				A	Ingst	Int-S	1		
		calcium antagonist	1	1						
		benzodiazepine	2	2						
		desipramine	3	3						
		chlorpromazine	4	4						
1452a	54 y F				A	Ingst	Int-S	1		
		diltiazem (extended release)	1	1						
		warfarin	2	2						
		propranolol	3	3						
1453	54 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
1454	54 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
1455ha	54 y M				A	Ingst	Int-S	1		
		atenolol	1	1					atenolol	7800 ng/mL In Serum @ 2.5 h (pe)
		amlodipine	2	2						
		hydrochlorothiazide/lisinopril	3	3						
		ethanol	4	4					ethanol	7 mg/dL In Serum @ 1 h (pe)
1456	54 y M				C	Ingst	AR-D	2		
		flecainide	1	1						
1457	54 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1					amlodipine	78 ng/mL In Blood (unspecified) @ Unknown
		lisinopril	2	2						
		gabapentin	3	3						
		buspirone	4	4						
		lamotrigine	5	5						
		risperidone	6	6						
		oxcabazepine	7	7						
		hydroxyzine	8	8						
		fluoxetine	9	9						
1458h	55 y F				A	Ingst	Int-S	1		
		diltiazem (extended release)	1	1					diltiazem	0.99 mg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	0.07 % In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	99 mg/dL In Serum @ Unknown
1459h	55 y F				A/C	Ingst	Int-S	2		
		diltiazem (extended release)	1	1						
		carisoprodol	2	2						
		triazolam	3	3						
		alprazolam	4	4						
		lisinopril	5	5						
1460	55 y M				A/C	Ingst	Unt-T	2		
		verapamil	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1461ha	55 y F				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		metoprolol	2	2					metoprolol	160 ng/mL In Blood (unspecified) @ Unknown
		metoprolol	2	2					amlodipine	96 ng/mL In Blood (unspecified) @ Unknown
1462	55 y M				A	Ingst	Int-S	2		
		beta blocker	1	1						
		salicylate	2	2					salicylate	6.1 mg/dL In Serum @ Unknown
		diphenhydramine	3	3						
1463	56 y F				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	2.8 ng/mL In Blood (unspecified) @ Unknown
1464	56 y F				A/C	Ingst	Int-S	2		
		diltiazem (extended release)	1	1						
		metoprolol	2	2						
		acetaminophen*	3	3						
		lisinopril*	4	3						
1465a	57 y F				A/C	Ingst	Int-S	2		
		atenolol	1	1						
		verapamil	2	2					verapamil	9200 ng/mL In Blood (unspecified) @ Autopsy
1466	57 y M				A/C	Ingst	Int-S	1		
		diltiazem (extended release)	1	1					diltiazem	5.4 mcg/mL In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaine	0.089 mcg/mL In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	1.3 mcg/mL In Blood (unspecified) @ Autopsy
		diazepam	3	3					diazepam	0.04 mcg/mL In Blood (unspecified) @ Autopsy
		diazepam	3	3					nordiazepam	0.11 mcg/mL In Blood (unspecified) @ Autopsy
		tramadol	4	4					tramadol	0.1 mcg/mL In Blood (unspecified) @ Autopsy
		carvedilol	5	5						
		lisinopril	6	6						
		amiodarone	7	7						
1467	57 y F				A/C	Ingst	Int-S	2		
		hydrochlorothiazide/ olmesartan	1	1						
		lamotrigine	2	2						
		venlafaxine	3	3						
1468a	57 y M				A/C	Ingst	Int-S	1		
		beta blocker	1	1						
		diltiazem (extended release)	2	2						
		ephedrine	3	3						
1469pa	57 y F				A	Ingst	Int-S	1		
		atenolol	1	1					atenolol	37757 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	3474 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	2	2					acetaminophen	359 mcg/mL In Blood (unspecified) @ Autopsy
		citalopram	3	3					citalopram	1048 ng/mL In Blood (unspecified) @ Autopsy
		oxycodone	4	4					oxycodone	575 ng/mL In Blood (unspecified) @ Autopsy
		hydromorphone	5	5					hydromorphone	9.5 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	6	6					7-aminoclonaze- pam	241 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	6	6					nordiazepam	72.2 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	6	6					clonazepam	8.9 ng/mL In Blood (unspecified) @ Autopsy
		brompheniramine	7	7					brompheniramine	90 ng/mL In Blood (unspecified) @ Autopsy
		gabapentin	8	8					gabapentin	3.8 ng/mL In Blood (unspecified) @ Autopsy
		ibuprofen	9	9						
		acetaminophen	10	10						
		celecoxib	11	11						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1470p	58 y F				U	Ingst	Int-U	2		
		metoprolol	1	1						
1471pa	59 y F				A	Ingst	Int-S	1		
		diltiazem	1	1					diltiazem	1.45 mg/L In Blood (unspecified) @ Unknown
		lisinopril	2	2						
1472	60 y M				A	Ingst	Int-S	1		
		digoxin	1	1					digoxin	11 ng/mL In Serum @ 2 h (pe)
		digoxin	1	1					digoxin	5 ng/mL In Serum @ 3 h (pe)
		metoprolol	2	2						
		acetaminophen/hydrocodone	3	3						
		diazepam	4	4						
		drug, unknown	5	5						
1473	60 y F				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		metoprolol	2	2						
		potassium salts	3	3						
		metformin	4	4						
		hydrocodone	5	5						
		salicylate	6	6						
		acetaminophen	7	7						
1474	60 y M				U	Ingst	AR-D	2		
		cardiac glycoside	1	1						
1475a	60 y M				A/C	Ingst	Int-S	2		
		verapamil	1	1					verapamil	2.9 mg/L In Blood (unspecified) @ Autopsy
		metoprolol (extended release)	2	2						
1476pha	61 y F				U	Ingst	Int-S	1		
		propranolol	1	1					propranolol	2995 ng/mL In Whole Blood @ Unknown
		amitriptyline	2	2					amitriptyline	3000 ng/mL In Whole Blood @ Autopsy
		laxative (stimulant)	3	3					norsertraline	1118 ng/mL In Blood (unspecified) @ Autopsy
		laxative (stimulant)	3	3					sertraline	377 ng/mL In Blood (unspecified) @ Autopsy
1477h	61 y F				A	Ingst	Int-S	1		
		verapamil	1	1					verapamil	0.99 mg/L In Blood (unspecified) @ Autopsy
		topiramate	2	2						
1478	61 y M				A	Ingst	Int-S	2		
		calcium antagonist	1	1						
		levothyroxine	2	2						
1479ha	61 y F				A	Ingst	Int-S	1		
		metoprolol	1	1					metoprolol	68000 ng/mL In Blood (unspecified) @ Autopsy
		trazodone	2	2					trazodone	3.6 mcg/mL In Blood (unspecified) @ Autopsy
		cyclobenzaprine*	3	3						
		fluoxetine*	4	3					fluoxetine	340 ng/mL In Blood (unspecified) @ Autopsy
1480	61 y M				A	Ingst	AR-D	2		
		flecainide	1	1						
1481	62 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		bupropion (extended release)	2	2						
		risperidone	3	3						
		valproic acid (extended release)	4	4						
		angiotensin-converting enzyme inhibitor	5	5						
1482ha	62 y F				A	Ingst	Int-S	2		
		verapamil	1	1						
		escitalopram	2	2						
1483ha	62 y M				U	Ingst	Int-U	2		
		beta blocker	1	1						
		paroxetine	2	2					paroxetine	1.5 mg/L In Blood (unspecified) @ Autopsy
		3,4-Methylenedioxypyrovalerone (MDPV) *	3	3						
		amiodarone *	4	3						
1484	63 y F				A/C	Ingst	Int-S	2		
		verapamil	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1485	63 y F				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		metoprolol	2	2						
		olanzapine	3	3						
		risperidone	4	4						
		valproic acid (extended release)	5	5						
		lisinopril	6	6						
		acetaminophen/hydrocodone	7	7						
1486h	63 y M				A/C	Ingst	Int-S	2		
		verapamil	1	1						
		bupropion (extended release)	2	2						
		mirtazapine	3	3						
		valproic acid	4	4						
		tolteroddine	5	5						
		tamulosin	6	6						
		zolpidem	7	7						
1487pa	63 y M				A/C	Ingst	Int-S	1		
		nifedipine (extended release)*	2	1						
		nifedipine*	1	1					nifedipine	680 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	3	2					ethanol	190 mg/dL In Blood (unspecified) @ Autopsy
1488h	64 y F				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	3.41 ng/mL In Blood (unspecified) @ Unknown
1489	64 y F				A/C	Ingst	Int-S	2		
		diltiazem (extended release)	1	1						
1490ai	64 y F				U	Ingst	Int-A	2		
		verapamil	1	1					verapamil	3 mcg/mL In Blood (unspecified) @ Unknown
1491	65 y M				A	Ingst	Int-S	2		
		metoprolol	1	1						
		calcium antagonist	2	2						
		gabapentin	3	3						
		quetiapine	4	4						
		escitalopram	5	5						
		acetaminophen/codeine	6	6						
		benzodiazepine	7	7						
		eszopiclone	8	8						
		simvastatin	9	9						
1492	65 y F				A/C	Ingst	Int-S	1		
		propafenone	1	1						
1493h	66 y F				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	2.3 ng/mL In Blood (unspecified) @ Unknown
1494h	66 y F				U	Ingst	Unk	3		
		amlodipine	1	1						
1495	67 y F				C	Ingst	AR-D	3		
		digoxin	1	1					digoxin	2.7 mcg/L In Blood (unspecified) @ Unknown
		metformin	2	2						
1496	67 y M				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		diltiazem (extended release)	2	2						
		labetalol	3	3						
		metoprolol	4	4						
		acetaminophen	5	5						
		sertraline	6	6						
1497a	68 y F				A/C	Ingst	Int-S	1		
		verapamil	1	1					verapamil	1.4 mcg/mL In Whole Blood @ Autopsy
1498	68 y F				A/C	Ingst	Int-S	1		
		diltiazem (extended release)	1	1						
		zolpidem	2	2						
		ethanol	3	3						
1499	68 y M				U	Ingst	Int-S	1		
		amlodipine	1	1						
		carvedilol	2	2						
1500	69 y F				C	Ingst	AR-D	3		
		digoxin	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1501ph	70 y M				A/C	Ingst	Int-S	2		
		metoprolol	1	1						
		glipizide	2	2						
		acetaminophen/hydrocodone	3	3						
		zolpidem	4	4						
		metformin	5	5						
1502	71 y M				A	Ingst	Int-S	3		
		lisinopril	1	1						
		morphine	2	2						
1503a	71 y F				A/C	Ingst	Int-S	2		
		propranolol	1	1						
		metformin	2	2						
		sertraline	3	3					sertraline	18 ng/mL In Serum @ Unknown
		acetaminophen/oxycodone	4	4					acetaminophen	26 mcg/mL In Serum @ Unknown
		acetaminophen/oxycodone	4	4					oxycodone (free)	58 ng/mL In Serum @ Unknown
		pregabalin	5	5						
		lisinopril	6	6						
1504a	72 y F				A	Ingst	Int-S	1		
		diltiazem	1	1					diltiazem	5200 ng/mL In Blood (unspecified) @ Unknown
1505h	72 y F				A/C	Ingst	AR-D	3		
		digoxin	1	1					digoxin	2.1 ng/mL In Serum @ 106 h (pe)
		digoxin	1	1					digoxin	2.3 ng/mL In Serum @ 82 h (pe)
		digoxin	1	1					digoxin	2.4 ng/mL In Serum @ 15 h (pe)
		digoxin	1	1					digoxin	2.8 ng/mL In Serum @ 20 m (pe)
		digoxin	1	1					digoxin	2.8 ng/mL In Serum @ 34 h (pe)
		digoxin	1	1					digoxin	2.8 ng/mL In Serum @ 58 h (pe)
1506h	73 y F				A/C	Ingst	Int-S	2		
		atenolol	1	1						
		amlodipine	2	2						
		furosemide	3	3						
1507ha	74 y F				A/C	Ingst	Int-S	1		
		amlodipine	1	1						
		lamotrigine	2	2					lamotrigine	9.3 mcg/mL In Serum @ 15 m (pe)
		allopurinol	3	3						
		furosemide	4	4						
		methylprednisolone	5	5						
		levothyroxine	6	6						
1508	74 y F				A/C	Unk	Unk	3		
		cardiac glycoside	1	1						
		diltiazem	2	2						
		metoprolol	3	3						
		warfarin	4	4						
		dabigatran	5	5						
1509	74 y F				A	Ingst	Int-S	1		
		amlodipine	1	1						
1510	74 y M				A/C	Ingst	Int-S	2		
		calcium antagonist	1	1						
		MAO inhibitors	2	2						
1511h	74 y M				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	1.99 ng/mL In Serum @ Unknown
		cardiac glycoside	1	1					digoxin	2.25 ng/mL In Serum @ Unknown
		cardiac glycoside	1	1					digoxin	2.65 ng/mL In Serum @ Unknown
1512	75 y F				A/C	Ingst	Unt-T	3		
		diltiazem (extended release)	1	1						
		acetaminophen	2	2						
1513	76 y F				U	Ingst	Unt-G	1		
		verapamil	1	1					verapamil	5.4 mg/L In Blood (unspecified) @ Autopsy
		lisinopril	2	2						
		metformin	3	3						
1514h	76 y M				A	Ingst	Int-S	1		
		amlodipine	1	1						
		hydrochlorothiazide/loartan	2	2						
1515h	76 y M				A/C	Ingst	Int-S	2		
		digoxin	1	1					digoxin	25.9 ng/mL In Blood (unspecified) @ 12 h (pe)
		warfarin	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1516	77 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
1517	79 y F				A/C	Ingst	Int-S	1		
		propranolol	1	1						
		citalopram	2	2						
		calcium antagonist	3	3						
		lisinopril	4	4						
		ethanol	5	5						
1518pai	80 y M				A	Ingst	AR-D	1		
		amiodarone	1	1						
1519a	80 y M				C	Ingst	Unt-T	1		
		verapamil	1	1					verapamil	1000 ng/mL In Whole Blood @ 5 m (pe)
1520p	80 y M				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	2.5 ng/mL In Serum @ Unknown
1521	82 y M				A	Ingst	Unt-T	3		
		amlodipine	1	1						
		lisinopril	2	2						
1522	84 y M				A	Ingst	Int-S	1		
		amlodipine/benazepril	1	1						
		camphor	2	2						
1523h	84 y F				A/C	Ingst	Int-S	1		
		beta blocker	1	1						
		cyclic antipepressant/ phenothiazine	2	2						
		flurazepam	3	3						
		antacid (proton pump inhibitor)	4	4						
		metronidazole	5	5						
		antibiotic, unknown	6	6						
1524h	84 y M				A/C	Ingst	Int-S	1		
		metoprolol	1	1						
		diltiazem (extended release)	2	2						
1525	86 y F				C	Ingst	Unk	2		
		cardiac glycoside	1	1					digoxin	3.5 ng/mL In Blood (unspecified) @ Unknown
1526	86 y M				A	Ingst	Unt-T	1		
		verapamil	1	1						
		prazosin	2	2						
		metoprolol	3	3						
		metformin	4	4						
		glyburide	5	5						
		furosemide	6	6						
		omeprazole	7	7						
		potassium chloride	8	8						
1527h	87 y F				U	Ingst	Unk	2		
		diltiazem	1	1						
		metoprolol	2	2						
		cardiac glycoside	3	3						
1528h	88 y F				C	Ingst	AR-D	3		
		cardiac glycoside	1	1						
1529h	88 y F				A/C	Ingst	Unk	2		
		hydrochlorothiazide/ metoprolol	1	1						
1530p	90 y F				A	Ingst	Int-S	1		
		cardiac glycoside	1	1						
1531	90 y F				C	Ingst	AR-D	3		
		cardiac glycoside	1	1					digoxin	3.4 ng/mL In Serum @ Unknown
1532	90 y F				A/C	Ingst	AR-D	2		
		cardiac glycoside	1	1					digoxin	4.7 ng/mL In Blood (unspecified) @ 1 h (pe)
1533	91 y F				A	Ingst	AR-D	2		
		cardiac glycoside	1	1						
1534	92 y F				U	Ingst	Unk	3		
		cardiac glycoside	1	1					digoxin	2.8 ng/mL In Serum @ 0 h (pe)
1535	92 y F				C	Ingst	AR-D	3		
		atenolol	1	1						
		lisinopril	2	2						
		sulindac	3	3						
1536h	97 y M				A	Ingst	Int-S	1		
		amlodipine	1	1						
		acetaminophen	2	2					acetaminophen	420 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ diphenhydramine	3	3						
1537	98 y F				C	Ingst	Unt-T	3		
		cardiac glycoside	1	1					digoxin	4.2 ng/mL In Unknown @ Unknown
		metoprolol	2	2						
1538	98 y F				C	Ingst	Unt-T	2		
		cardiac glycoside	1	1						
1539	40 + y M			A/C	Ingst	Int-S	1			
		verapamil	1	1						
1540h	40 + y M			A/C	Ingst	Int-S	2			
		verapamil	1	1						
		citalopram	2	2						
1541ph	50 + y M			A	Ingst	Int-S	2			
		propranolol	1	1						
1542	Unknown adult (> = 20 yrs) M			A	Ingst	Int-S	1			
		calcium antagonist	1	1						
		angiotensin-converting enzyme inhibitor	2	2						
See Also case 29, 95, 318, 325, 538, 604, 620, 726, 797, 800, 971, 989, 1024, 1031, 1037, 1053, 1117, 1141, 1155, 1186, 1209, 1218, 1222, 1224, 1226, 1231, 1248, 1265, 1275, 1287, 1290, 1299, 1300, 1304, 1308, 1309, 1310, 1319, 1328, 1331, 1349, 1367, 1373, 1556, 1568, 1570, 1572, 1576, 1583, 1616, 1618, 1647, 1656, 1695, 1699, 1768, 1886, 1887, 1889, 1913										
Cold and Cough Preparations										
1543p	17 y M				A	Ingst+ Unk	Int-S	3		
		dextromethorphan	1	1						
		antihistamine	2	2						
1544	20 y M				A	Ingst	Int-A	3		
		dextromethorphan	1	1						
		drug, unknown	2	2						
1545	20 y M				C	Ingst	Int-A	1		
		acetaminophen/dextrometho-rphan/doxalamine*	2	1						
		acetaminophen/dextrometho-rphan/doxylamine/ phenylephrine*	3	1						
		acetaminophen/dextrometho-rphan/phenylephrine*	1	1						
1546ai	21 y M				U	Ingst	Int-A	2		
		dextromethorphan	1	1					dextromethorphan	0.92 mcg/mL In Blood (unspecified) @ Unknown
		dextromethorphan	1	1					dextromethorphan	23.5 mg/kg In Liver @ Autopsy
1547h	51 y M				A	Ingst	Int-U	3		
		codeine/promethazine	1	1						
1548p	62 y F				U	Ingst	Unk	2		
		acetaminophen/dextrometho-rphan/doxylamine	1	1					acetaminophen	121 mcg/mL In Blood (unspecified) @ 1 h (pe)
		ethanol	2	2						
1549p	9 m M				A	Ingst	Unt-G	2		
		benzonatate	1	1						
See Also case 2, 9, 30, 210, 503, 518, 519, 656, 702, 733, 792, 904, 1319, 1344, 1350, 1553, 1759, 1803, 1805, 1886, 1920, 1929										
Dietary Supplements/Herbals/Homeopathic										
[1550pha]	14 y F				A	Ingst	AR-F	3		
		caffeine energy drink	1	1						
See Also case 63, 530, 1300, 1750										
Electrolytes and Minerals										
[1551pha]	4 y M				A	Ingst	AR-O	1		
		magnesium sulfate	1	1						
1552	7 y M				A/C	Ingst	Unt-T	2		
		sodium bicarbonate	1	1						
See Also case 1189, 1300, 1328, 1404, 1412, 1433, 1473, 1526, 1688										
Gastrointestinal Preparations										
1553p	21 y M				A/C	Ingst	Int-A	3		
		loperamide	1	1						
		dextromethorphan	2	2						
1554h	68 y M				C	Ingst	AR-D	3		
		metoclopramide	1	1						
		oxycodone	2	2						
1555p	73 y F				C	Ingst	Int-M	2		
		magnesium citrate	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
See Also case 446, 531, 719, 807, 826, 857, 881, 896, 1024, 1037, 1104, 1186, 1298, 1300, 1328, 1336, 1356, 1391, 1436, 1486, 1523, 1526, 1659, 1683, 1689, 1769										
Hormones and Hormone Antagonists										
1556pha	33 y F				A	Ingst	Int-S	2		
		insulin	1	1						
		glimepiride	2	2						
		metformin	3	3						
		citalopram	4	4					citalopram	414 ng/mL In Serum @ 5 h (pe)
		cleaner (household)	5	5						
		hydrochlorothiazide/lisinopril	6	6						
		trazodone	7	7					trazodone	582 ng/mL In Serum @ 5 h (pe)
		pravastatin	8	8						
1557ha	35 y M				A/C	Ingst	Int-S	2		
		metformin	1	1					metformin	100 mcg/mL In Serum @ 25.5 h (pe)
		metformin	1	1					metformin	100 mcg/mL In Serum @ 29 h (pe)
		ibuprofen	2	2						
		cocaine	3	3						
		ethanol	4	4						
		alprazolam	5	5					alprazolam	0.02 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen/oxycodone	6	6						
1558	42 y M				A/C	Ingst	Int-S	1		
		metformin	1	1						
1559	42 y M				A	Ingst+ Par	Int-S	3		
		metformin	1	1						
		insulin	2	2						
		ethanol	3	3					ethanol	120 mg/dL In Blood (unspecified) @ Unknown
1560h	43 y M				A/C	Par	Int-S	2		
		insulin	1	1						
1561ai	44 y F				U	Ingst	Int-A	2		
		metformin	1	1					metformin	100 mcg/mL In Blood (unspecified) @ Unknown
1562	45 y F				C	Ingst	Unt-T	2		
		metformin	1	1						
		repaglinide	2	2						
1563	45 y M				A/C	Par	Int-S	1		
		insulin	1	1						
		insulin	2	2						
1564h	46 y M				A	Ingst	Int-S	1		
		metformin	1	1						
1565	46 y M				A	Ingst	Int-S	2		
		metformin	1	1						
1566	49 y M				A	Ingst	Int-U	1		
		metformin	1	1						
1567ha	50 y M				A/C	Ingst	Int-S	1		
		metformin	1	1					metformin	130 mcg/mL In Blood (unspecified) @ Unknown
		glyburide	2	2						
		ethanol	3	3						
1568	50 y F				C	Ingst	Int-S	2		
		metformin	1	1						
		amlodipine	2	2						
		risperidone	3	3						
		tramadol	4	4						
1569a	50 y F				A	Ingst	Int-S	2		
		metformin	1	1						
1570h	51 y F				A/C	Ingst	Int-S	2		
		insulin*	2	1						
		insulin*	4	1						
		quetiapine*	1	1						
		Saphris -black cherry*	3	1						
		lorazepam	5	3						
		gabapentin	6	4						
		carvedilol	7	7						
		atorvastatin	8	8						
1571	51 y F				A	Ingst	Int-S	1		
		insulin	1	1					insulin	86 Other (see abst) In Blood (unspecified) @ Unknown
		oral hypoglycemics	2	2						
		acetaminophen/butalbital/ caffeine	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1572	53 y M				A/C	Ingst	Int-S	2		
		metformin	1	1						
		carvedilol	2	2						
		lisinopril	3	3						
		salicylate	4	4						
		simvastatin	5	5						
1573	59 y M				A/C	Ingst	Int-S	1		
		metformin	1	1						
		ethanol	2	2						
1574h	59 y M				A	Ingst	Unt-M	1		
		metformin	1	1						
1575	60 y F				C	Ingst	Unk	3		
		metformin	1	1						
		insulin	2	2						
1576ph	60 y M				A	Ingst	Unt-G	3		
		metformin	1	1						
		etodolac	2	2						
		meloxicam	3	3						
		pioglitazone	4	4						
		pravastatin	5	5						
		simvastatin	6	6						
		rosuvastatin	7	7						
[1577a]	61 y F				A/C	Ingst	Int-S	1		
		metformin	1	1					metformin	230 mg/L In Blood (unspecified) @ Autopsy
1578	65 y M				A	Oth	Int-S	2		
		insulin	1	1						
1579ha	71 y F				A/C	Ingst	Int-U	1		
		metformin	1	1						
[1580ha]	71 y F				A/C	Par	Int-S	1		
		insulin	1	1						
1581	73 y M				A	Ingst+ Derm	Int-S	2		
		insulin	1	1						
		benzodiazepine	2	2						
1582h	74 y F				A/C	Ingst	AR-D	2		
		metformin	1	1						
		spironolactone	2	2						
		furosemide	3	3						
1583h	87 y F				A	Ingst	Unk	2		
		levothyroxine	1	1						
		cholestyramine	2	2						
See Also case 160, 316, 441, 627, 659, 989, 1031, 1141, 1155, 1214, 1263, 1294, 1300, 1328, 1385, 1388, 1392, 1393, 1404, 1419, 1424, 1429, 1450, 1473, 1478, 1482, 1495, 1501, 1503, 1507, 1513, 1526, 1661, 1685, 1689										
Miscellaneous Drugs										
1584	38 y F				U	Ingst	Unk	2		
		sirolimus	1	1						
[1585h]	60 y M				A/C	Par	AR-D	1		
		thioctic acid	1	1						
1586p	72 y M				A	Par	AR-D	1		
		infliximab	1	1						
See Also case 316, 429, 441, 591, 1167, 1201, 1234, 1253, 1308, 1310, 1507, 1616, 1682, 1688, 1689, 1717										
Muscle Relaxants										
1587ai	27 y F				U	Ingst	Int-A	2		
		skeletal muscle relaxant	1	1					carisoprodol	11.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	1	1					meprobamate	12.6 mcg/mL In Whole Blood @ Autopsy
		quetiapine	2	2						
		ethanol	3	3					ethanol	0.05 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.11 % (wt/Vol) In Vitreous @ Autopsy
1588ph	27 y M				A	Ingst	Int-S	1		
		cyclobenzaprine	1	1						
		methadone	2	2						
1589ph	28 y M				A/C	Ingst	Int-A	2		
		carisoprodol	1	1						
		acetaminophen/oxycodone	2	2					acetaminophen	18.7 mcg/mL In Unknown @ Unknown
1590ph	29 y F				A/C	Ingst	Int-A	2		
		carisoprodol	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	2	2						
		methadone	3	3						
		acetaminophen	4	4					acetaminophen	4.1 mcg/mL In Unknown @ Unknown
		salicylate	5	5					salicylate	10 mg/dL In Unknown @ Unknown
		salicylate	5	5					salicylate	7 mg/dL In Unknown @ Unknown
		ibuprofen	6	6						
1591ai	29 y F				U	Ingst	Int-S	2		
		tizanidine	1	1					tizanidine	540 ng/mL In Whole Blood @ Autopsy
		promethazine	2	2						
1592p	29 y F				A	Ingst	Int-S	2		
		carisoprodol	1	1						
		acetaminophen/oxycodone	2	2						
1593ha	31 y F				U	Ingst	Int-S	1		
		cyclobenzaprine	1	1					cyclobenzaprine	65 ng/mL In Blood (unspecified) @ Unknown
		quetiapine	2	2					quetiapine	61 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen/butalbital/ caffeine/codeine	3	3					codeine	0.025 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	4	4						
		temazepam	5	5						
		acetaminophen/oxycodone	6	6						
		loratadine	7	7						
1594pa	32 y F				U	Ingst	Int-S	1		
		skeletal muscle relaxant	1	1						
		hydrocodone	2	2					hydrocodone	0.1 mg/L In Blood (unspecified) @ Unknown
		acetaminophen*	4	3					acetaminophen	63 mcg/mL In Blood (unspecified) @ Unknown
		tramadol*	3	3					tramadol	0.748 mg/L In Blood (unspecified) @ Unknown
		drug, unknown	5	4						
1595p	33 y F				A	Ingst	Int-S	1		
		carisoprodol	1	1						
		methocarbamol	2	2						
		trazodone	3	3						
		topiramate	4	4						
		risperidone	5	5						
		cyclobenzaprine	6	6						
		antihistamine	7	7						
1596ph	34 y F				A	Ingst	Int-M	1		
		carisoprodol	1	1						
		alprazolam	2	2						
1597p	39 y M				U	Ingst	Int-S	3		
		carisoprodol	1	1						
		acetaminophen/oxycodone	2	2						
1598p	39 y F				A/C	Ingst	Int-S	2		
		carisoprodol	1	1						
		acetaminophen/hydrocodone	2	2					acetaminophen	111 mcg/mL In Blood (unspecified) @ 1 h (pe)
		oxycodone	3	3						
1599ai	43 y M				U	Ingst	Int-S	2		
		skeletal muscle relaxant	1	1					carisoprodol	22.6 mcg/mL In Whole Blood @ Autopsy
		meprobamate	2	2					meprobamate	9.9 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.08 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.11 % (wt/Vol) In Vitreous @ Autopsy
1600h	45 y M				A	Ingst	Int-S	2		
		carisoprodol	1	1						
		acetaminophen/hydrocodone	2	2						
		ethanol	3	3					ethanol	138 mg/dL In Blood (unspecified) @ Unknown
1601a	46 y F				A	Ingst	Int-S	3		
		cyclobenzaprine	1	1						
		alprazolam	2	2						
		salicylate	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen	4	4						
1602h	47 y M				U	Ingst	Int-S	2		
		carisoprodol	1	1						
		lorazepam	2	2						
1603ph	47 y F				A	Ingst	Int-S	2		
		carisoprodol	1	1						
		oxycodone	2	2						
		alprazolam	3	3						
1604h	48 y M				A/C	Ingst+ Aspir+ Par	Unt-T	3		
		baclofen	1	1						
1605ha	49 y F				A/C	Ingst	Int-S	3		
		baclofen	1	1						
1606	50 y F				A/C	Ingst	Int-S	3		
		baclofen	1	1						
1607ph	52 y F				A	Ingst	Int-S	2		
		carisoprodol	1	1						
		trazodone	2	2						
1608a	53 y F				A	Ingst	Int-S	1		
		baclofen	1	1						
		diazepam	2	2					diazepam	258 ng/mL In Whole Blood @ Unknown
		diazepam	2	2					nordiazepam	501 ng/mL In Whole Blood @ Unknown
		diazepam	2	2					temazepam	53 ng/mL In Whole Blood @ Unknown
		gabapentin	3	3						
		naproxen	4	4						
1609ai	53 y F				U	Ingst	Int-A	2		
		skeletal muscle relaxant	1	1					carisoprodol	13.7 mcg/mL In Blood (unspecified) @ Unknown
		skeletal muscle relaxant	1	1					meprobamate	24.5 mcg/mL In Blood (unspecified) @ Unknown
		meprobamate	2	2						
		oxycodone	3	3					oxycodone	0.25 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	4	4						
1610	54 y F				A/C	Ingst	Unk	2		
		carisoprodol	1	1						
		acetaminophen/hydrocodone	2	2						
1611ai	54 y M				U	Ingst+ Derm	Int-A	2		
		skeletal muscle relaxant	1	1					meprobamate	29.7 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	1	1					carisoprodol	6.6 mcg/mL In Whole Blood @ Autopsy
		fentanyl	2	2					fentanyl	25.6 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		oxycodone	4	4					oxycodone	0.05 mcg/mL In Whole Blood @ Autopsy
1612ai	56 y F				U	Ingst	Int-S	2		
		cyclobenzaprine	1	1					cyclobenzaprine	0.51 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2					citralopram	2 mcg/mL In Whole Blood @ Autopsy
		promethazine	3	3					promethazine	2.4 mcg/mL In Whole Blood @ Autopsy
1613ai	57 y M				U	Ingst	Int-A	2		
		skeletal muscle relaxant	1	1					carisoprodol	30.2 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	1	1					meprobamate	42.6 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.39 mcg/mL In Whole Blood @ Autopsy
1614pai	59 y F				A	Ingst	Int-S	1		
		skeletal muscle relaxant	1	1						
1615ai	59 y M				U	Ingst	Int-A	2		
		skeletal muscle relaxant	1	1					carisoprodol	29.3 mcg/mL In Whole Blood @ Autopsy
		meprobamate	2	2					meprobamate	50.8 mcg/mL In Whole Blood @ Autopsy
		temazepam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1616p	60 y F				A/C	Ingst	Int-S	1		
		tizanidine	1	1						
		amlodipine	2	2						
		aripiprazole	3	3						
		hydrocodone	4	4						
		oxycodone	5	5						
		fluoxetine	6	6						
		amitriptyline	7	7						
		zolpidem	8	8						
		hyoscyamine	9	9						
		hydrochlorothiazide	10	10						
		simvastatin	11	11						
		sumatriptan	12	12						
		acetaminophen	13	13					acetaminophen	23 mcg/mL In Blood (unspecified) @ Unknown
1617a	71 y F				A/C	Ingst	Int-S	2		
		cyclobenzaprine	1	1					cyclobenzaprine	13.8 ng/mL In Blood (unspecified) @ Autopsy
1618pai	74 y F				U	Ingst	Int-A	3		
		cyclobenzaprine	1	1					cyclobenzaprine	0.44 mcg/mL In Whole Blood @ Autopsy
		metoprolol	2	2						
		citalopram	3	3						
See Also case 21, 38, 81, 90, 92, 108, 205, 316, 318, 327, 343, 344, 350, 381, 387, 399, 401, 413, 432, 441, 463, 471, 476, 478, 479, 490, 496, 506, 507, 516, 524, 539, 565, 577, 590, 598, 603, 604, 606, 607, 615, 617, 624, 627, 634, 652, 663, 667, 677, 680, 681, 683, 689, 697, 698, 702, 712, 726, 734, 744, 754, 760, 761, 764, 765, 769, 779, 786, 791, 793, 808, 809, 814, 847, 857, 869, 881, 883, 884, 887, 889, 900, 929, 952, 955, 971, 982, 989, 996, 1000, 1003, 1008, 1013, 1016, 1024, 1062, 1086, 1091, 1117, 1135, 1155, 1166, 1183, 1233, 1234, 1290, 1291, 1302, 1308, 1310, 1324, 1358, 1384, 1394, 1400, 1425, 1439, 1459, 1479, 1629, 1644, 1661, 1670, 1673, 1678, 1680, 1689, 1704, 1750, 1769, 1865, 1874, 1905, 1909, 1945									
Sedative/Hypnotics/Antipsychotics										
1619	15 y M				A	Ingst	Int-S	1		
		quetiapine (extended release)	1	1					quetiapine	2.1 mg/L In Blood (unspecified) @ Autopsy
		quetiapine (extended release)	1	1					quetiapine	48222.8 mg/kg In Gastric (stomach content) @ Autopsy
		venlafaxine (extended release)	2	2					venlafaxine	12213.7 mg/kg In Gastric (stomach content) @ Autopsy
		venlafaxine (extended release)	2	2					venlafaxine	16.5 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/codeine	3	3					codeine	0.79 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/codeine	3	3					acetaminophen	59.6 mg/L In Blood (unspecified) @ Autopsy
1620a	18 y M				A	Ingst	Int-U	2		
		chlorpromazine	1	1						
		quetiapine	2	2						
		escitalopram	3	3						
		valproic acid	4	4						
1621pha	19 y M				A/C	Ingst	Int-S	2		
		clonazepam	1	1						
		zolpidem	2	2						
		butalbital	3	3						
		acetaminophen/hydrocodone	4	4						
		tramadol	5	5						
[1622pa]	19 y F				A/C	Ingst	Int-S	1		
		alprazolam	1	1					alprazolam	130 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	2	2					norfluoxetine	47 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	2	2					fluoxetine	49 ng/mL In Blood (unspecified) @ Unknown
1623p	19 y M				A	Ingst	Int-S	1		
		alprazolam	1	1						
		clomipramine	2	2						
1624i	19 y M				U	Ingst+ Inhal	Int-A	1		
		alprazolam	1	1						
		marijuana	2	2						
		fentanyl (transdermal)	3	3						
1625ph	20 y M				C	Ingst	Int-A	2		
		alprazolam	1	1						
		oxymorphone (extended release)	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1626p	21 y F				U	Ingst	Int-S	2		
		alprazolam	1	1						
1627ai	21 y F				U	Ingst	Int-A	2		
		chloral hydrate	1	1						38.5 mcg/mL In Whole Blood @ Autopsy
		chloral hydrate	1	1						65.1 mcg/mL In Blood (unspecified) @ Unknown
1628ai	22 y M				U	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	113 ng/mL In Blood (unspecified) @ Unknown
		tramadol	2	2					tramadol	4 mcg/mL In Blood (unspecified) @ Unknown
1629ha	23 y M				A/C	Ingst	Int-S	2		
		quetiapine	1	1						
1630ai	23 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	91 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.02 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.05 % (wt/Vol) In Vitreous @ Autopsy
1631p	23 y M				A	Inhal	Int-A	1		
		alprazolam	1	1						
		opioid	2	2						
		cocaine	3	3						
1632ai	24 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	122 ng/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.31 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3						
1633ph	25 y M				A	Unk	Unk	2		
		haloperidol	1	1						
		thorazine	2	2						
		lorazepam	3	3						
1634	26 y M				A	Ingst	Int-S	1		
		clonazepam	1	1						
		valproic acid (extended release)	2	2					valproic acid	2383 mcg/mL In Blood (unspecified) @ 21 h (pe)
1635pha	27 y M				A	Ingst	Int-S	1		
		alprazolam	1	1					alprazolam	260 ng/mL In Plasma @ Unknown
		ethanol	2	2						
		acetaminophen/hydrocodone	3	3					hydrocodone (free)	220 ng/mL In Plasma @ Unknown
		acetaminophen/hydrocodone	3	3					acetaminophen	47.8 mcg/mL In Plasma @ Unknown
		acetaminophen/hydrocodone	3	3					acetaminophen	53 mcg/mL In Plasma @ Unknown
1636ai	27 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	103 ng/mL In Blood (unspecified) @ Unknown
		meperidine	2	2						
1637ai	28 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	106 ng/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.05 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.08 % (wt/Vol) In Vitreous @ Autopsy
1638p	29 y M				A/C	Ingst	Int-S	2		
		ziprasidone	1	1						
		venlafaxine	2	2						
		quetiapine	3	3						
1639p	30 y M				A	Ingst	Int-S	2		
		clonazepam	1	1						
		antidepressant	2	2						
		antidepressant	3	3						
		opioid	4	4						
		cocaine	5	5						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1640pha	30 y F				A	Ingst	Int-A	1		
		alprazolam	1	1					alprazolam	0.04 mg/L In Blood (unspecified) @ Autopsy
		diazepam	2	2					diazepam	0.17 mg/dL In Blood (unspecified) @ Autopsy
		lorazepam	3	3					lorazepam	0.04 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	4	4					clonazepam	0.02 mg/L In Blood (unspecified) @ Autopsy
		marijuana	5	5					thc (tetrahydrocannabinol)	12 ng/mL In Blood (unspecified) @ Autopsy
1641ai	30 y F				U	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	350 ng/mL In Blood (unspecified) @ Unknown
		methadone	2	2					methadone	0.43 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	3	3					ethanol	0.13 % (wt/Vol) In Blood (unspecified) @ Unknown
		diazepam	4	4						
1642ph	32 y F				A	Ingst	Int-S	1		
		lorazepam	1	1						
		hydroxyzine	2	2						
		acetaminophen/diphenhydramine	3	3					acetaminophen	147.4 mcg/mL In Serum @ Unknown
		acetaminophen/diphenhydramine	3	3					acetaminophen	319.5 mcg/mL In Serum @ 8 h (pe)
		acetaminophen/diphenhydramine	3	3					acetaminophen	43 mcg/mL In Serum @ 46 h (pe)
1643pai	32 y F				A	Ingst	Int-U	1		
		zolpidem	1	1						
1644ai	32 y F				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	150 ng/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol (n-isopropyl meprobamate)	15.8 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					methadone metabolite	22.4 mcg/mL In Whole Blood @ Autopsy
1645ha	33 y M				A	Ingst	Int-S	1		
		clonazepam	1	1					clonazepam	65 ng/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					hydromorphone	2065 ng/mL In Urine (quantitative only) @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					acetaminophen	62 mcg/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					acetaminophen	78 mcg/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					hydrocodone	7929 ng/mL In Urine (quantitative only) @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					hydrocodone	93 ng/mL In Blood (unspecified) @ 1 h (pe)
1646ai	34 y F				U	Ingst+ Unk	Int-A	2		
		alprazolam	1	1					alprazolam	221 ng/mL In Whole Blood @ Autopsy
		fentanyl	2	2					fentanyl	6.3 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.02 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	0.03 % (wt/Vol) In Vitreous @ Autopsy
1647p	35 y F				U	Unk	Int-S	2		
		quetiapine	1	1						
		clonazepam	2	2					clonazepam	12 ng/mL In Blood (unspecified) @ Autopsy
		clonidine	3	3						
1648ha	35 y F				A	Ingst	Int-U	2		
		alprazolam	1	1					alprazolam	0.09 mg/L In Blood (unspecified) @ Autopsy
		lorazepam	2	2						
		acetaminophen/hydrocodone	3	3					hydrocodone	0.26 mg/L In Blood (unspecified) @ Autopsy
1649p	35 y M				A/C	Ingst	Int-S	2		
		alprazolam	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		naproxen	2	2						
		drug, unknown	3	3						
1650pai	36 y M				A	Ingst	Int-A	3		
		clonazepam	1	1					7-aminoclonazepam	36.1 ng/mL In Serum @ Autopsy
		ethanol	2	2					ethanol	0.209 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.235 % (wt/Vol) In Vitreous @ Autopsy
		oxycodone	3	3					oxycodone	19.9 ng/mL In Serum @ Autopsy
		marijuana	4	4					thc (tetrahydrocannabinol)	6.5 ng/mL In Serum @ Autopsy
1651	37 y F				A/C	Ingst	Int-S	2		
		ziprasidone	1	1						
		benztropine	2	2						
		bupropion (extended release)	3	3						
		chlordiazepoxide	4	4						
		clonazepam	5	5						
1652ai	38 y F				U	Ingst+ Unk	Int-A	2		
		diazepam	1	1						
		citalopram	2	2						
		fentanyl	3	3					fentanyl	25.8 ng/mL In Whole Blood @ Autopsy
1653	38 y F				A	Ingst+ Oth+ Unk	Int-U	3		
		alprazolam	1	1						
		hydromorphone	2	2						
		ethanol	3	3						
		drug, unknown	4	4						
1654	38 y M				A	Ingst	Int-S	2		
		benzodiazepine	1	1						
		ziprasidone	2	2						
		quetiapine (extended release)	3	3						
		quetiapine	4	4						
		duloxetine	5	5						
		duloxetine	6	6						
		diphenhydramine	7	7						
		lamotrigine	8	8						
		mirtazapine	9	9						
1655ai	39 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	144 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.12 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.14 % (wt/Vol) In Vitreous @ Autopsy
1656	39 y F				A	Ingst	Int-S	2		
		aripiprazole	1	1						
		bupropion (extended release)	2	2						
		desfenlafaxine	3	3						
		metoprolol (extended release)	4	4						
		butalbital/caffeine/salicylate	5	5					salicylate	0 mg/dL In Serum @ 15 h (pe)
1657	39 y F				A	Ingst	Int-S	1		
		quetiapine	1	1						
1658pai	40 y F				U	Unk	Unk	2		
		benzodiazepine	1	1					alprazolam	20 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone (free)	10 ng/mL In Whole Blood @ Autopsy
		quetiapine	3	3						
		paroxetine	4	4					paroxetine	290 ng/mL In Whole Blood @ Autopsy
		cephalexin	5	5						
1659a	41 y F				A/C	Ingst	Int-S	2		
		quetiapine	1	1					quetiapine	5500 ng/mL In Plasma @ Autopsy
		tramadol	2	2						
		alprazolam	3	3						
		clonazepam	4	4						
		senna	5	5						
		ethanol	6	6						
1660pha	41 y F				A	Ingst+ Par	Unt-T	3		
		midazolam	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		heroin	2	2					morphine	0.13 mg/L In Blood (unspecified) @ Unknown
		phenobarbital	3	3						
1661ha	42 y F				A	Ingst	Int-S	1		
		quetiapine	1	1					quetiapine	5800 ng/mL In Blood (unspecified) @ Autopsy
		hydroxyzine	2	2					hydroxyzine	7400 ng/mL In Blood (unspecified) @ Autopsy
		citalopram	3	3					citalopram	3500 ng/mL In Blood (unspecified) @ Autopsy
		escitalopram	4	4					escitalopram	3300 ng/mL In Blood (unspecified) @ Autopsy
		buspirone	5	5						
		cyclobenzaprine	6	6					cyclobenzaprine	73 ng/mL In Blood (unspecified) @ Autopsy
		levothyroxine	7	7						
1662	42 y M				A	Ingst	Int-S	2		
		clozapine	1	1						
		mirtazapine	2	2						
		clonazepam	3	3						
1663a	42 y F				A/C	Ingst	Int-S	2		
		quetiapine	1	1						
		oxycodone	2	2						
1664ai	43 y F				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	273 ng/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.36 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxymorphone	30 ng/mL In Whole Blood @ Autopsy
1665ha	43 y F				A/C	Ingst	Int-M	2		
		zolpidem	1	1					zolpidem	180 ng/mL In Blood (unspecified) @ Unknown
1666	44 y F				A	Ingst	Int-S	2		
		alprazolam	1	1						
		ethanol	2	2						
1667ai	44 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	371 ng/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.15 mcg/mL In Whole Blood @ Autopsy
1668p	44 y F				A/C	Ingst	Int-S	2		
		clozapine	1	1						
1669pai	46 y M				A	Ingst	Int-A	1		
		chlordiazepoxide	1	1						
		ethanol	2	2						
1670ai	46 y F				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	76 ng/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.14 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					carisoprodol	4.3 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3					meprobamate	6.4 mcg/mL In Whole Blood @ Autopsy
1671p	46 y M				A	Ingst	Int-S	2		
		lorazepam	1	1						
		gabapentin	2	2						
1672a	47 y M				A/C	Ingst	Int-S	2		
		olanzapine	1	1					olanzapine	2.5 mg/L In Blood (unspecified) @ Autopsy
		laxative (stimulant)	2	2					sertraline	0.1 mg/L In Blood (unspecified) @ Autopsy
1673ai	47 y F				U	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	369 ng/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	3.8 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	6.5 mg/kg In Brain @ Autopsy
		cyclobenzaprine	3	3						
		citalopram	4	4						
		promethazine	5	5						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1674	47 y F				A/C	Ingst+ Aspir	Int-S	3		
		quetiapine	1	1						
		gabapentin	2	2						
		bupropion	3	3						
		lorazepam	4	4						
		sertraline	5	5						
		oxcarbazepine	6	6						
1675pha	47 y F				A	Ingst+ Inhal	Int-S	1		
		barbiturate	1	1						
1676ai	48 y F				U	Ingst	Int-S	3		
		alprazolam	1	1					alprazolam	2.1 mg/kg In Liver @ Autopsy
		alprazolam	1	1					alprazolam	7.6 mg/kg In Brain @ Autopsy
		ethanol	2	2					ethanol	0.08 % (wt/Vol) In Whole Blood @ Autopsy
1677a	48 y M				A/C	Ingst	Int-S	1		
		clonazepam	1	1					clonazepam	9.4 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	325 mg/dL In Blood (unspecified) @ Autopsy
		isopropanol	3	3					isopropanol	1.5 mg/dL In Blood (unspecified) @ Autopsy
		isopropanol	3	3					acetone	3.5 mg/dL In Blood (unspecified) @ Autopsy
1678ai	49 y M				U	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	389 ng/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	1.1 mcg/mL In Whole Blood @ Autopsy
		citalopram	3	3						
		cyclobenzaprine	4	4						
		zolpidem	5	5						
1679a	49 y M				A/C	Ingst	Int-S	1		
		quetiapine	1	1					quetiapine	2000 ng/mL In Serum @ 5 h (pe)
1680ai	49 y F				U	Ingst	Int-A	2		
		meprobamate	1	1					meprobamate	44.8 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2					carisoprodol	13.8 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
1681pha	50 y F				A	Ingst	Unk	2		
		clozapine	1	1					clozapine	4.9 mg/L In Blood (unspecified) @ Autopsy
		valproic acid	2	2					valproic acid	200 mg/L In Blood (unspecified) @ Autopsy
1682ai	50 y F				U	Unk	Unk	2		
		alprazolam	1	1					alprazolam	31 ng/mL In Blood (unspecified) @ Autopsy
		bupropion	2	2					bupropion	100 ng/mL In Blood (unspecified) @ Autopsy
		bupropion	2	2					hydroxybupropion	260 ng/mL In Blood (unspecified) @ Autopsy
		donepezil	3	3					donepezil	560 ng/mL In Blood (unspecified) @ Autopsy
		hydroxyzine	4	4					hydroxyzine	660 ng/mL In Blood (unspecified) @ Autopsy
1683	50 y M				A	Ingst	Int-S	3		
		clonazepam*	1	1						
		quetiapine*	2	1						
		paroxitine	3	2						
		indomethacin (extended release)	4	3						
		omeprazole	5	4						
1684p	50 y M				A	Ingst	Int-S	2		
		quetiapine	1	1						
		ethanol	2	2						
1685	51 y F				A	Ingst	Int-S	1		
		chlorpromazine	1	1						
		temazepam	2	2						
		glimepiride	3	3						
		metformin/sitagliptin	4	4						
1686hi	51 y M				U	Ingst+ Par	Unt-T	3		
		haloperidol	1	1						
		ethanol	2	2					ethanol	235 mg/dL In Serum @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1687ai	52 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	222 ng/mL In Whole Blood @ Autopsy
1688ha	53 y F				A/C	Ingst	Int-S	2		
		quetiapine	1	1					quetiapine	0.27 mg/L In Blood (unspecified) @ Autopsy
		venlafaxine	2	2					venlafaxine	5 mg/L In Blood (unspecified) @ Autopsy
		calcium salts	3	3						
		amantadine	4	4						
		memantine	5	5						
1689p	53 y M				U	Ingst+ Par	Int-S	2		
		benzodiazepine	1	1						
		carisoprodol	2	2						
		lidocaine	3	3						
1690ai	53 y M				A	Ingst	Int-S	2		
		quetiapine	1	1					quetiapine	5.6 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2						
1691ai	53 y F				U	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	265 ng/mL In Whole Blood @ Autopsy
		promethazine	2	2						
1692p	54 y F				A	Ingst	Int-S	2		
		quetiapine	1	1						
		escitalopram	2	2						
		gabapentin	3	3						
1693	54 y F				A	Ingst	Int-S	3		
		quetiapine	1	1						
		lorazepam	2	2						
		benztropine	3	3						
1694pai	55 y M				A	Ingst	Int-U	1		
		alprazolam	1	1						
		methadone	2	2						
		oxycodone	3	3						
		diphenhydramine	4	4						
		olanzapine	5	5						
		anticonvulsant (pyrrolidinone)	6	6						
1695a	55 y M				U	Ingst+ Unk	Int-S	1		
		quetiapine	1	1					quetiapine	60 mg/L In Blood (unspecified) @ Unknown
		lisinopril	2	2						
		escitalopram	3	3					citalopram	11 mg/L In Blood (unspecified) @ Unknown
		trazodone	4	4					trazodone	2.3 mg/L In Blood (unspecified) @ Unknown
1696p	56 y F				A/C	Ingst	Int-S	2		
		olanzapine	1	1						
		bupropion (extended release)	2	2						
		lamotrigine	3	3						
		mirtazapine	4	4						
		benzodiazepine	5	5						
1697ai	56 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	94 ng/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	2	2					hydrocodone	0.19 mcg/mL In Whole Blood @ Autopsy
1698h	57 y F				A/C	Ingst	Int-S	3		
		zolpidem	1	1					zolpidem	140 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen	21 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	3	3					alprazolam	20 ng/mL In Blood (unspecified) @ Unknown
		amphetamine	4	4					amphetamine	120 ng/mL In Blood (unspecified) @ Unknown
1699	57 y F				A	Ingst	Int-S	2		
		clonazepam	1	1						
		amlodipine	2	2						
		trazodone	3	3						
		lamotrigine	4	4						
1700	57 y F				A/C	Ingst	Int-S	2		
		zolpidem	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		zaleplon	2	2						
		acetaminophen	3	3					acetaminophen	41 mcg/mL In Serum @ Unknown
1701a	58 y F				A/C	Ingst	Int-S	2		
		phenothiazine	1	1						
1702	59 y F				A/C	Ingst	Int-S	1		
		alprazolam	1	1						
1703	59 y F				A	Ingst	Int-S	2		
		quetiapine	1	1						
		salicylate	2	2					salicylate	59.2 mg/dL In Serum @ Unknown
		acetaminophen	3	3					acetaminophen	212 mg/L In Plasma @ Unknown
		paroxetine	4	4						
1704ph	60 y F				A/C	Ingst	Int-S	2		
		diazepam	1	1						
		metaxalone	2	2						
		gabapentin	3	3						
		paroxetine	4	4						
1705pa	61 y F				C	Ingst	Unk	1		
		clozapine	1	1					norclozapine	2900 ng/mL In Whole Blood @ Autopsy
		clozapine	1	1					clozapine	3700 ng/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	200 ng/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	300 ng/mL In Whole Blood @ Autopsy
		ethanol	3	3					ethanol	12 mg/dL In Blood (unspecified) @ Autopsy
1706pa	61 y F				C	Ingst	Unk	3		
		clozapine	1	1					norclozapine	1200 ng/mL In Whole Blood @ Autopsy
		clozapine	1	1					clozapine	1500 ng/mL In Whole Blood @ Autopsy
1707ha	63 y M				A/C	Ingst	Int-S	2		
		alprazolam	1	1					alprazolam	330 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	68 mg/dL In Blood (unspecified) @ Autopsy
		lorazepam	3	3					lorazepam	320 mcg/mL In Blood (unspecified) @ Autopsy
1708ha	63 y M				A	Ingst	Int-S	1		
		diazepam	1	1						
		acetaminophen/oxycodone	2	2					acetaminophen	118 mcg/mL In Serum @ Unknown
		acetaminophen/oxycodone	2	2					acetaminophen	99 mcg/mL In Serum @ Unknown
1709p	64 y M				A	Ingst	Int-S	1		
		phenobarbital	1	1					pentobarbital	233.9 mcg/mL In Serum @ 3 d (pe)
1710ai	66 y M				U	Ingst	Int-S	2		
		temazepam	1	1					temazepam	11.3 mcg/mL In Serum @ Unknown
1711	67 y F				A	Ingst	Int-S	3		
		zolpidem	1	1						
1712ai	69 y M				U	Ingst	Int-A	2		
		alprazolam	1	1					alprazolam	79 ng/mL In Whole Blood @ Autopsy
		butalbital	2	2					butalbital	11.7 ng/mL In Whole Blood @ Autopsy
		propoxyphene	3	3						
1713h	71 y M				A	Ingst	Int-S	2		
		diazepam	1	1						
		acetaminophen/oxycodone	2	2					acetaminophen	6 mcg/mL In Blood (unspecified) @ Unknown
1714	71 y M				A	Ingst+ Inhal	Int-S	2		
		diazepam	1	1						
		nitrous oxide	2	2						
		ethanol	3	3						
1715	72 y F				A	Ingst	Int-S	2		
		phenobarbital	1	1						
		propoxyphene	2	2						
		prochlorperazine (sustained release)	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1716h	72 y F				A/C	Ingst	Unk	3		
		alprazolam	1	1						
1717ai	73 y M				U	Ingst	Int-A	2		
		temazepam	1	1					temazepam	2.5 mcg/mL In Whole Blood @ Autopsy
		donepezil	2	2					donepezil	0.57 mcg/mL In Whole Blood @ Autopsy
1718	73 y M				A/C	Ingst	Int-S	1		
		zolpidem (extended release)	1	1						
1719ai	75 y F				U	Ingst	Int-S	2		
		zolpidem	1	1					zolpidem	7 mcg/mL In Whole Blood @ Autopsy
1720h	77 y M				A	Ingst	Int-S	1		
		alprazolam	1	1						
1721	77 y M				A	Ingst	Int-S	2		
		flurazepam	1	1						
1722	78 y M				A/C	Ingst	Int-S	2		
		alprazolam	1	1						
		acetaminophen/codeine	2	2						
1723a	79 y F				A/C	Ingst	Int-U	2		
		olanzapine	1	1						
1724	84 y F				A	Ingst	Int-S	3		
		secobarbital	1	1						
1725pai	87 y F				A	Ingst	Int-S	3		
		zolpidem	1	1					zolpidem	4.6 mg/L In Blood (unspecified) @ Autopsy
		citalopram	2	2					citalopram	1.1 mg/L In Blood (unspecified) @ Autopsy
1726a	89 y F				C	Ingst	Int-M	3		
		meprobamate	1	1						

See Also case 5, 10, 21, 25, 27, 33, 37, 42, 45, 47, 51, 55, 63, 65, 81, 84, 85, 88, 89, 90, 97, 133, 204, 210, 277, 285, 301, 306, 319, 326, 327, 328, 331, 332, 334, 336, 342, 343, 344, 345, 347, 350, 353, 355, 358, 360, 363, 365, 367, 372, 374, 379, 381, 382, 384, 386, 387, 388, 390, 393, 394, 397, 406, 410, 411, 412, 413, 415, 419, 422, 424, 427, 431, 433, 436, 439, 440, 445, 446, 447, 451, 452, 454, 459, 461, 464, 465, 471, 473, 475, 476, 477, 478, 479, 480, 484, 487, 491, 492, 494, 496, 499, 501, 503, 504, 505, 506, 507, 509, 510, 513, 517, 518, 525, 526, 528, 532, 533, 535, 537, 542, 543, 544, 545, 546, 547, 549, 550, 553, 556, 561, 563, 565, 566, 567, 573, 574, 576, 577, 581, 583, 587, 591, 594, 597, 599, 606, 607, 612, 617, 618, 620, 621, 624, 625, 626, 627, 630, 632, 636, 640, 651, 652, 659, 660, 668, 669, 671, 674, 675, 678, 681, 682, 683, 686, 687, 688, 689, 691, 693, 695, 696, 697, 701, 702, 704, 707, 712, 713, 715, 720, 723, 724, 726, 730, 731, 733, 738, 743, 745, 749, 758, 763, 764, 765, 772, 773, 774, 775, 776, 778, 779, 780, 782, 784, 788, 794, 799, 800, 802, 808, 812, 814, 820, 822, 823, 824, 825, 827, 828, 831, 833, 834, 836, 838, 839, 840, 843, 847, 848, 849, 855, 862, 866, 867, 868, 874, 875, 876, 877, 881, 884, 886, 887, 888, 889, 891, 893, 896, 900, 901, 902, 903, 904, 908, 911, 923, 925, 929, 931, 932, 933, 935, 937, 944, 945, 948, 949, 952, 954, 955, 956, 957, 962, 966, 967, 970, 971, 972, 974, 979, 981, 982, 989, 992, 998, 999, 1000, 1003, 1006, 1008, 1011, 1014, 1018, 1020, 1021, 1026, 1030, 1032, 1033, 1034, 1038, 1044, 1051, 1052, 1053, 1056, 1059, 1060, 1061, 1064, 1071, 1078, 1080, 1083, 1089, 1095, 1096, 1098, 1100, 1101, 1105, 1108, 1111, 1124, 1129, 1134, 1136, 1159, 1166, 1177, 1178, 1179, 1182, 1186, 1187, 1193, 1195, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1209, 1214, 1218, 1219, 1221, 1228, 1229, 1230, 1237, 1239, 1240, 1246, 1248, 1249, 1251, 1253, 1254, 1255, 1258, 1261, 1263, 1264, 1280, 1281, 1283, 1285, 1288, 1289, 1290, 1294, 1297, 1302, 1303, 1307, 1308, 1309, 1310, 1316, 1320, 1325, 1326, 1328, 1330, 1331, 1334, 1336, 1338, 1339, 1341, 1355, 1356, 1357, 1358, 1360, 1361, 1378, 1382, 1383, 1384, 1385, 1392, 1393, 1400, 1403, 1410, 1416, 1417, 1425, 1426, 1430, 1434, 1435, 1436, 1439, 1442, 1451, 1457, 1459, 1466, 1469, 1472, 1481, 1485, 1486, 1491, 1498, 1501, 1523, 1557, 1568, 1570, 1581, 1587, 1590, 1593, 1595, 1596, 1599, 1601, 1602, 1603, 1608, 1609, 1611, 1615, 1616, 1737, 1744, 1746, 1750, 1755, 1766, 1776, 1781, 1790, 1795, 1796, 1799, 1802, 1810, 1812, 1813, 1817, 1837, 1840, 1849, 1855, 1857, 1865, 1869, 1873, 1884, 1890, 1905, 1908, 1909, 1911, 1912, 1915, 1916, 1928, 1929, 1932, 1933, 1942, 1960, 1969, 1970, 1974, 1978

Stimulants and Street Drugs

1727pai	17 y M				A	Unk	Int-A	1		
		heroin	1	1						
1728pha	18 y F				A	Ingst+ Inhal	Int-A	1		
		methylenedioxymethamphetamine (MDMA)	1	1					mdma (3,4-methylenedioxymethamphetamine)	0.39 mg/L In Blood (unspecified) @ Autopsy
		nitrous oxide	2	2						
		4,4-methylenedianiline (MDA)	3	3						
1729p	18 y F				A	Ingst+ Inhal+ Unk	Int-A	2		
		amphetamines (bath salts)	1	1						
		opioid	2	2						
1730ai	18 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					benzoylecognine	0.43 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	0.12 % (wt/Vol) In Urine (quantitative only) @ Unknown
		ethanol	2	2					ethanol	0.13 % (wt/Vol) In Blood (unspecified) @ Unknown
		heroin	3	3					morphine (free)	0.19 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1731p	18 y M				A	Inhal	Int-A	3		
		THC homolog	1	1						
[1732pha]	19 y M				A	Ingst+ Inhal	Int-A	1		
		2,5-dimethoxy-4-ethyl-pheneth-ylamine (2CE)	1	1						
		ethanol	2	2					ethanol	0.06 mg/dL In Serum @ 1 h (pe)
1733ai	19 y M				U	Ingst+ Unk	Int-A	2		
		heroin	1	1					morphine (free)	0.11 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.16 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.19 % (wt/Vol) In Vitreous @ Autopsy
1734ai	19 y M				U	Ingst+ Unk	Int-A	2		
		methylene-dioxymethamphet-amine (MDMA)	1	1					mdma (3,4-methylene-dioxymetham-phetamine)	1.6 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.17 mcg/mL In Whole Blood @ Autopsy
1735ai	19 y F				U	Unk	Int-A	2		
		heroin	1	1					morphine (free)	0.09 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2						
1736ai	19 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.2 mcg/mL In Whole Blood @ Autopsy
1737pha	19 y M				U	Inhal+ Par	Int-S	1		
		heroin	1	1					morphine (total)	0.42 mcg/mL In Serum @ 10 m (pe)
		heroin	1	1					morphine	0.98 mcg/mL In Urine (quantitative only) @ 10 m (pe)
		lorazepam	2	2					lorazepam	0.1 mcg/mL In Serum @ 10 s (pa)
		lorazepam	2	2					lorazepam	0.1 mcg/mL In Urine (quantitative only) @ 10 m (pe)
		diazepam	3	3					diazepam	0.04 mcg/mL In Serum @ 10 m (pe)
		diazepam	3	3					nordiazepam	0.06 mcg/mL In Serum @ 10 m (pe)
		diphenhydramine	4	4					diphenhydramine	5.1 mcg/mL In Urine (quantitative only) @ 10 m (pe)
1738ha	19 y F-Pregnant			A	Ingst	Int-A	1			
		methamphetamine	1	1						
1739p	19 y F				A/C	Ingst+ Par	Int-S	2		
		heroin	1	1						
		trazodone	2	2						
[1740a]	19 y M				U	Unk	Int-A	2		
		THC homolog	1	1						
1741ai	19 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.17 mcg/mL In Blood (unspecified) @ Unknown
		morphine	2	2					morphine (free)	0.19 mcg/mL In Blood (unspecified) @ Unknown
1742pha	20 y M				A	Ingst+ Par	Int-A	1		
		heroin	1	1					morphine	58 ng/mL In Blood (unspecified) @ Autopsy
		codeine	2	2					codeine	5 ng/mL In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1743ai	20 y M				U	Ingst+ Unk	Int-A	2		
		methylene-dioxymethamphet-amine (MDMA)	1	1					mdma (3,4-methylene-dioxymetham-phetamine)	0.24 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.72 mcg/mL In Whole Blood @ Autopsy
1744	20 y M				A/C	Inhal	Int-A	3		
		methamphetamine	1	1					methamphetamine	1400 mcg/L In Blood (un-specified) @ Autopsy
		alprazolam	2	2						
1745ha	20 y M				A	Inhal+ Par+ Unk	Int-A	2		
		amphetamines (bath salts)	1	1					acetaminophen	0 Other (see abst) In Blood (unspecified) @ Autopsy
		amphetamines (bath salts)	1	1					acetone	0 Other (see abst) In Blood (unspecified) @ Autopsy
		amphetamines (bath salts)	1	1					mdma (3,4-methylene-dioxymetham-phetamine)	0 Other (see abst) In Blood (unspecified) @ Autopsy
		amphetamines (bath salts)	1	1					acetone	0 Other (see abst) In Blood (unspecified) @ Unknown
		amphetamines (bath salts)	1	1					mdma (3,4-methylene-dioxymetham-phetamine)	0 Other (see abst) In Blood (unspecified) @ Unknown
		amphetamines (bath salts)	1	1					diltiazem	0.04 mg/L In Blood (un-specified) @ Autopsy
		amphetamines (bath salts)	1	1					diltiazem	0.09 mg/L In Blood (un-specified) @ Unknown
[1746ha]	20 y F				U	Ingst+ Unk	Unk	1		
		tryptamine (hallucino-genic)	1	1						
		lorazepam	2	2						
		marijuana	3	3						
		drug, unknown	4	4						
1747pai	20 y M				A	Unk	Int-A	3		
		amphetamines (bath salts)	1	1						
1748p	20 y M				A	Par	Int-A	2		
		heroin	1	1						
1749ai	21 y F				U	Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	0.14 mcg/mL In Blood (unspecified) @ Unknown
1750pa	21 y M				U	Ingst	Int-U	2		
		cocaine	1	1					benzoylecognine	810 ng/mL In Blood (unspecified) @ 1 d (pe)
		oxycodone	2	2					oxycodone	1700 ng/mL In Blood (unspecified) @ 1 d (pe)
		amphetamine	3	3					amphetamine	15 ng/mL In Blood (unspecified) @ 1 d (pe)
		skeletal muscle relaxant	4	4					carisoprodol	1.4 mcg/mL In Blood (unspecified) @ 1 d (pe)
		benzodiazepine	5	5					nordiazepam	270 ng/mL In Blood (unspecified) @ 1 d (pe)
		diphenhydramine	6	6					diphenhydramine	67 ng/mL In Blood (unspecified) @ 1 d (pe)
		meprobamate	7	7					meprobamate	3.4 mcg/mL In Blood (unspecified) @ 1 d (pe)
		dietary supplement	8	8						
1751pha	21 y M				A	Par	Int-A	1		
		heroin	1	1					morphine (free)	140 ng/mL In Blood (unspecified) @ Autopsy
1752ai	21 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.16 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1753ai	22 y M				U	Ingst+ Par	Int-A	2		
		heroin	1	1					6-monoacetylmorphine	0.05 mcg/mL In Whole Blood @ Autopsy
		heroin	1	1					morphine (free)	0.3 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2						
1754p	22 y M				A	Ingst+ Inhal	Int-A	3		
		methylenedioxymethamphetamine (MDMA)	1	1						
		phencyclidine	2	2						
		marijuana	3	3						
1755pha	22 y M				A/C	Ingst	Int-A	2		
		methylenedioxymethamphetamine (MDMA)	1	1					mda (3,4-methylenedioxyamphetamine)	10 ng/mL In Blood (unspecified) @ Autopsy
		methylenedioxymethamphetamine (MDMA)	1	1					mdma (3,4-methylenedioxymethamphetamine)	110 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	72 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/oxycodone	3	3						
		valproic acid	4	4						
[1756ha]	22 y M				A	Unk	Int-A	1		
		methamphetamine	1	1					methamphetamine	5.63 mg/L In Blood (unspecified) @ Autopsy
1757ai	22 y F				U	Unk	Int-A	1		
		1-(8-bromobenzo [1,2-b; 4,5-b'] difuran-4-yl)-2-aminopropane	1	1						14.6 ng/mL In Blood (unspecified) @ Unknown
		1-(8-bromobenzo [1,2-b; 4,5-b'] difuran-4-yl)-2-aminopropane	1	1						28.1 ng/mL In Whole Blood @ Autopsy
		1-(8-bromobenzo [1,2-b; 4,5-b'] difuran-4-yl)-2-aminopropane	1	1						35.6 ng/mL In Whole Blood @ Autopsy
1758pai	23 y M				A	Unk	Int-A	1		
		heroin	1	1					morphine (free)	110 mcg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	1.6 mg/L In Blood (unspecified) @ Autopsy
[1759ha]	23 y M				A	Unk	Int-A	1		
		cathinone (synthetic)	1	1						
		dextromethorphan*	2	2						
		THC homolog*	3	2						
		Salvia albocaerulea	4	3						
1760ai	23 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.08 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.45 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.29 mcg/mL In Whole Blood @ Autopsy
1761p	23 y M				A	Ingst	Int-A	1		
		1-(8-bromobenzo [1,2-b; 4,5-b'] difuran-4-yl)-2-aminopropane	1	1						
[1762ha]	23 y M				U	Ingst	Int-U	1		
		methamphetamine	1	1					amphetamine	0.67 mcg/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					methamphetamine	22 mcg/mL In Blood (unspecified) @ Autopsy
1763ai	23 y M				A/C	Ingst	Int-A	1		
		methamphetamine	1	1					amphetamine	0.096 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		methamphetamine	1	1					amphetamine	0.67 mcg/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					methamphetamine	22 mcg/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					methamphetamine	6.9 mcg/mL In Blood (unspecified) @ Unknown
1764h	24 y F				A	Ingst	Int-A	2		
		methylenedioxymethamphetamine (MDMA)	1	1						
[1765ha]	24 y F				A	Ingst	Int-A	1		
		cathinone (synthetic)	1	1						
		amphetamines (bath salts)	2	2						
		codeine	3	3						
1766ai	24 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.32 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.59 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	47 ng/mL In Whole Blood @ Autopsy
1767ai	25 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.44 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2						
1768ai	25 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.13 mcg/mL In Whole Blood @ Autopsy
		metoprolol	2	2					metoprolol	0.65 mcg/mL In Whole Blood @ Autopsy
1769ph	25 y M				U	Ingst	Int-S	2		
		methylenedioxymethamphetamine (MDMA)	1	1						
		lysergic acid diethylamide (LSD)	2	2						
		cyclobenzaprine	3	3						
		metoclopramide	4	4						
		acetaminophen/hydrocodone	5	5						
1770	25 y M				U	Unk	Int-A	2		
		methamphetamine	1	1						
1771pa	26 y M				A	Unk	Int-A	1		
		heroin	1	1					morphine (free)	180 ng/mL In Blood (unspecified) @ Autopsy
[1772ha]	26 y M				U	Inhal	Int-A	1		
		amphetamines (bath salts)	1	1					mdpv (methylenedioxypyrovalerone)	67 ng/mL In Blood (unspecified) @ Unknown
1773p	26 y M				A	Unk	Int-A	2		
		methamphetamine	1	1						
1774ai	26 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.19 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	2	2						
1775pai	27 y M				A	Ingst+ Unk	Int-A	1		
		cocaine	1	1						
		ethanol	2	2						
		chlorpheniramine	3	3						
1776pai	27 y M				A	Unk	Int-U	1		
		cocaine	1	1						
		alprazolam	2	2						
		methadone	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1777ai	27 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.05 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.45 mg/kg In Brain @ Autopsy
		cocaine	1	1					benzoylecognine	0.82 mcg/mL In Whole Blood @ Autopsy
		heroin	2	2					morphine (free)	0.03 mcg/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	0.08 mcg/mL In Whole Blood @ Autopsy
1778ai	27 y M				U	Ingst	Int-A	2		
		heroin	1	1					morphine (free)	0.09 mcg/mL In Whole Blood @ Autopsy
		codeine	2	2						
		oxycodone	3	3						
1779ph	27 y M				A	Par	Int-A	1		
		heroin	1	1						
1780pa	27 y M				A	Ingst+ Inhal	Int-S	2		
		cocaine	1	1						
		amphetamine	2	2						
		ethanol	3	3					ethanol	24 mg/dL In Serum @ 30 m (pe)
1781pha	28 y M				U	Ingst	Int-U	1		
		amphetamine (hallucinogenic)	1	1					phentermine	0.02 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	0.13 mg/L In Blood (unspecified) @ Autopsy
		benzodiazepine	3	3					lorazepam	0.15 mg/L In Blood (unspecified) @ Autopsy
		benzodiazepine	4	4					clonazepam	0.02 mg/L In Blood (unspecified) @ Autopsy
1782h	28 y M				C	Par	Int-A	1		
		heroin	1	1						
1783	28 y F				A	Inhal	Int-S	2		
		amphetamines (bath salts)	1	1						
1784ha	28 y M				A/C	Ingst	Int-M	1		
		methamphetamine	1	1					methamphetamine	10 mg/L In Blood (unspecified) @ Autopsy
1785ph	28 y M				A	Par	Int-A	1		
		heroin	1	1						
[1786pha]	29 y M				A	Ingst	Unk	1		
		THC homolog	1	1						
		caffeine	2	2					caffeine	67 mcg/mL In Blood (unspecified) @ Unknown
		lidocaine	3	3						
1787ai	29 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	3.2 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.05 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2					cocaine	0.1 mg/kg In Brain @ Autopsy
		cocaine	2	2					benzoylecognine	0.58 mcg/mL In Whole Blood @ Autopsy
1788ha	29 y F				U	Inhal+ Par	Int-S	3		
		cocaine	1	1						
		heroin	2	2						
1789	29 y M				A	Unk	Int-A	2		
		methamphetamine	1	1						
1790ai	29 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.14 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.2 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxymorphone	14 ng/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		alprazolam	4	4						
1791ph	30 y M				U	Par	Int-A	2		
		heroin	1	1						
1792	30 y M				U	Ingst	Int-S	2		
		amphetamine	1	1						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1793ai	30 y M				U	Unk	Int-A	3		
		cocaine	1	1					benzoylecognine	0.06 mcg/mL In Whole Blood @ Autopsy
1794ai	30 y M				U	Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	0.09 mcg/mL In Whole Blood @ Autopsy
		citalopram	2	2					citralopram	0.82 mcg/mL In Whole Blood @ Autopsy
1795a	30 y M				U	Ingst	Unk	1		
		amphetamine	1	1					amphetamine	0.065 mg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	0.43 Other (see abst) In Blood (unspecified) @ Autopsy
		fluoxetine	3	3					fluoxetine	0.44 mg/L In Blood (unspecified) @ Autopsy
		diazepam	4	4					nordiazepam	0.19 mg/L In Blood (unspecified) @ Autopsy
		diazepam	4	4					diazepam	0.33 mg/L In Blood (unspecified) @ Autopsy
		temazepam	5	5					temazepam	0.01 mg/L In Blood (unspecified) @ Autopsy
1796ai	30 y M				U	Ingst+ Aspir+ Par	Int-A	2		
		heroin	1	1					morphine (free)	0.11 mcg/mL In Whole Blood @ Autopsy
		alprazolam	2	2						
		diazepam	3	3						
1797pai	31 y M				A	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.09 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.57 mcg/mL In Whole Blood @ Autopsy
1798pai	31 y M				A	Unk	Int-A	1		
		phencyclidine	1	1						
		cocaine	2	2						
1799pai	31 y M				A/C	Ingst+ Unk	Int-A	2		
		amphetamines (bath salts)	1	1						
		oxycodone	2	2						
		ethanol	3	3						
		lidocaine	4	4						
		meprobamate	5	5						
		tobacco	6	6						
		hydroxyzine	7	7						
		naproxen	8	8						
1800ai	31 y M				U	Unk	Int-A	3		
		cocaine	1	1					benzoylecognine	0.12 mcg/mL In Blood (unspecified) @ Unknown
1801ai	31 y F				U	Ingst+ Unk	Unk	2		
		methamphetamine	1	1					methamphetamine	0.09 mcg/mL In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	0.04 % (wt/Vol) In Blood (unspecified) @ Unknown
		ethanol	2	2					ethanol	0.05 % (wt/Vol) In Vitreous @ Autopsy
		diphenhydramine	3	3					diphenhydramine	11 mcg/mL In Blood (unspecified) @ Unknown
		amphetamine	4	4						
1802ai	31 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1						
		morphine	2	2					morphine (free)	0.07 mcg/mL In Blood (unspecified) @ Unknown
		methadone	3	3						
		acetaminophen/ hydrocodone	4	4						
		tramadol	5	5						
		butalbital	6	6					butalbital	1.7 mcg/mL In Blood (unspecified) @ Unknown
		alprazolam	7	7						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1803pai	32 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.38 mcg/mL In Blood (unspecified) @ Unknown
		dextromethorphan	2	2					dextromethorphan	3.9 mcg/mL In Blood (unspecified) @ Unknown
1804ai	32 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.13 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.66 mcg/mL In Whole Blood @ Autopsy
1805ai	32 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.38 mcg/mL In Blood (unspecified) @ Unknown
		dextromethorphan	2	2					dextromethorphan	3.9 mcg/mL In Blood (unspecified) @ Unknown
1806ph	32 y F				A	Par	Int-A	2		
		heroin	1	1					morphine	0.56 mg/L In Blood (unspecified) @ Unknown
1807i	32 y M				A/C	Unk	Int-A	1		
		amphetamines (bath salts)	1	1					mdpv (methylenedioxypyrovalerone)	150 ng/mL In Whole Blood @ Autopsy
		bupropion	2	2					bupropion	110 ng/mL In Whole Blood @ Autopsy
1808ai	32 y M				U	Ingst	Int-A	2		
		cocaine	1	1					cocaine	0.07 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.27 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaethylene	28 ng/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.04 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.05 % (wt/Vol) In Vitreous @ Autopsy
1809	32 y M				A/C	Ingst+ Inhal	Int-A	3		
		methamphetamine	1	1						
		acetaminophen/ hydrocodone	2	2						
1810pai	33 y M				A	Par+ Unk	Int-U	1		
		heroin	1	1						
		oxycodone	2	2						
		cocaine	3	3						
		alprazolam	4	4						
[1811ha]	33 y M				A	Inhal	Int-A	1		
		methamphetamine	1	1					methamphetamine	4.1 mg/L In Blood (unspecified) @ Autopsy
1812pha	33 y F				A	Unk	Int-A	1		
		heroin	1	1					morphine	100 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2						
1813ph	33 y M				U	Inhal+ Unk	Int-A	2		
		amphetamines (bath salts)	1	1						
		lorazepam	2	2						
1814ai	33 y F				U	Par	Int-A	2		
		heroin	1	1					morphine (free)	0.05 mcg/mL In Vitreous @ Autopsy
		heroin	1	1					6-monoacetylmorphine	0.07 mcg/mL In Vitreous @ Autopsy
		heroin	1	1					morphine (free)	0.26 mcg/mL In Whole Blood @ Autopsy
1815ai	33 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	9.7 mcg/mL In Whole Blood @ Autopsy
1816	33 y F				A	Ingst+ Vag	Int-M	1		
		methamphetamine	1	1						
		tobacco	2	2						
		foreign body	3	3						
		foreign body	4	4						
		foreign body	5	5						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1817pa	34 y F				A	Ingst	Int-S	2		
		cocaine	1	1					benzoylecognine	0.34 mcg/mL In Whole Blood @ Autopsy
		levamisole	2	2						
		codeine	3	3						
		olanzapine	4	4						
		laxative (stimulant)	5	5						
		lithium	6	6					lithium	1.1 mEq/L In Serum @ Unknown
1818h	34 y M				U	Inhal	Int-A	2		
		phencyclidine	1	1						
		cocaine*	2	2						
		formaldehyde*	3	2						
		tobacco	4	3						
		marijuana	5	5						
1819ai	34 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.41 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.41 mg/kg In Brain @ Autopsy
[1820ha]	34 y M				A	Unk	Int-A	1		
		amphetamines (bath salts)	1	1					mdpv (methylenedioxypyrovalerone)	10480 ng/mL In Urine (quantitative only) @ 1 h (pe)
		amphetamines (bath salts)	1	1					mdpv (methylenedioxypyrovalerone)	23 ng/mL In Blood (unspecified) @ 1 h (pe)
		amphetamines (bath salts)	1	1					mdpv (methylenedioxypyrovalerone)	68 ng/mL In Blood (unspecified) @ Autopsy
1821pha	34 y M				A	Oth	Int-A	1		
		heroin	1	1						
1822pha	34 y F				U	Ingst+ Inhal+ Aspir+ Unk	Int-A	2		
		amphetamines (bath salts)	1	1						
		cocaine	2	2						
		nortriptyline	3	3						
		oxycodone	4	4						
		acetaminophen/ hydrocodone	5	5					hydrocodone	81 ng/mL In Serum @ 5 h (pe)
1823	34 y M				A	Ingst+ Inhal	Int-S	3		
		methamphetamine	1	1						
		antifreeze (ethylene glycol)	2	2						
1824ai	34 y M				U	Unk	Unk	2		
		cocaine	1	1					benzoylecognine	0.13 mcg/mL In Blood (unspecified) @ Unknown
		phencyclidine	2	2					phencyclidine	0.12 mcg/mL In Blood (unspecified) @ Unknown
1825pai	35 y M				A	Par	Int-A	1		
		heroin	1	1						
		oxycodone	2	2						
1826pai	35 y M				A	Ingst	Int-A	1		
		cocaine	1	1						
		amitriptyline	2	2						
		citalopram	3	3						
		primidone	4	4						
1827pha	35 y M				A	Ingst	Int-U	1		
		methamphetamine	1	1						
		cocaine	2	2						
1828p	35 y M				A	Par	Int-S	1		
		heroin	1	1						
1829	35 y F				A	Ingst	Int-S	2		
		heroin	1	1						
1830ai	35 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.27 mcg/mL In Whole Blood @ Autopsy
		cocaine	2	2						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
[1831pha]	36 y M				A/C	Unk	Int-A	1		
		amphetamines (bath salts)	1	1						
1832pi	36 y M				A/C	Unk	Int-A	2		
		heroin	1	1						
1833	37 y M				A	Inhal	Int-A	2		
		amphetamines (bath salts)	1	1						
1834h	37 y F				A/C	Par	Int-A	2		
		heroin	1	1						
		methamphetamine	2	2						
1835phai	37 y M				U	Par	Int-A	2		
		3,4-Methylenedioxy-pyrovalerone (MDPV)	1	1					mdpv (methylend-ioxypyrovalerone)	340 ng/mL In Blood (unspecified) @ Autopsy
		tramadol	2	2						
		caffeine	3	3						
1836pai	38 y M				A	Unk	Int-U	1		
		phencyclidine	1	1						
		cocaine	2	2						
1837ai	38 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.1 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.17 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxymorphone	35 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	66 ng/mL In Whole Blood @ Autopsy
		diazepam	4	4						
1838ai	38 y M				U	Unk	Int-U	2		
		phencyclidine	1	1					phencyclidine	242 ng/mL In Whole Blood @ Autopsy
1839p	38 y M				A/C	Inhal	Int-A	2		
		amphetamines (bath salts)	1	1						
1840pa	38 y M				U	Inhal	Int-A	2		
		amphetamines (bath salts)	1	1					mdpv (methylen-dioxypyrovale-rone)	0.3 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					norfluoxetine	0.33 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					fluoxetine	0.89 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					norfluoxetine	11 mg/kg In Liver @ Autopsy
		fluoxetine	2	2					fluoxetine	36 mg/kg In Liver @ Autopsy
		cocaine	3	3					benzoylecognine	0.031 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	4	4					7-aminoclonazepam	0.83 mg/L In Blood (unspecified) @ Autopsy
[1841ha]	38 y M				A	Ingst	Int-M	1		
		methamphetamine	1	1					methamphetamine	5775 ng/mL In Blood (unspecified) @ Unknown
1842ai	38 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	1.3 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	2.1 mg/kg In Liver @ Autopsy
		amitriptyline	2	2					nortriptyline	41.8 mg/kg In Liver @ Autopsy
		amitriptyline	2	2					amitriptyline	83.8 mg/kg In Liver @ Autopsy
1843ai	38 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.22 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	1 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					nortriptyline	1.5 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1844pai	39 y F				A	Unk	Int-U	1		
		cocaine	1	1						
[1845a]	39 y M				A	Unk	Int-A	1		
		amphetamines (bath salts)	1	1						
1846ai	39 y F				U	Ingst+ Unk	Oth-M	2		
		cocaine	1	1					cocaine	0.47 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.91 mg/kg In Brain @ Autopsy
		cocaine	1	1					cocaine	1.4 mg/kg In Brain @ Autopsy
		methamphetamine	2	2					amphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.12 mcg/mL In Whole Blood @ Autopsy
		amphetamine	3	3						
1847ai	39 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.09 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.94 mcg/mL In Whole Blood @ Autopsy
		laxative (stimulant)	2	2						
		ethanol	3	3					ethanol	0.05 % (wt/Vol) In Whole Blood @ Autopsy
1848h	39 y F				A	Ingst	Int-A	1		
		cocaine	1	1						
1849ha	40 y M				C	Ingst+ Par+ Unk	Int-A	2		
		methylphenidate	1	1						
		oxycodone	2	2					oxycodone (free)	190 ng/mL In Blood (unspecified) @ Unknown
		diazepam	3	3						
		cocaine	4	4						
1850pi	40 y M				A/C	Unk	Int-A	2		
		heroin	1	1						
[1851h]	40 y M				A	Inhal+ Par	Int-A	1		
		amphetamines (bath salts)	1	1					mdpv (methylendioxypyrovalerone)	0.31 mg/L In Blood (unspecified) @ Unknown
		amphetamines (bath salts)	1	1					mdpv (methylendioxypyrovalerone)	670 ng/mL In Urine (quantitative only) @ Unknown
		amphetamines (bath salts)	1	1					mdpv (methylendioxypyrovalerone)	82 ng/mL In Serum @ Unknown
		trimethoprim	2	2						
		ethanol	3	3						
1852ai	40 y M				U	Par	Int-A	2		
		heroin	1	1					morphine (free)	0.14 mcg/mL In Vitreous @ Autopsy
		heroin	1	1					morphine (free)	0.32 mcg/mL In Whole Blood @ Autopsy
1853i	40 y M				A	Ingst	Int-M	2		
		amphetamine	1	1						
		marijuana	2	2						
1854ai	40 y M				U	Unk	Int-A	3		
		methamphetamine	1	1					amphetamine	0.12 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	1 mcg/mL In Whole Blood @ Autopsy
1855ai	40 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.03 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.33 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.33 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxymorphone	69 ng/mL In Whole Blood @ Autopsy
		alprazolam	3	3						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1856ai	41 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	7.8 mcg/mL In Whole Blood @ Autopsy
1857ai	41 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.09 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.21 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/hydrocodone	3	3					hydrocodone	0.14 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4						
		ethanol	5	5						
1858ai	41 y F				U	Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	0.1 mcg/mL In Whole Blood @ Autopsy
1859ai	41 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	6.6 mcg/mL In Whole Blood @ Autopsy
1860pha	42 y M				U	Inhal	Int-S	1		
		cocaine	1	1					cocaine	0.55 mg/L In Blood (unspecified) @ Autopsy
		cocaine	1	1					benzoylecognine	2.54 mg/L In Blood (unspecified) @ Autopsy
1861pai	42 y M				A	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.1 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.6 mcg/mL In Whole Blood @ Autopsy
1862ai	42 y M				U	Unk	Int-A	3		
		cocaine	1	1					cocaethylene	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaine	0.09 mcg/mL In Whole Blood @ Autopsy
1863pai	42 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.34 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.96 mcg/mL In Whole Blood @ Autopsy
1864ai	42 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.39 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.2 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	0.96 mcg/mL In Whole Blood @ Autopsy
		codeine	3	3					codeine	0.07 mcg/mL In Whole Blood @ Autopsy
1865ai	42 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1						
		acetaminophen/hydrocodone	2	2					hydrocodone	0.25 mcg/mL In Blood (unspecified) @ Unknown
		oxycodone	3	3					oxycodone	0.14 mcg/mL In Blood (unspecified) @ Unknown
		skeletal muscle relaxant	4	4						
		alprazolam	5	5						
1866ai	43 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.15 mcg/mL In Blood (unspecified) @ Unknown
		methamphetamine	1	1					methamphetamine	3.7 mcg/mL In Serum @ Unknown
1867pai	43 y M				U	Par	Int-A	1		
		methamphetamine	1	1					amphetamine	0.33 mg/L In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	3.5 mg/L In Whole Blood @ Autopsy
		cocaine	2	2					benzoylecognine	0.25 mg/L In Whole Blood @ Autopsy
1868pai	43 y M				C	Par	Int-A	2		
		3,4-Methylenedioxypyrovalerone (MDPV)	1	1					mdpv (methylendioxypyrovalerone)	160 ng/mL In Blood (unspecified) @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1869ai	45 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1						
		benzodiazepine	2	2						
1870ph	45 y M				U	Inhal+ Par	Int-A	2		
		heroin	1	1						
		marijuana	2	2						
1871	45 y M				A	Ingst+ Rec	Int-A	1		
		methamphetamine	1	1						
1872ai	45 y F				U	Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	0.17 mcg/mL In Whole Blood @ Autopsy
1873pa	45 y M				U	Inhal+ Par	Int-A	1		
		heroin	1	1					morphine	0.058 mg/L In Blood (unspecified) @ Autopsy
		ethanol	2	2					ethanol	120 mg/dL In Blood (unspecified) @ Autopsy
		benzodiazepine	3	3					7-aminoclonazepam	0.039 mg/L In Blood (unspecified) @ Autopsy
1874	45 y M				A	Inhal	Int-A	2		
		amphetamines (bath salts)	1	1						
		acetaminophen/ hydrocodone	2	2						
		cyclobenzaprine	3	3						
		methocarbamol	4	4						
		tramadol	5	5						
1875pai	46 y M				A	Unk	Int-A	1		
		cocaine	1	1					cocaine	0.2 mg/L In Blood (unspecified) @ Autopsy
1876ai	46 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.04 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.43 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.28 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	3	3					amitriptyline	0.59 mcg/mL In Whole Blood @ Autopsy
1877h	46 y M				C	Par	Oth-W	3		
		heroin	1	1						
		cocaine	2	2						
1878	46 y M				A	Unk	Int-A	3		
		cocaine	1	1						
		amphetamine	2	2						
1879ai	46 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					benzoylecognine	0.08 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.2 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.22 % (wt/Vol) In V itreous @ Autopsy
1880a	46 y F				A/C	Ingst	Int-S	1		
		amphetamine	1	1					amphetamine	4.3 mg/L In Blood (unspecified) @ Unknown
		oxymorphone	2	2					oxymorphone	0.05 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	3	3					hydrocodone	0.094 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	3	3					acetaminophen	31.6 mcg/mL In Blood (unspecified) @ Unknown
		trazodone	4	4					trazodone	1.85 mg/L In Blood (unspecified) @ Unknown
1881ai	46 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.05 mcg/mL In Blood (unspecified) @ Unknown
		cocaine	1	1					benzoylecognine	0.96 mcg/mL In Blood (unspecified) @ Unknown

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		fentanyl	2	2					fentanyl	7.4 ng/mL In Blood (unspecified) @ Unknown
1882ai	46 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	1.9 mcg/mL In Whole Blood @ Autopsy
1883ai	46 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	7.4 mcg/mL In Whole Blood @ Autopsy
1884ai	46 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.04 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.65 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					norfluoxetine	0.82 mcg/mL In Whole Blood @ Autopsy
		fluoxetine	2	2					fluoxetine	1.1 mcg/mL In Whole Blood @ Autopsy
		quetiapine	3	3						
1885pa	47 y F				U	Unk	Unk	1		
		cocaine	1	1					benzoylecognine	0.09 mg/L In Serum @ Unknown
1886pai	47 y M				A	Par+ Unk	Int-U	1		
		heroin	1	1						
		cocaine	2	2						
		diltiazem	3	3						
		trazodone	4	4						
		marijuana	5	5						
		doxylamine	6	6						
1887pai	47 y M				A	Par+ Unk	Int-U	1		
		heroin	1	1						
		citalopram	2	2						
		trazodone	3	3						
		metoprolol	4	4						
		ethanol	5	5						
		quinine	6	6						
1888ai	47 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.31 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	1.9 mcg/mL In Whole Blood @ Autopsy
1889pai	48 y M				A	Ingst+ Par	Int-A	1		
		heroin	1	1						
		cocaine	2	2						
		methadone	3	3						
		diltiazem	4	4						
1890ai	48 y F				U	Ingst+ Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2						
		acetaminophen/ hydrocodone	3	3						
		diazepam	4	4						
1891ai	48 y M				U	Unk	Int-A	3		
		methamphetamine	1	1					amphetamine	0.06 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.16 mcg/mL In Whole Blood @ Autopsy
1892ha	48 y F				A	Inhal	Int-A	2		
		amphetamines (bath salts)	1	1					midazolam	92 ng/mL In Blood (unspecified) @ Unknown
1893ai	48 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.1 g/dL In Blood (unspecified) @ Unknown
1894ai	48 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	1.5 mg/kg In Liver @ Autopsy
1895pai	49 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.19 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		cocaine	2	2					benzoylecognine	0.54 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	3	3						
1896pai	49 y M				A	Unk	Int-U	1		
		cocaine	1	1						
		morphine	2	2						
1897ai	49 y F				U	Ingst	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.07 mcg/mL In Whole Blood @ Autopsy
1898	49 y M				C	Ingst	Int-A	2		
		amphetamines (bath salts)	1	1						
1899ai	49 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.17 mcg/mL In Blood (unspecified) @ Unknown
		oxycodone	2	2					oxycodone	0.07 mcg/mL In Blood (unspecified) @ Unknown
		hydromorphone	3	3					hydromorphone	13 ng/mL In Blood (unspecified) @ Unknown
1900ai	49 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaethylene	0.11 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaine	0.62 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.12 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.13 % (wt/Vol) In Vitreous @ Autopsy
1901ai	49 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.39 mcg/mL In Whole Blood @ Autopsy
1902ai	49 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.08 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.23 mg/kg In Liver @ Autopsy
1903p	49 y M				A	Ingst	Int-U	2		
		heroin	1	1						
		methadone	2	2						
		cocaine	3	3						
1904ai	49 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.18 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1 mcg/mL In Whole Blood @ Autopsy
1905ai	49 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.51 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	2	2						
		diazepam	3	3						
		alprazolam	4	4						
1906pai	50 y F				A	Unk	Int-A	1		
		cocaine	1	1						
1907pi	50 y M				A/C	Unk	Int-A	2		
		heroin	1	1						
1908ai	50 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.27 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	1.7 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.34 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
1909ai	50 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.08 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.14 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		skeletal muscle relaxant	3	3					carisoprodol	3.6 mcg/mL In Whole Blood @ Autopsy
		diazepam	4	4						
		venlafaxine	5	5						
1910ai	50 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.09 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaethylene	0.11 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaethylene	0.25 mg/kg In Brain @ Autopsy
		cocaine	1	1					benzoylecognine	0.54 mg/kg In Brain @ Autopsy
		cocaine	1	1					benzoylecognine	0.93 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.18 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.24 % (wt/Vol) In Vitreous @ Autopsy
1911ai	50 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaethylene	0.12 mg/kg In Liver @ Autopsy
		cocaine	1	1					cocaine	1.6 mg/kg In Liver @ Autopsy
		diazepam	2	2						
1912ai	50 y M				U	Unk	Int-A	2		
		cocaine	1	1					benzoylecognine	0.55 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					amphetamine	0.13 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.71 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		alprazolam	4	4						
1913	51 y F				A	Ingst+ Par	Int-A	2		
		amphetamines (bath salts)*	2	1						
		drug, unknown*	1	1						
		sympathomimetic	3	2						
1914a	51 y M				A	Ingst+ Par	Int-A	2		
		heroin	1	1					morphine (free)	71 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/ oxycodone	2	2					oxycodone (free)	25 ng/mL In Blood (unspecified) @ Autopsy
		ethanol	3	3					ethanol	16 mg/dL In Blood (unspecified) @ Autopsy
		phencyclidine	4	4					phencyclidine	19 ng/mL In Blood (unspecified) @ Autopsy
		marijuana	5	5					thc (tetrahydrocannabinol)	8.3 ng/mL In Blood (unspecified) @ Autopsy
1915ai	51 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					amphetamine	0.1 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.57 mcg/mL In Whole Blood @ Autopsy
		morphine	2	2					morphine (free)	0.26 mcg/mL In Whole Blood @ Autopsy
		alprazolam	3	3					alprazolam	1.2 ng/mL In Whole Blood @ Autopsy
1916ai	51 y F				U	Ingst+ Unk	Int-S	2		
		methamphetamine	1	1					amphetamine	0.13 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	0.75 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2					methadone	0.19 mcg/mL In Whole Blood @ Autopsy
		imipramine	3	3					desipramine	0.78 mcg/mL In Whole Blood @ Autopsy
		imipramine	3	3					imipramine	1.8 mcg/mL In Whole Blood @ Autopsy
		alprazolam	4	4						

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
[1917pha]	51 y M				A	Ingst	Int-M	1		
		methamphetamine	1	1					methamphetamine	21000 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					amphetamine	700 ng/mL In Blood (unspecified) @ Autopsy
		phencyclidine	2	2					phencyclidine	64 ng/mL In Blood (unspecified) @ Autopsy
1918ai	51 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.19 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.86 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaethylene	16 ng/mL In Whole Blood @ Autopsy
1919ai	51 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	13.9 mg/kg In Liver @ Autopsy
		methamphetamine	1	1					amphetamine	2.2 mg/kg In Liver @ Autopsy
1920pai	52 y M				A	Ingst+ Inhal	Int-A	1		
		cocaine	1	1						
		doxylamine	2	2						
		dextromethorphan	3	3						
		laxative (stimulant)	4	4						
1921ai	52 y F				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.26 mcg/mL In Whole Blood @ Autopsy
1922pai	52 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.37 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.1 mcg/mL In Whole Blood @ Autopsy
1923ai	52 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.14 mcg/mL In Whole Blood @ Autopsy
1924ai	52 y M				U	Ingst+ Unk	Int-A	2		
		heroin	1	1					morphine (free)	0.1 mcg/mL In Whole Blood @ Autopsy
		ethanol	2	2					ethanol	0.02 % (wt/Vol) In Vitreous @ Autopsy
		ethanol	2	2					ethanol	0.02 % (wt/Vol) In Whole Blood @ Autopsy
1925ai	52 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.11 mcg/mL In Whole Blood @ Autopsy
1926ai	52 y M				U	Unk	Int-A	2		
		heroin	1	1					morphine (free)	0.03 mcg/mL In Vitreous @ Autopsy
		heroin	1	1					morphine (free)	0.09 mcg/mL In Whole Blood @ Autopsy
		heroin	1	1					morphine (free)	0.24 mcg/mL In Blood (unspecified) @ Unknown
1927ai	52 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.73 mcg/mL In Whole Blood @ Autopsy
1928ai	53 y F				U	Ingst	Int-A	2		
		phentermine	1	1					phentermine	3 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.1 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
1929pai	53 y M				A	Unk	Int-U	1		
		heroin	1	1						
		codeine	2	2						
		olanzapine	3	3						
		alprazolam	4	4						
		dextromethorphan	5	5						
		fluoxetine	6	6						
1930ai	53 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.72 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1931pai	54 y M				A	Ingst+ Unk	Int-U	1		
		cocaine	1	1						
		oxycodone	2	2						
		acetaminophen	3	3						
		diphenhydramine	4	4						
1932ai	54 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.37 mcg/mL In Whole Blood @ Autopsy
		diazepam	2	2						
		morphine	3	3						
1933pha	54 y M				U	Ingst+ Par	Unk	1		
		heroin	1	1					morphine	0.02 mg/L In Vitreous @ Autopsy
		heroin	1	1					morphine	0.13 mg/L In Blood (unspecified) @ Autopsy
		ethanol*	3	2					ethanol	194 mg/dL In Serum @ 0 h (pe)
		laxative (stimulant)*	2	2					sertraline	480 mcg/L In Blood (unspecified) @ Autopsy
		quetiapine*	4	2					quetiapine	16 mcg/L In Blood (unspecified) @ Autopsy
1934ha	54 y M				A/C	Ingst+ Inhal	Int-A	2		
		methamphetamine	1	1						
		heroin	2	2						
		cocaine	3	3						
1935p	54 y M				U	Unk	Int-S	3		
		methamphetamine	1	1						
1936pai	55 y M				A	Inhal	Int-A	1		
		cocaine	1	1						
1937pai	55 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.12 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.5 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2					oxycodone	0.8 mcg/mL In Whole Blood @ Autopsy
1938	55 y M				A	Inhal	Int-S	1		
		amphetamines (bath salts)	1	1						
1939ai	55 y M				U	Inhal	Int-A	3		
		cocaine	1	1					cocaine	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.4 mcg/mL In Whole Blood @ Autopsy
1940ai	55 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	1.4 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	17.8 mcg/mL In Whole Blood @ Autopsy
1941ai	55 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.13 microU/mL In Whole Blood @ Autopsy
		morphine	2	2						
1942ai	56 y M				U	Ingst+ Unk	Int-S	2		
		cocaine	1	1					cocaethylene	0.09 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaine	0.12 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	1.1 mcg/mL In Whole Blood @ Autopsy
		diazepam	3	3						
		hydroxyzine	4	4						
1943ai	56 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.08 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.3 mcg/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	0.38 mcg/mL In Whole Blood @ Autopsy
1944ai	56 y M				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.12 mcg/mL In Whole Blood @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.05 mcg/mL In Whole Blood @ Autopsy
		oxycodone	3	3					oxycodone	0.21 mcg/mL In Whole Blood @ Autopsy
		cocaine	4	4					cocaine	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	4	4					benzoylecognine	0.71 mcg/mL In Whole Blood @ Autopsy
1945ai	56 y F				U	Ingst+ Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.19 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.13 mcg/mL In Whole Blood @ Autopsy
		skeletal muscle relaxant	3	3						
		ethanol	4	4					ethanol	0.21 % (wt/Vol) In Whole Blood @ Autopsy
		ethanol	4	4					ethanol	0.23 % (wt/Vol) In Vitreous @ Autopsy
1946ai	57 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.17 mcg/mL In Whole Blood @ Autopsy
		levamisole	2	2						
1947ai	57 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.3 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
1948ai	57 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.3 mcg/mL In Whole Blood @ Autopsy
		acetaminophen/ hydrocodone	2	2						
1949ai	58 y M				U	Unk	Int-A	2		
		cocaine	1	1					benzoylecognine	0.26 mcg/mL In Whole Blood @ Autopsy
		methadone	2	2						
1950ai	59 y M				U	Unk	Int-A	3		
		methamphetamine	1	1					methamphetamine	1.4 mcg/mL In Whole Blood @ Autopsy
1951ai	59 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.12 mcg/mL In Whole Blood @ Autopsy
		oxycodone	2	2						2 mcg/mL In Whole Blood @ Autopsy
1952ai	59 y F				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.09 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.5 mcg/mL In Whole Blood @ Autopsy
1953ai	60 y M				U	Ingst+ Unk	Int-A	2		
		heroin	1	1					6-monoacetylmorphine	0.03 mcg/mL In Whole Blood @ Autopsy
		heroin	1	1					codeine	0.06 mcg/mL In Whole Blood @ Autopsy
		heroin	1	1					morphine (free)	0.69 mcg/mL In Whole Blood @ Autopsy
1954ai	60 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.05 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.46 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					cocaethylene	17 ng/mL In Whole Blood @ Autopsy
1955ai	60 y M				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					cocaine	0.04 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	1.2 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	0.35 mcg/mL In Whole Blood @ Autopsy
		tramadol	2	2					tramadol	0.38 mcg/mL In Vitreous @ Autopsy

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		tapentadol	3	3						
		methadone	4	4						
1956pa	62 y M				A	Ingst	Int-S	2		
		cocaine	1	1						
		trazodone	2	2						
		drug, unknown	3	3						
1957h	62 y M				U	Unk	Int-A	3		
		cocaine	1	1						
1958ai	64 y F				U	Ingst+ Unk	Int-A	2		
		cocaine	1	1					benzoylecognine	0.05 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.14 mcg/mL In Serum @ Unknown
		acetaminophen/ hydrocodone	2	2					hydrocodone	0.16 mcg/mL In Blood (unspecified) @ Unknown
1959ai	65 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	0.48 mcg/mL In Whole Blood @ Autopsy
1960ai	67 y F				U	Ingst	Int-A	2		
		phentermine	1	1					phentermine	4.9 mcg/mL In Blood (unspecified) @ Unknown
		chlordiazepoxide	2	2						
		diazepam	3	3						
1961ai	67 y M				U	Unk	Int-A	2		
		cocaine	1	1					cocaine	0.03 mcg/mL In Whole Blood @ Autopsy
		cocaine	1	1					benzoylecognine	0.57 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	2	2					methamphetamine	0.12 mcg/mL In Whole Blood @ Autopsy
1962ai	68 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	1.6 mcg/mL In Whole Blood @ Autopsy
		methamphetamine	1	1					methamphetamine	3.4 mg/kg In Liver @ Autopsy
1963ai	73 y M				U	Unk	Int-A	2		
		methamphetamine	1	1					methamphetamine	2.4 mg/kg In Liver @ Autopsy
1964p	10 m M				A	Ingst	Unt-G	1		
		cocaine	1	1						
1965ai	1 d F				U	Oth	Unk	2		
		methamphetamine	1	1					methamphetamine	1.3 mg/kg In Liver @ Autopsy
1966ai	1 d M				U	Oth	Unk	3		
		methamphetamine	1	1					methamphetamine	0.31 mg/kg In Liver @ Autopsy
1967ai	1 d F				U	Oth	Unk	2		
		methamphetamine	1	1					methamphetamine	0.62 mg/kg In Liver @ Autopsy
		amphetamine	2	2						
1968pi	20 + y M			C	Inhal	Int-A	2			
		amphetamines (bath salts)	1	1						
1969i	20 + y M			U	Inhal	Int-M	3			
		amphetamines (bath salts)	1	1						
		ziprasidone	2	2						
1970i	20 + y M			U	Inhal	Int-M	3			
		amphetamines (bath salts)	1	1						
		ziprasidone	2	2						
		risperidone	3	3						
1971p	Unknown adult (> = 20 yrs) F			A/C	Ingst	Int-A	2			
		heroin	1	1						
		amphetamines (bath salts)	2	2						
		oxycodone	3	3						
		methadone	4	4						

See Also case 17, 22, 27, 30, 59, 73, 78, 81, 82, 84, 95, 133, 218, 269, 284, 319, 330, 340, 348, 350, 366, 368, 372, 374, 382, 385, 387, 395, 404, 427, 430, 436, 439, 440, 450, 453, 457, 476, 511, 525, 554, 561, 562, 590, 591, 592, 594, 609, 611, 629, 639, 642, 646, 650, 657, 664, 671, 701, 743, 746, 747, 791, 794, 796, 799, 803, 824, 832, 853, 907, 915, 940, 958, 982, 988, 993, 998, 1000, 1055, 1095, 1103, 1179, 1187, 1204, 1209, 1217, 1222, 1225, 1235, 1240, 1241, 1242, 1250, 1261, 1269, 1283, 1298, 1302, 1328, 1331, 1336, 1341, 1388, 1431, 1433, 1449, 1466, 1468, 1483, 1557, 1624, 1631, 1639, 1640, 1650, 1660, 1675, 1698, 1982

(Continued)

Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
Topical Preparations										
1972	61 y M				A	Inhal	Int-M	3		
		camphor/phenol	1	1						
See Also case 1522										
Unknown Drug										
1973p	22 y M				A	Ingst	Unk	2		
		drug, unknown	1	1						
1974	24 y F				A/C	Unk	Int-A	2		
		drug, unknown	1	1						
		methadone	2	2						
		alprazolam	3	3						
1975p	24 y M				A	Ingst	Int-S	2		
		drug, unknown	1	1						
1976	31 y M				A	Ingst	Int-S	1		
		drug, unknown	1	1						
1977	31 y F				U	Ingst	Unk	2		
		drug, unknown	1	1						
1978pa	33 y F				U	Ingst	Int-U	2		
		drug, unknown	1	1						
		morphine	2	2						
		lorazepam	3	3						
1979pha	34 y F				A/C	Unk	Int-U	3		
		drug, unknown	1	1					benzoylecognine	197 mcg/dL In Vitreous @ 2 d (pe)
1980p	36 y M				A	Ingst	Int-S	2		
		drug, unknown	1	1						
1981p	41 y F				A/C	Unk	Int-U	2		
		drug, unknown	1	1						
1982p	41 y M				A	Ingst+ Inhal	Int-S	3		
		drug, unknown	1	1						
		cocaine	2	2						
		ethanol	3	3					ethanol	22 mg/dL In Blood (unspecified) @ Unknown
1983	47 y M				U	Unk	Int-A	3		
		drug, unknown	1	1						
1984	47 y F				A	Ingst	Unk	2		
		drug, unknown	1	1						
1985h	49 y F				U	Unk	Int-U	2		
		drug, unknown	1	1						
1986h	50 y F				C	Unk	Unk	3		
		drug, unknown	1	1						
		acetaminophen/ diphenhydramine	2	2					acetaminophen	35 mcg/mL In Blood (unspecified) @ Unknown
1987	50 y M				A	Ingst	Int-U	3		
		drug, unknown	1	1						
		ethanol	2	2					ethanol	288 mg/dL In Blood (unspecified) @ Unknown
1988	55 y F				U	Ingst	Int-S	3		
		drug, unknown	1	1						
1989h	59 y F				U	Ingst	Int-S	2		
		drug, unknown	1	1						
		acetaminophen	2	2					acetaminophen	13.2 mcg/mL In Blood (unspecified) @ Unknown
1990	59 y M				U	Ingst	Unk	3		
		drug, unknown	1	1						
		acetaminophen	2	2						
1991a	63 y M				A	Ingst	Unk	2		
		drug, unknown	1	1						
		ethanol (non-beverage)	2	2						
1992	71 y M				A	Ingst	Unt-G	1		
		drug, unknown	1	1						
1993h	72 y F				U	Unk	Unt-G	2		
		drug, unknown	1	1						
1994	Unknown adult (> = 20 yrs) M			U	Unk	Unk	2			
		drug, unknown	1	1						
See Also case 6, 73, 109, 163, 429, 537, 785, 802, 834, 983, 1070, 1090, 1102, 1164, 1229, 1310, 1319, 1426, 1472, 1544, 1594, 1649, 1653, 1746, 1913, 1956										
Vitamins										
1995	45 y F				A	Par	Int-M	3		
		vitamin B12	1	1						
See Also case 1155										

Listing of 1,1995 (1,158 Direct + 837 Indirect) fatalities classified as Relative Contribution to Fatality category = 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Annual Report ID: Bracketed [case number]=Narrative provided for this case in Appendix C **i** = Indirect case; identified through other sources (news feeds, medical examiner data, or other) about which no inquiry to the PC was made, **p** = prehospital cardiac and/or respiratory arrest, **h** = hospital records reviewed, **a** = autopsy report reviewed.
Age Gender: y = years, **m** = months, **d** = days, **F** = female, **M** = male, **F-Pregnant** = pregnant, **U** = unknown.
Chronicity: C = chronic exposure, **A** = acute exposure, **A/C** = acute on chronic, **U** = unknown.
Route: Aspir = Aspiration (with ingestion), **B-S** = Bite/sting, **Derm** = Dermal, **Ingst** = Ingestion, **Inhal** = Inhalation/nasal, **Oc** = Ocular, **Ot** = Otic, **Oth** = Other, **Par** = Parenteral, **Rec** = Rectal, **Unk** = Unknown, **Vag** = Vaginal.
Reason: AR-D = Adverse reaction – Drug, **AR-F** = AR – Food, **AR-O** = AR – Other, **Int-A** = Intentional – Abuse, **Int-M** = Int – Misuse, **Int-S** = Int – Suspected Suicide, **Int-U** = Int – Unknown, **Oth-C** = Other – Contamination/tampering, **Oth-M** = Oth – Malicious, **Oth-W** = Oth – Withdrawal, **Unk** = Unknown reason, **Unt-B** = Unintentional – Bite/sting, **Unt-E** = Unt – Environmental, **Unt-F** = Unt - Food poisoning, **Unt-G** = Unt – General, **Unt-M** = Unt – Misuse, **Unt-O** = Unt – Occupational, **Unt-T** = Unt - Therapeutic error, **Unt-U** = Unt – Unknown.
RCF (Relative Contribution to Fatality): 1 = Undoubtedly responsible, 2 = Probably responsible, 3 = Contributory. Provided by the RPC for Indirect cases and the AAPCC Fatality Review Team for the direct (non-Indirect cases).

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Nonpharmaceuticals																			
Adhesives/Glues																			
Miscellaneous Adhesives/Glues																			
Cyanoacrylates (Superglues, etc)	7,209	7,143	3,303	527	525	2,196	17	525	50	6,857	182	48	39	1,667	1,005	1,463	220	2	0
Epoxy	596	545	197	17	27	249	2	48	5	520	14	0	10	149	108	102	40	0	0
Non-Toxic Adhesives/Glues (White Glue, Paper Glue, etc)	1,329	1,244	862	234	59	73	3	12	1	1,200	27	14	2	48	167	62	2	0	0
Toluene/Xylene (Adhesives Only)	414	396	199	16	25	129	0	25	2	366	24	1	5	68	92	78	8	0	0
Unknown Types of Adhesive, Glue, Cement or Paste	3,617	3,422	1,698	231	202	1,031	8	235		3,206	108	35	66	652	677	579	96	4	0
Category Total:	**13,165**	**12,750**	**6,259**	**1,025**	**838**	**3,678**	**30**	**845**	**75**	**12,149**	**355**	**98**	**122**	**2,584**	**2,049**	**2,284**	**366**	**6**	**0**
Alcohols																			
Miscellaneous Alcohols																			
Ethanol (Beverages)	53,021	9,166	1,415	140	1,738	4,955	14	716	188	2,371	6,169	253	234	3,760	880	1,446	1,062	208	71
Ethanol (Non-Beverage, Non-Rubbing)	5,792	4,710	3,306	299	195	773	13	111	13	4,303	324	44	25	413	967	343	72	10	2
Higher Alcohols (Butanol, Amyl Alcohol, Propanols, etc)	121	73	43	3	5	21	0	1	0	69	2	0	2	17	25	15	4	0	0
Isopropanol (Excluding Rubbing Alcohols and Cleaning Agents)	3,071	2,713	1,284	130	122	1,030	4	131	12	2,135	512	25	14	720	622	483	212	33	0
Methanol (Excluding Automotive Products and Cleaning Agents)	745	550	129	14	39	321	0	44	3	444	73	16	1	295	133	93	43	10	6
Other Types of Alcohol	368	350	265	12	15	50	0	7	1	339	8	1	2	26	83	31	3	0	0
Unknown Types of Alcohol	414	199	50	6	19	97	0	23	4	101	75	4	6	66	21	38	25	8	3
Rubbing Alcohols																			
Rubbing Alcohols: Ethanol with Methyl Salicylate	5	5	5	0	0	0	0	0	0	5	0	0	0	1	1	1	0	0	0
Rubbing Alcohols: Ethanol without Methyl Salicylate	206	199	133	9	8	44	0	5	0	182	16	1	0	29	53	26	4	1	0
Rubbing Alcohols: Isopropanol with Methyl Salicylate	297	289	202	4	10	66	0	7	0	264	23	0	1	81	113	35	7	2	0
Rubbing Alcohols: Isopropanol without Methyl Salicylate	9,755	8,999	5,299	308	373	2,617	10	349	43	7,747	1,102	86	26	1,650	2,060	1,354	321	21	0
Rubbing Alcohols: Unknown	68	58	28	7	1	16	0	3	3	45	12	0	0	18	13	15	4	0	0
Category Total:	**73,863**	**27,311**	**12,159**	**932**	**2,525**	**9,990**	**41**	**1,397**	**267**	**18,005**	**8,316**	**430**	**311**	**7,076**	**4,971**	**3,880**	**1,757**	**293**	**82**
Arts/Crafts/Office Supplies																			
Miscellaneous Arts/Crafts/Office Supplies																			
Artist Paints (Non-Water Color)	2,810	2,715	1,972	232	106	328	6	69	2	2,646	44	9	13	95	441	134	8	0	0
Artist Paints (Water Color)	986	965	816	77	17	43	2	9	1	942	15	5	2	25	144	25	1	0	0
Chalks	1,362	1,329	1,206	63	27	27	3	3	0	1,304	20	4	1	28	230	39	1	0	0
Clays	2,023	1,975	1,638	141	66	91	11	27	1	1,946	19	2	7	57	225	120	5	0	0
Crayons	2,143	2,087	1,820	117	55	70	7	17	1	2,060	22	0	4	43	219	58	1	0	0
Glazes	115	109	38	20	22	26	0	3	0	100	5	3	1	15	15	9	2	0	0
Office Supplies: Miscellaneous	147	141	77	5	5	46	0	7	1	135	6	0	0	22	19	20	2	0	0
Other Types of Arts/Crafts/ Writing Products	5,253	4,978	3,672	458	226	466	22	122	12	4,804	121	24	22	238	728	233	25	0	1
Pencils	1,735	1,693	875	569	125	87	11	22	4	1,557	103	24	4	71	184	112	5	0	0
Pens or Inks	12,436	12,177	8,662	1,942	961	430	48	111	23	11,619	414	47	84	354	1,738	322	24	0	0
Typewriter Correction Fluids	1,153	1,136	819	132	76	79	4	23	3	1,079	43	12	0	72	272	87	5	0	0
Unknown Types of Arts/Crafts/ Writing Products	113	108	74	19	5	9	0	1	0	105	0	2	0	3	24	5	1	0	0
Category Total:	**30,276**	**29,413**	**21,669**	**3,775**	**1,691**	**1,702**	**114**	**414**	**48**	**28,297**	**812**	**132**	**138**	**1,023**	**4,239**	**1,164**	**80**	**0**	**1**

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Automotive/Aircraft/Boat Products																			
Automotive Products																			
Automotive Products: Brake Fluids	1,014	964	305	25	45	505	0	78	6	908	39	9	5	356	231	259	44	3	1
Automotive Products: Ethylene Glycol (Including Antifreeze)	6,241	5,694	521	116	463	3,932	7	591	64	4,801	727	90	19	2,046	1,037	933	427	149	7
Automotive Products: Glycol and Methanol Mixtures	165	153	42	11	12	71	0	14	3	136	12	3	1	48	40	30	6	2	0
Automotive Products: Hydrocarbons (Transmission Fluids, Power Steering Fluids, etc)	2,412	2,273	862	86	144	978	6	181	16	2,104	121	22	16	686	502	681	115	6	1
Automotive Products: Methanol (Dry Gas, Windshield Washing Solutions, etc)	1,205	1,132	217	44	106	675	0	81	9	976	132	13	2	488	297	302	68	13	3
Automotive Products: Other Glycols	165	155	76	8	7	48	0	14	2	146	6	3	0	38	45	21	5	0	0
Miscellaneous Automotive/Aircraft/Boat Products																			
Automotive/Aircraft/Boat Products: Non-Toxic	17	17	12	2	1	2	0	0	0	16	1	0	0	2	5	2	0	0	0
Automotive/Aircraft/Boat Products: Other	1,691	1,620	661	112	89	624	5	113	16	1,543	42	5	25	456	354	507	80	6	0
Automotive/Aircraft/Boat Products: Unknown	188	165	40	8	15	77	0	21	4	152	8	1	1	69	22	53	16	1	0
Category Total:	**13,098**	**12,173**	**2,736**	**412**	**882**	**6,912**	**18**	**1,093**	**120**	**10,782**	**1,088**	**146**	**69**	**4,189**	**2,533**	**2,788**	**761**	**180**	**12**
Batteries																			
Disc Batteries																			
Disc Batteries: Alkaline (MNO2)	334	326	231	32	11	44	2	4	2	320	5	0	1	240	193	26	8	2	0
Disc Batteries: Lithium	165	118	46	19	11	39	0	3	0	83	25	0	8	105	47	21	20	4	0
Disc Batteries: Mercuric Oxide	7	7	4	1	0	2	0	0	0	7	0	0	0	3	4	1	1	0	0
Disc Batteries: Nickel Cadmium	4	4	1	0	0	3	0	0	0	4	0	0	0	1	2	1	0	0	0
Disc Batteries: Other	3	3	2	0	0	1	0	0	0	3	0	0	0	2	1	2	0	0	0
Disc Batteries: Silver Oxide	46	45	27	2	0	15	0	0	1	44	0	0	0	32	25	2	1	0	0
Disc Batteries: Unknown	2,918	2,877	1,973	443	51	359	13	34	4	2,789	71	8	1	2,118	1,374	157	48	13	1
Disc Batteries: Zinc-Air	142	137	52	14	4	67	0	0	0	133	4	0	0	82	87	16	3	0	0
Miscellaneous Batteries																			
Automotive/Aircraft/Boat Batteries	743	734	52	15	34	492	4	131	6	714	12	3	5	223	64	219	58	1	0
Other Types of Battery	151	145	47	12	15	45	0	20	6	139	4	0	0	24	28	21	6	0	0
Penlight/Flashlight/Dry Cell Batteries	5,038	4,933	2,763	585	275	1,035	16	240	19	4,497	347	48	19	895	1,317	572	108	4	0
Unknown Types of Battery	57	57	19	6	5	24	0	3	0	54	3	0	0	11	19	10	3	0	0
Category Total:	**9,608**	**9,386**	**5,217**	**1,129**	**406**	**2,126**	**35**	**435**	**38**	**8,787**	**471**	**59**	**34**	**3,736**	**3,161**	**1,048**	**256**	**24**	**1**
Bites and Envenomations																			
Aquatic																			
Fish Stings	892	888	25	53	88	624	3	72	23	883	2	0	3	325	5	271	107	1	0
Jellyfish and Other Coelenterate Stings	542	539	69	145	100	184	3	29	9	530	6	0	3	114	6	177	59	1	0
Other or Unknown Marine Animal Bites and/or Envenomations	348	341	189	31	20	77	1	22	1	318	11	6	6	55	48	35	14	3	0
Exotic Snakes																			
Exotic Snake: Unknown If Poisonous	2	2	0	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Exotic Snakes: Non-Poisonous	65	65	4	13	6	31	0	11	0	65	0	0	0	35	1	22	8	0	0
Exotic Snakes: Poisonous	38	37	2	0	0	33	0	1	1	33	1	1	1	33	1	9	10	5	0
Insects																			
Ant or Fire Ant Bites	1,332	1,279	422	99	65	547	8	123	15	1,265	3	7	3	141	34	336	83	1	0
Bee, Wasp, or Hornet Stings	5,733	5,603	1,139	586	316	2,969	9	553	31	5,598	3	0	2	667	44	1,961	319	11	0
Caterpillars	951	946	272	146	89	351	5	75	8	928	7	2	8	126	25	317	35	2	0
Centipede or Millipede Bites	1,080	1,070	168	77	81	619	0	115	10	1,066	0	1	2	120	36	346	42	2	0
Mosquito Bites	164	156	52	14	7	57	3	23	0	155	0	0	1	22	2	39	10	1	0
Other Insect Bites and/or Stings	8,488	8,316	1,763	623	534	4,065	24	1,238	69	8,167	22	76	22	1,313	252	1,733	444	9	0
Scorpion Stings	19,131	19,108	1,787	1,924	1,763	11,801	18	1,719	96	19,100	7	1	0	1,664	102	11,239	866	16	0
Tick Bites	1,571	1,523	310	194	79	756	8	165	11	1,522	0	0	1	319	56	260	43	0	0
Mammals																			
Bat Bites	715	710	95	72	69	338	23	105	8	696	3	1	0	423	126	77	2	1	0
Cat Bites	706	701	52	69	53	431	5	84	7	701	0	0	0	418	6	172	33	1	0
Dog Bites	2,160	2,155	335	432	225	953	7	173	30	2,152	2	1	0	1,556	13	623	117	3	0
Fox Bites	29	28	1	2	3	20	0	1	1	28	0	0	0	24	0	2	2	0	0
Human Bites	40	39	6	2	1	18	0	11	1	31	1	6	0	12	2	9	3	0	0
Other Mammal Bites	944	938	106	150	84	458	7	99	34	923	1	5	4	517	56	142	19	2	0
Raccoon Bites	163	162	11	11	18	96	2	23	1	161	1	0	0	104	24	34	2	0	0
Rodent or Lagomorph Bites (Squirrels, Rats, Mice, Gerbils, Hamsters, Rabbits, etc)	1,080	1,060	221	197	110	397	12	109	14	1,027	5	21	4	324	43	257	13	2	0
Skunk Bites	10	10	0	1	0	8	0	1	0	10	0	0	0	6	2	3	1	0	0
Miscellaneous Bites and Envenomations																			
Other or Unknown Animal Bites	307	300	52	32	19	150	2	39	6	287	6	1	2	106	14	88	41	2	0
Other or Unknown Reptile Bites	484	475	150	133	37	115	3	25	12	456	9	1	9	96	25	133	15	2	0
Unknown Types of Insect or Spider Bite and/or Envenomation	3,370	3,336	526	222	260	2,030	8	251	39	3,312	4	9	7	539	60	1,000	149	3	0
Miscellaneous Snake Bites and Envenomations																			
Unknown or Known Non-Poisonous Snake Bites	1,124	1,116	87	186	154	618	1	63	7	1,107	4	1	2	450	46	538	60	3	0
Unknown Types of Snake Envenomation	1,759	1,738	103	226	224	1,095	2	73	15	1,732	2	1	1	1,392	56	726	481	33	0
Snakes																			
Copperhead Envenomations	1,567	1,552	66	138	138	1,159	1	47	3	1,549	2	1	0	1,462	23	449	882	38	0
Coral Envenomations	84	83	4	6	8	61	0	3	1	83	0	0	0	71	6	31	21	4	0
Cottonmouth Envenomations	268	266	2	9	32	208	0	10	5	265	1	0	0	236	9	98	105	10	1
Rattlesnake Envenomations	1,218	1,197	59	62	111	913	0	46	6	1,185	8	1	2	1,108	23	295	616	68	1
Unknown Crotalid Envenomations	610	599	43	60	75	398	0	20	3	597	1	0	0	547	9	185	299	16	0
Spiders																			
Black Widow Spider Bites and/or Envenomations	2,238	2,222	146	110	183	1,545	2	224	12	2,219	0	1	1	933	71	662	393	12	0
Brown Recluse Spider Bites and/or Envenomations	1,487	1,463	124	70	121	947	2	188	11	1,459	2	1	1	523	31	405	247	13	0
Other Necrotizing Spider Bites and/or Envenomations	187	184	35	9	14	111	0	15	0	184	0	0	0	55	3	54	22	2	0
Other Spider Bites and/or Envenomations	5,721	5,671	634	371	474	3,550	8	598	36	5,640	12	8	3	1,116	91	1,396	329	6	0
Tarantula Bites and/or Envenomations	67	66	4	9	5	37	0	11	0	63	0	0	1	15	1	19	8	0	0
Category Total:	**66,675**	**65,944**	**9,064**	**6,484**	**5,567**	**37,770**	**167**	**6,366**	**526**	**65,499**	**126**	**153**	**89**	**16,967**	**1,352**	**24,143**	**5,900**	**273**	**2**

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Building and Construction Products																			
Insulation																			
Asbestos	422	369	34	28	15	203	1	82	6	360	1	1	5	56	57	26	7	0	0
Fiberglass	668	635	293	52	38	197	2	49	4	616	8	4	7	91	66	131	10	0	0
Other Types of Insulation	102	100	27	3	4	56	0	10	0	96	2	1	0	25	10	19	10	0	0
Unknown Types of Insulation	449	424	259	17	19	97	0	30	2	419	1	0	3	46	70	44	5	0	0
Urea or Formaldehyde Insulations	18	18	4	2	0	8	0	3	1	15	0	0	2	8	3	3	1	0	0
Miscellaneous Building and Construction Products																			
Caulking Compounds and Construction Putties	2,583	2,525	1,827	75	52	431	14	121	5	2,469	28	4	22	212	550	161	28	1	0
Cement or Concrete (Excluding Glues)	1,085	1,035	338	24	36	534	0	98	5	1,006	17	2	9	401	141	206	183	4	0
Other Types of Building or Construction Products	2,395	2,241	1,240	94	74	638	6	170	19	2,168	31	3	31	394	413	326	90	4	0
Soldering Flux	209	202	82	4	13	84	0	16	3	188	3	3	4	70	40	53	17	0	0
Unknown Types of Building or Construction Products	86	80	15	0	5	45	0	15	0	74	3	1	1	30	14	20	12	0	0
Category Total:	**8,017**	**7,629**	**4,119**	**299**	**256**	**2,293**	**23**	**594**	**45**	**7,411**	**94**	**19**	**84**	**1,333**	**1,364**	**989**	**363**	**9**	**0**
Chemicals																			
Acids																			
Hydrochloric Acid	2,077	1,715	90	44	210	1,140	2	198	31	1,641	30	17	17	695	122	628	222	12	0
Hydrofluoric Acid	695	591	21	6	19	492	1	52	0	576	7	3	4	472	57	221	137	5	1
Other Types of Acid	4,970	4,332	554	235	344	2,535	5	599	60	4,078	150	36	41	1,595	484	1,329	501	33	3
Unknown Types of Acid	190	161	21	8	15	95	1	17	4	149	4	5	0	75	20	46	28	2	0
Miscellaneous Chemicals																			
Acetone (Excluding Nail Polish Removers)	1,159	1,008	356	24	70	465	3	83	7	899	61	16	15	267	178	250	48	2	0
Alkalis (Excluding Cleaning Agents, Bleaches, Batteries, and Detergents)	3,732	3,267	588	104	338	1,886	6	317	28	3,073	89	48	36	1,612	308	980	615	47	1
Ammonia (Excluding Cleaning Agents)	3,232	2,368	612	146	154	1,135	7	285	29	2,225	69	35	22	860	314	703	253	12	2
Borates or Boric Acid (Excluding Topicals and Pesticides)	2,996	2,760	1,348	157	88	912	7	220	28	2,557	104	43	41	432	572	256	40	1	0
Chlorates (Excluding Matches and Fireworks)	28	23	9	2	7	5	0	0	0	20	1	1	1	9	7	3	4	0	0
Cyanides (Excluding Rodenticides)	246	177	11	4	5	120	1	36	0	133	14	18	3	97	57	30	15	5	3
Dioxins	4	3	1	0	0	1	0	1	0	2	0	1	0	1	0	0	1	0	0
Ethylene Glycol (Excluding Automotive, Aircraft, or Boat Products)	773	583	43	4	40	443	1	49	3	338	188	14	3	386	86	83	100	84	11
Formaldehyde or Formalin	828	745	79	46	123	394	3	84	16	678	34	7	22	285	80	211	43	2	0
Ketones	428	374	97	10	17	209	1	34	6	365	5	2	2	178	77	136	37	2	0
Methylene Chloride (Excluding Paint Strippers)	171	143	24	8	5	92	0	13	1	140	2	0	0	53	22	44	14	1	0
Nitrates and Nitrites (Excluding Medications and Substances of Abuse)	1,305	1,195	378	261	141	337	0	73	5	1,013	143	15	16	237	262	189	41	6	1
Other Chemicals	11,451	10,058	3,822	823	586	3,742	40	949	96	9,216	342	156	293	2,300	1,821	1,910	506	37	7
Other Chemicals-Unknown If Toxic	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other Glycols (Excluding Automotive, Aircraft, or Boat Products)	734	613	249	41	24	239	0	56	4	537	28	13	26	196	161	121	29	2	0
Phenol or Creosotes (Excluding Disinfectants)	352	317	26	10	22	196	0	55	8	293	6	0	17	145	25	97	47	0	0
Strychnine (Excluding Rodenticides)	29	23	11	2	1	9	0	0	0	17	2	0	3	11	8	3	0	0	0
Toluene Diisocyanate	556	533	117	28	27	291	1	65	4	500	17	0	14	149	67	108	23	0	1
Unknown Chemicals	3,625	3,380	688	199	231	1,693	14	487	68	2,671	120	347	127	1,204	340	718	271	15	6
Category Total:	**39,582**	**34,370**	**9,146**	**2,162**	**2,467**	**16,431**	**93**	**3,673**	**398**	**31,122**	**1,416**	**777**	**703**	**11,259**	**5,068**	**8,066**	**2,975**	**268**	**36**
Cleaning Substances (Household)																			
Automatic Dishwasher Detergents																			
Automatic Dishwasher Detergents: Granules (Various Containers)	2,760	2,717	2,285	43	33	282	3	68	3	2,679	17	15	3	93	684	322	14	0	0
Automatic Dishwasher Detergents: Liquids (Various Containers)	2,389	2,349	1,965	37	29	266	3	49	0	2,312	11	19	4	112	576	286	18	0	0
Automatic Dishwasher Detergents: Tablets	1,928	1,914	1,799	16	12	77	2	8	0	1,910	3	1	0	70	468	249	7	0	0
Automatic Dishwasher Rinse Agents	889	859	753	16	5	66	0	18	1	853	2	3	0	59	195	130	14	3	0
Other or Unknown Types of Automatic Dishwasher Detergent	7,547	7,495	6,955	72	60	323	8	71	6	7,442	17	29	4	238	1,731	1,166	24	0	0
Bleaches																			
Bleaches: Borates	202	173	71	7	12	78	0	5	0	163	8	0	2	27	26	27	5	0	0
Bleaches: Hypochlorite (Liquid and Dry)	34,484	29,837	12,663	1,079	1,684	12,125	57	1,996	233	27,644	1,465	374	254	6,031	4,523	7,862	896	20	0
Bleaches: Non-Hypochlorite	477	406	178	11	19	165	2	30	1	372	15	6	13	82	66	122	12	1	0
Bleaches: Other or Unknown (Household)	426	352	131	15	29	152	0	23	2	304	23	11	12	85	48	100	11	0	0
Cleansers																			
Anionic or Nonionic Cleansers	1,934	1,770	1,385	44	47	241	2	43	8	1,724	29	8	8	158	471	220	18	0	0
Other or Unknown Types of Household Cleanser	2,437	2,166	1,382	69	81	514	5	105	10	2,032	67	34	16	435	473	357	81	1	2
Disinfectants																			
Disinfectants: Hypochlorite (Non-Bleach Products)	15,551	12,955	4,828	588	817	5,500	29	1,052	141	11,911	638	225	127	3,015	1,936	3,369	470	11	0
Disinfectants: Other or Unknown	6,308	5,950	3,772	425	223	1,253	8	241	28	5,616	197	62	58	603	1,285	1,089	109	3	0
Disinfectants: Phenol	1,124	1,082	713	94	53	180	4	34	4	1,009	43	26	4	99	280	147	18	3	0
Disinfectants: Pine Oil	3,832	3,484	2,188	121	107	928	10	113	17	3,272	144	35	16	580	1,060	696	53	2	0
Drain Cleaners																			
Drain Cleaners: Acids	51	42	3	3	2	28	0	6	0	37	4	0	0	9	4	13	7	1	0
Drain Cleaners: Alkalis	3,331	2,817	437	88	96	1,808	5	353	30	2,582	164	24	29	823	406	748	321	40	1
Drain Cleaners: Hydrochloric Acid	194	91	8	3	7	60	3	10	0	84	5	0	2	16	24	39	5	1	1
Drain Cleaners: Other or Unknown	843	674	102	16	22	418	4	101	11	609	49	4	8	197	87	154	73	6	0
Drain Cleaners: Sulfuric Acid	477	384	29	9	11	281	0	50	4	365	13	0	5	150	29	110	64	3	1
Fabric Softeners/Antistatic Agents																			
Fabric Softener/Antistatic Agent: Other or Unknown	18	17	10	2	1	4	0	0	0	16	0	1	0	1	2	3	0	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Fabric Softeners/Antistatic Agents: Aerosol or Spray	130	123	104	1	1	15	0	1	1	119	2	1	1	6	27	13	0	0	0
Fabric Softeners/Antistatic Agents: Dry or Powder (Various Containers)	41	40	34	2	2	2	0	0	0	38	1	0	1	3	11	5	0	0	0
Fabric Softeners/Antistatic Agents: Liquid (Various Containers)	880	814	651	20	16	104	2	20	1	778	18	5	12	68	203	90	10	0	0
Fabric Softeners/Antistatic Agents: Solid or Sheet	477	461	381	13	9	40	0	16	2	440	10	1	10	20	90	24	4	0	0
Glass Cleaners																			
Glass Cleaners: Ammonia Containing	3,217	2,928	2,380	112	85	295	4	48	4	2,796	100	21	4	211	741	351	17	0	0
Glass Cleaners: Anionics or Nonionics	108	97	68	5	1	21	1	1	0	93	4	0	0	16	26	9	4	0	0
Glass Cleaners: Isopropanol	2,200	1,964	1,450	88	67	293	2	57	7	1,864	80	15	1	202	497	226	21	0	0
Glass Cleaners: Other or Unknown Types of Household	1,677	1,536	1,159	57	67	209	2	36	6	1,447	68	15	5	173	369	178	18	0	0
Hand Dishwashing																			
Anionic or Nonionic Hand Dishwashing Detergents	4,611	4,137	2,584	156	131	1,098	4	130	34	3,969	59	66	37	254	562	711	33	1	0
Other or Unknown Types of Household Hand Dishwashing Detergent	2,080	1,832	1,125	69	58	484	4	90	2	1,748	35	38	9	109	223	251	13	3	0
Laundry Additives																			
Enzyme and/or Microbiological Laundry Additives	63	59	36	0	2	19	0	1	1	54	1	1	2	9	10	11	2	0	0
Laundry Bluing and/or Brightening Agents (without Detergent)	31	22	5	3	1	12	0	1	0	16	4	0	2	2	2	5	1	0	0
Laundry Detergent Boosters	178	167	143	2	4	16	0	1	1	166	1	0	0	12	36	23	2	0	0
Other or Unknown Laundry Additives or Miscellaneous Products	2,040	1,935	1,588	74	45	186	4	34	4	1,878	29	18	6	172	424	253	15	0	0
Water Softeners	73	69	28	5	17	15	0	4	0	52	17	0	0	7	16	20	4	0	0
Laundry Detergents																			
Laundry Detergents: Granules (Various Containers)	3,534	3,368	2,690	74	107	405	2	84	6	3,259	75	19	12	419	653	700	39	1	0
Laundry Detergents: Liquids (Various Containers)	4,688	4,453	3,239	112	137	818	4	134	9	4,279	111	41	15	571	749	915	71	0	1
Laundry Detergents: Other or Unknown Types of Household Laundry Detergent and/or Fabric Cleaner	296	277	225	4	7	31	2	8	0	270	3	0	3	32	53	42	8	0	1
Laundry Detergents: Soaps	99	88	65	4	4	11	0	4	0	85	2	0	1	7	21	5	3	0	0
Laundry Prewash/Stain Removers																			
Laundry Prewash/Stain Removers: Aerosol or Spray Solvent Based	250	240	212	3	4	16	0	5	0	238	1	1	0	33	48	56	5	0	0
Laundry Prewash/Stain Removers: Aerosol or Spray Surfactant Based	187	178	161	2	1	12	1	1	0	175	0	0	2	21	35	31	3	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Laundry Prewash/Stain Removers: Dry Solvent Based	3	3	3	0	0	0	0	0	0	3	0	0	0	1	1	1	0	0	0
Laundry Prewash/Stain Removers: Dry Surfactant Based	93	90	73	4	4	5	0	3	1	90	0	0	0	7	28	8	1	0	0
Laundry Prewash/Stain Removers: Liquid Solvent Based	936	901	700	17	23	135	1	22	3	884	8	3	4	150	297	156	26	1	0
Laundry Prewash/Stain Removers: Liquid Surfactant Based	1,637	1,575	1,380	32	19	121	4	12	7	1,532	23	3	17	174	319	283	27	0	0
Laundry Prewash/Stain Removers: Other or Unknown	2,288	2,183	1,690	45	37	340	4	55	12	2,125	18	11	26	243	471	426	37	1	0
Laundry Prewash/Stain Removers: Other or Unknown Solvent Based	81	78	67	0	1	8	1	1	0	76	1	0	1	11	18	13	3	0	0
Laundry Prewash/Stain Removers: Other or Unknown Surfactant Based	63	61	53	0	1	6	0	1	0	60	0	0	1	6	13	11	1	0	0
Miscellaneous Cleaners																			
Miscellaneous Cleaning Agents: Acids	1,627	1,426	794	44	36	462	3	76	11	1,359	25	18	20	281	354	284	63	4	0
Miscellaneous Cleaning Agents: Alkalis	7,849	7,028	4,372	189	248	1,911	15	272	21	6,711	191	58	57	1,327	1,493	1,301	275	6	0
Miscellaneous Cleaning Agents: Anionics or Nonionics	5,654	5,092	3,487	199	157	1,019	8	199	23	4,837	132	53	57	618	1,019	819	69	4	0
Miscellaneous Cleaning Agents: Cationics	2,327	2,169	1,201	100	107	647	2	104	8	2,025	98	17	21	408	485	421	66	3	0
Miscellaneous Cleaning Agents: Ethanol (Excluding Automotive Products)	625	601	453	21	12	96	1	16	2	586	2	3	8	29	122	72	1	0	0
Miscellaneous Cleaning Agents: Glycols (Excluding Automotive Products)	605	535	354	39	26	87	1	25	3	515	15	2	2	70	132	84	11	0	0
Miscellaneous Cleaning Agents: Isopropanol (Excluding Automotive Products and Glass)	2,179	2,036	1,379	192	94	297	6	63	5	1,929	77	14	14	188	432	276	29	0	0
Miscellaneous Cleaning Agents: Methanol (Excluding Automotive Products)	28	28	15	1	1	8	0	2	1	27	1	0	0	3	6	8	0	0	0
Miscellaneous Cleaning Agents: Other or Unknown Household Cleaning Agents	4,332	3,953	2,227	256	192	1,056	13	186	23	3,620	209	70	33	774	879	780	146	6	2
Miscellaneous Cleaning Agents: Phenol (Excluding Disinfectants)	7	5	2	1	0	1	0	1	0	4	0	1	0	0	0	0	0	0	0
Miscellaneous Cleaning Substances (Household)																			
Ammonia Cleaners (All Purpose)	1,124	804	277	48	40	365	1	68	5	748	37	6	11	159	132	173	24	3	0
Carpet, Upholstery, Leather, or Vinyl Cleaners	4,121	3,854	2,896	85	83	661	7	116	6	3,750	42	24	36	507	796	648	63	1	0
Hydrofluoric Acid or Bifluoride Wheel Cleaners	60	58	13	0	0	40	0	4	1	58	0	0	0	40	6	27	9	0	0
Starches, Fabric Finishes, or Sizing	284	276	222	17	8	26	1	2	0	264	10	0	2	13	50	17	2	0	0
Oven Cleaners																			
Oven Cleaners: Acids	5	5	1	0	0	4	0	0	0	5	0	0	0	3	0	1	2	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Oven Cleaners: Alkalis	2,140	2,077	371	94	174	1,175	9	234	20	1,992	37	24	21	725	248	565	267	9	0
Oven Cleaners: Detergent Types	21	21	4	0	0	8	4	4	1	15	0	6	0	3	8	5	2	0	0
Oven Cleaners: Other or Unknown	390	372	62	13	34	198	0	55	10	351	8	5	8	100	43	81	34	0	0
Rust Removers																			
Rust Removers: Acids Other Than Hydrofluoric Acid Types	549	484	163	15	13	249	1	41	2	455	14	8	6	98	118	127	19	1	0
Rust Removers: Alkalis	3	3	0	0	0	3	0	0	0	3	0	0	0	1	0	1	1	0	0
Rust Removers: Hydrofluoric Acid	360	334	55	5	5	235	1	32	1	316	9	2	6	174	76	158	29	1	0
Rust Removers: Other or Unknown	175	152	30	8	6	95	0	10	3	139	4	1	7	24	20	43	11	0	0
Spot Removers/Dry Cleaning Agents																			
Spot Removers/Dry Cleaning Agents: Anionics or Nonionics	179	169	137	3	2	20	0	7	0	167	0	0	1	11	47	20	1	0	0
Spot Removers/Dry Cleaning Agents: Glycols	145	137	94	4	4	31	1	3	0	133	2	1	1	22	30	30	2	0	0
Spot Removers/Dry Cleaning Agents: Isopropanol	51	49	37	1	1	9	0	1	0	47	2	0	0	6	12	9	1	0	0
Spot Removers/Dry Cleaning Agents: Other Halogenated Hydrocarbon Containing Products	16	15	8	0	1	5	0	1	0	15	0	0	0	5	2	2	0	0	0
Spot Removers/Dry Cleaning Agents: Other Hydrocarbon and/or Non-Halogenated Containing	418	393	179	13	9	155	5	19	13	376	10	2	4	96	93	94	13	1	0
Spot Removers/Dry Cleaning Agents: Other or Unknown	100	94	69	2	0	18	0	3	2	91	1	0	2	15	24	12	3	0	0
Spot Removers/Dry Cleaning Agents: Perchloroethylene	13	13	9	0	0	4	0	0	0	12	0	0	1	4	3	2	1	0	0
Toilet Bowl Cleaners																			
Toilet Bowl Cleaners: Acids	4,638	3,227	1,280	98	223	1,422	4	177	23	3,012	149	22	33	710	688	1,138	144	11	2
Toilet Bowl Cleaners: Alkalis	3,384	3,061	2,086	64	48	725	1	124	13	2,964	65	2	22	404	936	582	63	3	0
Toilet Bowl Cleaners: Other or Unknown	4,205	3,923	3,435	52	35	329	5	55	12	3,860	37	10	12	294	1,087	327	27	1	0
Wall/Floor/Tile Cleaners																			
Wall/Floor/Tile/All-Purpose Cleaning Agents: Acids	2,164	1,903	1,220	51	66	465	4	90	7	1,837	41	12	12	334	468	420	57	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Alkalis	7,997	7,188	4,881	197	203	1,586	12	287	22	6,913	154	48	61	1,157	1,685	1,440	213	11	1
Wall/Floor/Tile/All-Purpose Cleaning Agents: Anionics or Nonionics	9,345	8,433	5,701	245	266	1,899	16	289	17	8,047	275	62	24	1,341	1,949	1,270	117	9	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Cationics	2,395	2,123	1,301	70	74	550	7	113	8	2,005	87	16	8	340	378	399	39	2	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Ethanol	635	606	502	20	15	56	1	7	5	586	7	6	6	27	210	66	6	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Glycols	1,029	908	677	22	32	144	0	31	2	881	18	4	4	91	215	147	5	1	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Isopropanol	427	397	313	11	6	54	0	9	4	381	6	5	3	24	104	61	0	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Methanol	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Wall/Floor/Tile/All-Purpose Cleaning Agents: Other or Unknown	1,714	1,574	1,130	42	38	312	2	40	10	1,511	39	10	12	251	381	249	28	1	0
Category Total:	**192,484**	**172,740**	**105,389**	**5,884**	**6,460**	**45,893**	**318**	**7,912**	**884**	**164,018**	**5,389**	**1,648**	**1,252**	**26,499**	**35,048**	**34,185**	**4,431**	**180**	**12**
Cosmetics/Personal Care Products																			
Dental Care Products																			
False Teeth Cleaning Agents	1,936	1,910	336	28	26	1,359	1	155	5	1,841	33	4	27	107	373	161	9	0	0
Other Dental Care Products (Excluding Fluoride Supplements)	3,611	3,527	1,531	299	199	1,276	2	212	8	3,242	81	12	180	242	597	344	22	1	0
Toothpastes (with Fluoride)	21,513	20,977	18,564	543	372	1,263	22	203	10	20,317	250	63	332	376	4,098	1,169	42	1	0
Toothpastes (without Fluoride)	2,273	2,186	1,888	42	59	161	0	36	0	2,123	17	2	42	30	345	101	5	0	0
Hair Care Products																			
Curl Activators	63	58	52	0	1	4	1	0	0	57	0	0	1	13	28	8	1	0	0
Hair Coloring Agents (Excluding Peroxides)	2,430	2,341	1,066	53	162	864	1	178	17	2,020	29	3	283	417	394	474	106	3	0
Hair Oils	389	376	331	8	5	26	0	5	1	372	2	0	2	58	91	45	4	1	0
Hair Relaxers (with Other Alkalines)	467	456	367	8	17	53	1	10	0	443	1	1	11	216	100	140	58	1	0
Hair Relaxers (with Other Non-Alkalines)	94	92	69	0	1	21	0	1	0	87	1	0	4	35	28	20	1	0	0
Hair Relaxers (with Sodium Hydroxide)	709	698	502	31	22	121	2	18	2	666	0	1	31	323	143	231	86	3	0
Hair Rinses, Conditioners, Relaxers	2,142	2,019	1,686	73	55	172	2	31	0	1,946	39	6	28	137	430	183	21	0	0
Hair Sprays	1,572	1,414	916	81	115	261	2	34	5	1,236	157	8	8	229	293	205	39	3	1
Other Hair Care Products (Excluding Peroxides)	2,990	2,861	2,087	80	101	487	5	90	11	2,694	47	12	104	353	580	394	63	2	0
Permanent Wave Solutions	244	240	134	4	8	71	2	20	1	224	2	1	13	88	44	73	13	2	0
Shampoos	5,870	5,587	4,264	268	191	692	12	137	23	5,290	169	16	105	393	806	869	52	2	1
Hand Sanitizers																			
Hand Sanitizers: Ethanol Based	17,995	17,660	13,974	1,408	589	1,427	13	232	17	16,489	848	273	18	1,027	5,134	1,339	124	8	0
Hand Sanitizers: Isopropanol Based	159	155	126	10	2	11	3	3	0	142	9	3	1	10	49	9	1	1	0
Hand Sanitizers: Non-Alcohol Based	1,530	1,504	1,164	121	57	127	3	30	2	1,431	50	17	4	57	295	86	6	0	0
Hand Sanitizers: Unknown	325	315	200	42	14	48	2	8	1	273	26	12	1	44	73	44	6	0	0
Miscellaneous Cosmetics/Personal Care Products																			
Baby Oils	1,954	1,900	1,740	30	19	89	3	19	0	1,881	14	1	4	134	412	165	9	0	1
Bath Oils and/or Bubble Baths	2,977	2,888	2,562	114	43	134	5	28	2	2,782	83	1	22	153	506	281	28	3	0
Creams, Lotions, and Make-Up	25,333	24,421	20,515	620	470	2,298	36	356	126	23,527	205	52	624	797	3,928	1,417	103	2	0
Deodorants	22,149	21,920	19,938	459	541	812	35	117	18	21,376	276	76	181	570	3,492	1,437	52	0	0
Depilatories	929	911	305	40	103	369	2	84	8	633	44	4	225	217	123	233	94	1	0
Douches	133	132	101	7	4	18	0	2	0	126	0	2	4	7	33	12	1	0	0
Eye Products	1,661	1,596	1,310	19	46	153	8	48	12	1,503	13	3	75	92	265	136	12	1	0
Lipsticks and Lip Balms (with Camphor)	848	825	737	24	14	39	0	9	2	800	10	1	14	29	174	46	4	0	0
Lipsticks and Lip Balms (without Camphor)	3,906	3,762	3,243	96	57	225	8	50	83	3,414	32	5	305	92	529	366	15	0	0
Perfumes, Colognes, and Aftershaves	11,746	11,431	9,502	550	472	772	18	101	16	10,953	340	80	32	923	2,565	2,228	99	2	0
Peroxides	8,547	8,203	3,146	357	423	3,572	7	648	50	7,662	261	42	216	873	1,222	1,484	163	12	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Powders Made of Material Other Than Talc	1,851	1,793	1,641	36	19	77	7	9	4	1,757	21	4	10	106	302	318	21	0	0
Powders Made of Talc	2,358	2,282	1,915	93	65	166	3	37	3	2,194	58	14	11	267	431	449	36	1	0
Soaps (Bar, Hand or Complexion)	14,881	14,205	10,541	749	422	2,103	21	340	29	13,459	324	123	283	709	2,005	1,773	88	3	0
Suntan and/or Sunscreen Products	11,165	10,997	9,763	425	166	499	33	96	15	10,756	49	18	170	378	1,649	1,322	54	1	0
Mouthwashes																			
Mouthwashes: Ethanol Containing	7,955	7,347	2,308	594	561	3,304	9	537	34	6,256	1,000	17	53	957	1,258	636	226	18	2
Mouthwashes: Fluoride Containing	6,145	6,066	4,210	1,140	143	491	5	72	5	5,979	67	1	19	79	1,235	173	5	0	0
Mouthwashes: Non Ethanol Containing	1,267	1,217	544	154	57	400	2	54	6	1,144	60	3	9	59	220	60	5	0	0
Mouthwashes: Unknown	456	439	264	69	27	62	0	16	1	404	21	3	2	35	79	40	4	0	0
Nail Products																			
Acrylic Nail Adhesives	1,179	1,162	502	207	122	288	2	38	3	1,124	29	5	4	417	159	302	80	1	0
Acrylic Nail Primers	295	285	239	5	4	31	1	5	0	281	0	0	4	100	64	58	18	3	0
Acrylic Nail Removers	29	28	16	2	2	7	0	1	0	28	0	0	0	5	7	7	1	0	0
Miscellaneous Nail Products	995	963	686	33	14	203	1	24	2	937	6	2	18	174	222	178	27	1	0
Nail Polish Removers (Acetone Containing)	2,653	2,584	1,906	111	133	391	2	40	1	2,500	65	13	5	299	654	395	22	2	0
Nail Polishes	10,288	10,028	9,108	307	148	366	19	72	8	9,920	77	16	12	585	1,944	1,092	40	0	0
Other Nail Polish Removers	1,145	1,111	859	47	45	145	0	14	1	1,070	24	8	6	108	275	177	7	1	0
Unknown Nail Polish Removers	8,686	8,381	5,942	426	453	1,308	15	220	17	8,123	176	52	13	971	1,893	1,232	61	3	0
Category Total:	**217,843**	**211,253**	**162,800**	**9,813**	**6,569**	**26,766**	**316**	**4,440**	**549**	**201,482**	**5,016**	**980**	**3,516**	**13,291**	**39,547**	**21,912**	**1,934**	**83**	**5**
Deodorizers																			
Air Freshener																			
Air Fresheners: Aerosols	2,424	2,359	1,716	211	111	242	2	74	3	2,231	80	32	11	252	500	438	36	1	1
Air Fresheners: Liquids	10,160	10,057	9,012	281	120	520	10	112	2	9,920	78	40	11	791	2,185	1,562	66	4	0
Air Fresheners: Solids	4,898	4,858	4,341	106	76	283	4	46	2	4,732	106	11	7	293	1,026	443	40	2	0
Air Fresheners: Unknown Form	1,924	1,903	1,613	73	34	147	2	31	3	1,874	23	3	2	137	398	262	16	0	0
Miscellaneous Deodorizers																			
Diaper Pail Deodorizers (Excluding Moth Repellants)	19	19	17	2	0	0	0	0	0	18	0	1	0	1	5	1	0	0	0
Other Types of Deodorizer (Not For Personal Use)	4,214	4,048	2,998	145	92	673	6	119	15	3,919	62	22	39	411	973	598	48	1	0
Toilet Bowl Deodorizers	512	496	447	9	6	24	2	8	0	490	6	0	0	48	134	37	0	0	0
Unknown Types of Deodorizer (Not for Personal Use)	88	86	45	3	3	32	0	3	0	81	2	2	1	15	16	20	3	0	0
Category Total:	**24,239**	**23,826**	**20,189**	**830**	**442**	**1,921**	**26**	**393**	**25**	**23,265**	**357**	**111**	**71**	**1,948**	**5,237**	**3,361**	**209**	**8**	**1**
Dyes																			
Miscellaneous Dyes																			
Dyes: Fabrics	362	350	258	28	11	40	0	13	0	342	3	0	5	17	91	16	1	0	0
Dyes: Foods (Including Easter Egg)	1,094	1,033	867	82	23	44	10	4	3	999	19	6	9	20	200	43	6	0	0
Dyes: Leathers	72	68	46	1	5	13	1	1	1	62	1	0	4	5	15	1	1	1	0
Dyes: Other	481	443	179	72	99	73	3	17	0	406	15	3	18	40	86	37	4	3	0
Dyes: Unknown	60	49	38	2	0	9	0	0	0	46	0	0	3	3	12	3	1	0	0
Category Total:	**2,069**	**1,943**	**1,388**	**185**	**138**	**179**	**14**	**35**	**4**	**1,855**	**38**	**9**	**39**	**85**	**404**	**100**	**13**	**4**	**0**
Essential Oils																			
Miscellaneous Essential Oil																			
Cinnamon Oil	593	513	320	38	57	76	0	19	3	406	70	3	30	72	65	177	12	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Clove Oil	427	408	259	10	6	100	0	28	5	366	21	0	20	70	104	82	5	0	0
Eucalyptus Oil	550	516	323	16	15	137	2	22	1	491	17	2	6	126	132	99	17	2	0
Miscellaneous Essential Oils	7,913	7,706	6,268	221	124	895	7	168	23	7,482	69	18	131	742	1,836	1,418	102	3	0
Pennyroyal Oil	24	23	2	1	1	15	0	4	0	16	4	2	0	13	5	5	1	0	0
Tea Tree Oil	1,376	1,298	839	49	20	319	4	59	8	1,225	30	5	37	207	368	192	26	0	0
Category Total:	**10,883**	**10,464**	**8,011**	**335**	**223**	**1,542**	**13**	**300**	**40**	**9,986**	**211**	**30**	**224**	**1,230**	**2,510**	**1,973**	**163**	**5**	**0**
Fertilizers																			
Miscellaneous Fertilizers																			
Household Plant Foods (Generally for Indoor Plants)	1,710	1,642	954	155	51	396	4	72	10	1,598	25	13	6	55	357	56	2	1	0
Other Types of Fertilizer	1,465	1,316	818	94	40	292	5	58	9	1,270	16	12	16	103	277	92	10	0	0
Outdoor Fertilizers	2,368	2,227	1,458	132	69	465	3	90	10	2,160	29	16	20	121	537	164	15	0	0
Plant Hormones	42	36	11	0	3	19	0	3	0	35	0	1	0	8	8	5	1	0	0
Unknown Types of Fertilizer	98	92	48	7	2	32	0	2	1	84	5	1	2	15	28	11	3	0	0
Category Total:	**5,683**	**5,313**	**3,289**	**388**	**165**	**1,204**	**12**	**225**	**30**	**5,147**	**75**	**43**	**44**	**302**	**1,207**	**328**	**31**	**1**	**0**
Fire Extinguishers																			
Miscellaneous Fire Extinguisher																			
Miscellaneous Fire Extinguishers	2,816	2,732	309	348	416	1,214	21	373	51	2,376	154	156	28	656	413	829	138	1	0
Category Total:	**2,816**	**2,732**	**309**	**348**	**416**	**1,214**	**21**	**373**	**51**	**2,376**	**154**	**156**	**28**	**656**	**413**	**829**	**138**	**1**	**0**
Food Products/Food Poisoning																			
Bacterial Food Poisoning (Documented)																			
Botulism	154	146	25	5	2	97	0	16	1	116	11	6	6	55	16	4	11	14	0
Other Types of Bacterial Food Poisoning (Salmonella, Shigella, Vibrio, Staphylococcus, Streptococcus, etc)	631	610	151	46	45	297	0	67	4	575	2	18	14	80	86	90	26	0	0
Unknown Types of Bacterial Food Poisoning	6,465	6,367	958	449	467	3,531	25	857	80	5,868	12	110	361	708	491	1,242	308	12	0
Ichthyosarcotoxins																			
Ciguatera Poisoning	186	182	8	7	13	137	0	10	7	155	0	0	24	102	5	36	69	4	1
Clupeotoxic Fish Poisoning	16	15	0	0	0	14	0	1	0	11	0	1	3	3	2	1	0	0	0
Other Types of Seafood Poisoning	175	159	8	4	8	119	0	18	2	126	3	0	30	47	10	43	20	0	0
Paralytic Shellfish Poisoning	154	148	4	4	10	97	2	28	3	120	0	0	28	35	6	27	8	1	1
Scombroid Fish Poisoning	166	159	8	6	3	121	0	20	1	126	0	2	29	42	15	38	21	1	0
Tetrodon Poisoning	112	112	19	26	11	47	1	7	1	103	5	0	4	24	14	23	6	0	0
Miscellaneous Food Products/Food Poisoning																			
Capsicum Peppers (Exclude Non-Food)	3,607	3,529	602	291	341	1,826	9	431	29	2,757	121	43	602	279	59	1,444	112	1	1
Monosodium Glutamate (MSG)	55	48	5	2	2	29	0	10	0	18	0	1	29	4	3	10	4	0	0
Other Adverse Reactions to Food	2,084	1,965	516	158	114	865	8	286	18	754	26	82	1,086	367	124	435	160	9	0
Unknown Types of Suspected Food Poisoning	7,164	7,059	883	448	470	4,374	52	773	59	6,682	9	152	199	757	262	1,186	367	4	0
Category Total:	**20,969**	**20,499**	**3,187**	**1,446**	**1,486**	**11,554**	**97**	**2,524**	**205**	**17,411**	**189**	**415**	**2,415**	**2,503**	**1,093**	**4,579**	**1,112**	**46**	**3**
Foreign Bodies/Toys/Miscellaneous																			
Miscellaneous Foreign Bodies/Toys/Miscellaneous																			
Ashes	377	337	290	5	1	31	0	8	2	332	1	4	0	17	50	22	4	0	0
Bubble Blowing Solutions	3,905	3,866	3,615	128	32	73	8	7	3	3,835	25	2	2	131	523	586	11	1	0
Charcoals	556	451	331	17	17	57	0	25	4	413	27	2	9	24	74	30	5	0	0
Christmas ornaments	412	411	335	16	8	50	0	2	0	408	2	1	0	36	82	32	0	0	0
Coins	3,901	3,827	3,185	491	40	78	8	19	6	3,765	47	9	1	1,305	1,051	386	38	4	0
Desiccants	30,357	30,180	26,632	1,512	395	1,179	111	282	69	29,806	247	96	11	1,250	4,130	209	7	0	0
Feces/Urine	6,050	5,297	4,278	186	107	511	20	175	20	5,122	21	135	13	196	759	141	12	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Glass	6,042	5,964	1,414	472	348	2,493	60	1,070	107	5,844	35	55	25	405	960	313	29	0	0
Glow Products	22,936	22,907	16,897	4,618	741	431	58	134	28	22,598	270	21	10	893	2,610	4,168	81	1	0
Incense (Punk)	359	337	213	5	33	74	0	12	0	258	73	2	1	85	53	44	28	3	0
Other Types of Foreign Body, Toy, or Miscellaneous Substance	23,544	22,395	14,501	2,737	1,090	2,997	65	871	134	21,366	560	243	163	2,380	3,994	1,181	123	4	0
Soil	1,928	1,656	1,263	113	26	199	4	47	4	1,601	23	9	18	70	238	95	15	1	0
Toys	7,378	7,325	5,647	1,278	177	155	20	43	5	7,185	103	11	23	459	1,084	393	18	1	0
Unknown Types of Foreign Body, Toy, or Miscellaneous Substance	799	787	553	125	31	62	2	13	1	754	15	11	3	86	164	69	6	0	0
Thermometers																			
Thermometers: Mercury	2,283	2,268	595	462	166	646	29	339	31	2,216	31	15	2	192	500	35	3	0	0
Thermometers: Other	1,235	1,216	421	238	88	302	12	144	11	1,177	19	13	5	72	241	54	5	0	0
Thermometers: Unknown	365	362	96	74	25	116	3	47	1	360	1	1	0	27	18	0	0	0	0
Category Total:	**112,427**	**109,586**	**80,266**	**12,477**	**3,325**	**9,454**	**400**	**3,238**	**426**	**107,040**	**1,500**	**630**	**286**	**7,628**	**16,531**	**7,758**	**385**	**15**	**0**
Fumes/Gases/Vapors																			
Miscellaneous Fumes/Gases/Vapors																			
Carbon Dioxide	351	326	28	77	59	119	1	41	1	277	20	5	22	70	52	53	22	1	1
Carbon Monoxide	13,862	12,554	1,605	1,134	810	6,843	129	1,812	221	12,136	289	23	30	5,356	3,297	3,097	1,106	185	56
Chloramine Gas	742	701	16	15	28	555	1	79	7	674	25	0	0	167	74	211	72	1	0
Chlorine Gas	4,199	3,988	320	359	284	2,573	9	411	32	3,784	118	8	56	1,209	214	1,552	623	11	0
Chlorine Gas (When Household Acid is Mixed with Hypochlorite)	1,628	1,524	54	48	84	1,151	0	166	21	1,460	63	0	1	439	115	588	239	4	0
Hydrogen Sulfide (Sewer Gas)	901	787	60	30	30	513	4	132	18	770	10	0	4	335	115	228	102	11	5
Methane and Natural Gas	5,432	5,194	1,149	470	258	2,354	67	823	73	5,136	18	14	17	738	1,647	712	110	2	1
Other Types of Fume, Gas or Vapor	1,547	1,418	163	98	151	762	14	211	19	1,319	49	13	32	392	227	314	141	18	0
Polymer Fume Fever	5	5	2	1	0	2	0	0	0	5	0	0	0	2	3	0	1	0	0
Simple Asphyxiants	2,480	2,198	220	198	224	1,183	20	326	27	1,985	172	6	20	711	312	522	187	19	3
Unknown Types of Fume, Gas or Vapor	1,705	1,646	95	86	108	826	21	488	22	1,564	27	37	10	472	250	320	104	3	0
Category Total:	**32,852**	**30,341**	**3,712**	**2,516**	**2,036**	**16,881**	**266**	**4,489**	**441**	**29,110**	**791**	**106**	**192**	**9,891**	**6,306**	**7,597**	**2,707**	**255**	**66**
Heavy Metals																			
Miscellaneous Heavy Metals																			
Aluminum	929	851	486	44	38	217	6	54	6	805	10	24	3	67	100	45	10	4	0
Arsenic (Excluding Pesticides)	864	775	157	30	27	467	3	85	6	493	17	123	13	385	124	52	38	2	0
Barium, Soluble Salts	36	23	0	0	10	9	0	4	0	22	1	0	0	8	3	4	1	0	0
Cadmium	70	49	4	1	3	34	0	7	0	38	2	1	2	30	6	7	6	0	1
Copper	716	607	76	43	171	241	3	68	5	539	34	4	20	176	74	156	45	1	0
Fireplace Flame Colors	24	24	12	4	0	4	2	1	1	24	0	0	0	0	2	2	0	0	0
Gold	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead	2,287	2,151	1,023	166	111	643	17	163	28	1,984	39	40	20	922	503	116	52	7	0
Manganese	36	25	3	2	4	16	0	0	0	20	2	0	1	14	5	6	0	1	0
Mercury (Other)	138	121	23	7	4	60	1	22	4	94	1	8	13	36	32	11	7	0	0
Mercury, Elemental (Excluding Thermometer)	1,529	1,454	132	165	149	692	28	258	30	1,272	52	44	45	420	356	59	33	2	0
Metal Fume Fever	567	518	29	17	55	364	0	49	4	482	21	2	13	166	26	140	66	0	0
Other Types of Heavy Metal	2,598	1,798	639	111	119	737	6	165	21	1,516	98	37	125	374	285	200	58	7	0
Thallium	25	18	1	0	1	11	0	3	2	10	0	3	1	7	2	1	0	1	1
Unknown Types of Heavy Metal	63	55	12	4	5	20	0	13	1	38	1	5	4	24	6	5	2	1	0
Category Total:	**9,883**	**8,469**	**2,597**	**594**	**697**	**3,515**	**66**	**892**	**108**	**7,337**	**278**	**291**	**260**	**2,629**	**1,524**	**804**	**318**	**26**	**2**

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Hydrocarbons																			
Miscellaneous Hydrocarbons																			
Benzene	74	44	6	0	0	28	0	7	3	41	0	2	0	25	11	7	3	0	0
Carbon Tetrachloride	40	35	0	1	1	24	0	9	0	33	0	1	1	13	8	9	5	0	0
Diesel Fuels	957	904	182	28	52	542	3	95	2	827	59	11	4	212	139	262	46	0	1
Freon and Other Propellants	6,398	6,132	502	516	892	3,451	14	668	89	4,813	1,183	72	40	1,986	969	1,315	625	34	19
Gasolines	14,036	13,593	2,565	748	1,323	7,414	37	1,390	116	12,383	1,026	110	38	2,327	1,712	4,651	435	15	2
Kerosenes	1,054	995	478	56	41	354	3	53	10	920	44	24	4	346	198	250	76	7	0
Lamp Oils	1,713	1,690	1,180	57	45	351	5	50	2	1,631	31	16	5	517	419	432	131	18	2
Lighter Fluids and/or Naphtha	2,609	2,458	1,341	67	151	731	6	137	25	2,270	102	60	14	787	510	655	145	18	1
Lubricating Oils and/or Motor Oils	3,933	3,674	2,223	142	142	953	12	188	14	3,529	74	44	10	642	1,055	609	79	3	0
Mineral Seal Oil	28	27	11	2	3	8	0	3	0	27	0	0	0	5	5	6	0	0	0
Mineral Spirits	1,772	1,624	521	63	115	770	5	142	8	1,479	108	20	14	558	274	479	111	11	1
Other Types of Halogenated Hydrocarbon	293	256	44	9	28	127	0	45	3	228	19	4	2	108	36	92	25	2	0
Other Types of Hydrocarbon	4,622	4,262	2,094	175	200	1,451	8	310	24	4,048	107	53	40	1,093	901	988	204	14	0
Toluene and/or Xylene (Excluding Adhesives)	856	661	103	12	43	440	1	59	3	599	41	4	10	300	66	218	71	13	3
Turpentine	370	333	87	13	14	176	0	40	3	296	21	5	6	116	89	63	10	0	0
Unknown Types of Hydrocarbon	565	506	175	19	40	240	2	26	4	425	66	7	5	196	108	143	50	4	0
Category Total:	**39,320**	**37,194**	**11,512**	**1,908**	**3,090**	**17,060**	**96**	**3,222**	**306**	**33,549**	**2,881**	**433**	**193**	**9,231**	**6,500**	**10,179**	**2,016**	**139**	**29**
Industrial Cleaners																			
Miscellaneous Industrial Cleaners																			
Industrial Cleaner: Disinfectants	2,808	2,672	223	84	194	1,803	6	339	23	2,468	150	22	23	738	284	882	281	6	0
Industrial Cleaner: Other or Unknown	1,564	1,474	509	69	105	646	0	132	13	1,373	44	40	12	544	221	444	139	3	0
Industrial Cleaners: Acids	1,405	1,220	364	25	42	670	3	107	9	1,146	36	19	15	397	204	299	112	8	0
Industrial Cleaners: Alkalis	2,465	2,295	582	62	145	1,267	3	225	11	2,140	88	31	28	1,162	250	708	389	22	0
Industrial Cleaners: Anionics or Nonionics	740	656	333	30	37	227	1	24	4	612	19	16	9	130	127	129	23	0	0
Industrial Cleaners: Cationics	761	729	123	32	65	403	1	99	6	641	61	14	12	281	99	240	58	2	0
Category Total:	**9,743**	**9,046**	**2,134**	**302**	**588**	**5,016**	**14**	**926**	**66**	**8,380**	**398**	**142**	**99**	**3,252**	**1,185**	**2,702**	**1,002**	**41**	**0**
Information Calls																			
Food Information Calls																			
Information Calls About Food Products, Additives or Supplements	11,873	10,439	6,337	816	396	2,265	42	506	77	8,852	404	340	784	852	1,535	1,081	164	7	0
Information Calls About Possibly Spoiled Foods	16,451	16,003	4,376	1,506	1,031	7,131	91	1,695	173	14,765	38	539	615	767	1,952	996	149	3	0
Category Total:	**28,324**	**26,442**	**10,713**	**2,322**	**1,427**	**9,396**	**133**	**2,201**	**250**	**23,617**	**442**	**879**	**1,399**	**1,619**	**3,487**	**2,077**	**313**	**10**	**0**
Lacrimators																			
Miscellaneous Lacrimators																			
Lacrimators: Capsicum Defense Sprays	3,055	3,031	657	585	424	1,010	11	285	59	2,224	132	535	44	535	82	1,348	168	0	0
Lacrimators: CN (Chloroacetophenone)	902	893	165	152	158	314	0	93	11	617	48	192	10	195	17	397	51	1	0
Lacrimators: CR (Dibenz-(b,f)-1,4-Oxazepine)	2	2	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
Lacrimators: CS (O-Chlorobenzylidene Malonitrile)	50	46	5	8	3	26	0	4	0	36	0	7	2	15	0	17	4	0	0
Lacrimators: Other	80	61	8	5	6	33	0	8	1	59	1	0	0	24	2	18	7	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Lacrimators: Unknown	235	225	44	26	32	89	0	26	8	178	7	31	1	88	3	100	13	1	0
Category Total:	**4,324**	**4,258**	**880**	**776**	**623**	**1,473**	**11**	**416**	**79**	**3,116**	**188**	**765**	**57**	**857**	**104**	**1,880**	**243**	**2**	**0**
Matches/Fireworks/Explosives																			
Miscellaneous Matches/Fireworks/Explosives																			
Explosives	192	180	97	21	17	32	1	12	0	161	16	1	0	52	48	19	11	0	0
Fireworks	798	782	669	51	21	29	1	9	2	761	17	3	1	72	249	57	20	1	0
Matches	659	653	583	10	15	37	3	5	0	635	10	5	3	23	154	13	3	0	0
Other Types of Match, Firework, or Explosive	89	84	43	6	5	5	22	3	0	78	1	3	1	5	36	7	3	0	0
Unknown Types of Match, Firework, or Explosive	10	10	8	0	0	1	0	1	0	9	0	0	1	1	1	0	1	0	0
Category Total:	**1,748**	**1,709**	**1,400**	**88**	**58**	**104**	**27**	**30**	**2**	**1,644**	**44**	**12**	**6**	**153**	**488**	**96**	**38**	**1**	**0**
Mushrooms																			
Miscellaneous Mushrooms																			
Group 1 Mushrooms: Cyclopeptides	50	40	9	1	3	24	0	3	0	31	4	1	4	27	8	7	2	7	2
Group 1A Mushrooms: Orellanine	8	6	1	0	0	3	0	2	0	4	1	0	0	2	1	1	0	0	0
Group 2 Mushrooms: Muscimol (Ibotenic Acid)	44	36	8	1	6	18	0	1	2	19	17	0	0	26	5	2	15	1	0
Group 3 Mushrooms: Monomethylhydrazine (MMH)	41	37	2	1	2	32	0	0	0	26	3	0	8	18	6	13	6	1	0
Group 4 Mushrooms: Muscarine and Histamine	22	21	3	4	1	13	0	0	0	13	4	0	4	10	6	12	3	0	0
Group 5 Mushrooms: Coprine	8	8	4	2	0	2	0	0	0	8	0	0	0	1	3	1	1	0	0
Group 6 Mushrooms: Hallucinogenics (Psilocybin and Psilocin)	633	462	15	3	223	187	0	19	15	40	408	6	6	354	27	104	187	4	0
Group 7 Mushrooms: Gastrointestinal Irritants	201	191	74	16	8	88	0	5	0	155	20	1	14	101	50	59	37	1	0
Mushrooms: Miscellaneous, Non-Toxic	91	75	38	4	4	26	0	3	0	61	4	0	9	15	21	13	0	0	0
Mushrooms: Other Potentially Toxic	160	140	44	9	3	76	0	8	0	115	4	0	21	38	24	45	10	1	0
Mushrooms: Unknown	5,560	5,413	3,611	453	310	887	19	104	29	4,687	588	14	101	1,756	2,367	589	294	23	0
Category Total:	**6,818**	**6,429**	**3,809**	**494**	**560**	**1,356**	**19**	**145**	**46**	**5,159**	**1,053**	**22**	**167**	**2,348**	**2,518**	**846**	**555**	**38**	**2**
Other/Unknown Nondrug Substances																			
Miscellaneous Other/Unknown Nondrug Substances																			
Other Non-Drug Substances	22,249	20,621	11,070	1,894	969	5,066	95	1,275	252	18,408	688	565	694	2,871	4,390	3,259	523	45	2
Unknown Substances Unlikely to be Drug Products	5,646	5,353	1,421	392	341	2,315	30	731	123	3,492	215	863	303	1,661	540	788	293	46	6
Category Total:	**27,895**	**25,974**	**12,491**	**2,286**	**1,310**	**7,381**	**125**	**2,006**	**375**	**21,900**	**903**	**1,428**	**997**	**4,532**	**4,930**	**4,047**	**816**	**91**	**8**
Paints and Stripping Agents																			
Miscellaneous Paints and Stripping Agents																			
Other Types of Paint, Varnish or Lacquer	437	414	172	28	13	152	3	44	2	404	6	1	3	74	53	79	12	1	0
Unknown Types of Paint, Varnish or Lacquer	6,131	5,796	3,887	267	208	1,135	44	237	18	5,616	100	22	50	606	1,006	447	83	7	0
Varnishes and Lacquers	1,092	1,009	265	40	58	494	2	142	8	962	11	7	26	204	154	220	40	3	0
Paints																			
Anti-Algae Paints	16	16	1	1	0	12	0	2	0	14	1	0	1	4	3	4	2	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Anti-Corrosion Paints	32	31	4	1	0	22	0	3	1	29	0	0	2	11	4	10	1	0	0
Oil-Base Paints	2,095	1,952	544	212	180	810	6	185	15	1,791	109	10	34	379	275	469	103	4	0
Water Base Paints (Acrylic, Latex, etc)	3,092	3,014	2,255	145	85	403	13	99	14	2,943	36	6	26	208	575	222	22	2	0
Wood stains	615	581	237	26	31	230	0	55	2	559	9	1	11	76	94	112	20	0	0
Stripping Agents																			
Methylene Chloride Stripping Agents	359	337	41	11	34	212	0	35	4	324	6	1	6	114	14	126	44	1	1
Other Types of Stripping Agent	465	431	97	9	17	257	1	43	7	410	13	2	4	162	49	127	57	3	0
Unknown Types of Stripping Agent	89	76	9	2	5	50	0	9	1	70	3	0	2	40	10	24	14	1	0
Category Total:	**14,423**	**13,657**	**7,512**	**742**	**631**	**3,777**	**69**	**854**	**72**	**13,122**	**294**	**50**	**165**	**1,878**	**2,237**	**1,840**	**398**	**22**	**1**
Pesticides																			
Fumigants																			
Aluminum Phosphide	32	30	0	1	1	26	0	2	0	24	4	0	0	21	1	6	7	0	3
Methyl Bromide	3	2	0	0	0	2	0	0	0	2	0	0	0	1	0	1	1	0	0
Other Fumigants	34	24	5	0	4	14	1	0	0	24	0	0	0	11	3	8	3	0	0
Sulfuryl Fluoride	217	194	33	22	11	108	2	17	1	182	7	3	2	26	24	18	5	0	0
Unknown Fumigants	97	95	10	6	3	61	0	12	3	91	1	1	2	24	4	20	10	0	0
Fungicides (Non-medicinal)																			
Carbamate Fungicides	139	84	18	5	7	48	0	5	1	82	0	0	2	22	13	18	4	0	0
Copper Compound Fungicides	90	82	16	5	2	55	0	4	0	74	2	0	6	16	16	20	4	0	0
Mercurial Fungicides	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Other Types of Non-Medicinal Fungicide	672	556	127	24	10	333	0	58	4	536	4	3	12	98	113	116	19	0	1
Phthalimide Fungicides	54	33	16	2	4	11	0	0	0	30	3	0	0	4	8	4	0	0	0
Unknown Types of Non-Medicinal Fungicide	35	29	7	1	0	17	1	3	0	26	0	3	0	4	4	10	0	0	0
Wood Preservatives	162	154	20	10	5	101	1	15	2	151	0	0	2	23	27	31	3	0	0
Herbicides (Including Algaecides, Defoliants, Desiccants, Plant Growth Regulators)																			
Carbamate Herbicides (Excluding Metam Sodium)	10	8	3	1	0	4	0	0	0	8	0	0	0	2	4	1	0	0	0
Chlorophenoxy Herbicides	2,058	1,793	446	73	56	1,014	7	181	16	1,708	25	11	42	316	423	390	56	1	0
Diquat	298	268	64	6	6	165	0	25	2	258	6	1	3	55	54	53	13	1	0
Glyphosate	3,917	3,570	851	157	103	2,078	2	325	54	3,291	49	59	155	609	770	908	73	1	1
Other Types of Herbicide	1,306	1,063	264	53	39	597	1	101	8	1,017	21	5	17	197	228	220	39	2	0
Paraquat	67	53	0	2	3	40	0	7	1	50	2	0	1	43	7	9	16	3	0
Paraquat and Diquat Combinations	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Triazine Herbicides	272	208	63	9	5	113	0	16	2	198	3	1	5	40	49	41	4	1	0
Unknown Types of Herbicide	409	355	78	44	15	173	0	42	3	332	10	6	5	73	54	61	13	1	1
Urea Herbicides	39	28	10	1	1	16	0	0	0	26	2	0	0	8	7	7	1	0	0
Insecticides (Including Insect Growth Regulators, Molluscicides, Nematicides)																			
Carbamate Insecticides Alone	1,838	1,699	711	65	47	728	8	131	9	1,564	82	19	25	349	380	217	70	12	0
Carbamate Insecticides in Combination with Other Insecticides	324	307	62	9	16	170	0	48	2	287	13	6	1	50	45	49	12	1	0
Chlorinated Hydrocarbon Insecticides Alone	331	302	105	13	18	117	1	41	7	271	16	2	12	68	75	34	12	0	0
Chlorinated Hydrocarbon Insecticides in Combination with Other Insecticides	234	226	76	16	11	96	3	22	2	216	5	1	3	27	32	65	9	1	0
Insect Growth Regulators	163	95	45	5	2	34	0	8	1	91	2	0	2	16	23	16	1	0	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Metaldehyde	154	145	57	9	9	64	0	5	1	143	0	1	1	29	31	8	3	0	0
Nicotine (Excluding Tobacco Products)	19	19	8	0	3	6	0	1	1	18	0	0	1	4	4	2	0	0	0
Organophosphate Insecticides Alone	2,724	2,500	749	141	85	1,243	7	249	26	2,309	82	20	69	627	611	532	115	18	4
Organophosphate Insecticides in Combination with Carbamate Insecticides	63	60	10	4	4	36	0	6	0	56	4	0	0	15	13	13	3	0	0
Organophosphate Insecticides in Combination with Non-Carbamate Insecticides	707	657	117	26	23	404	1	78	8	614	23	1	17	124	86	178	42	1	0
Other Types of Insecticide	9,534	9,009	4,589	415	223	2,979	33	655	115	8,694	111	23	167	773	1,835	1,280	105	4	0
Piperonyl Butoxide & Pyrethrins (without Carbamate or O.P.)	4	4	1	1	1	1	0	0	0	2	0	0	2	3	1	0	1	0	0
Pyrethrins	5,483	5,065	1,737	366	183	2,283	15	443	38	4,618	179	21	233	849	773	1,165	177	4	1
Pyrethrins Only (Alone)	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Pyrethroids	23,979	22,781	5,921	1,321	1,001	12,277	54	2,007	200	21,168	601	164	774	3,593	3,742	5,633	764	16	1
Rotenone	64	61	14	3	3	34	0	7	0	60	1	0	0	7	9	12	0	0	0
Unknown Types of Insecticide	4,435	4,033	937	221	172	2,026	36	578	63	3,607	112	115	152	1,091	493	779	200	11	1
Veterinary Insecticide/Pesticide Product (For Pets-Flea Collars, Etc.)	2	2	0	0	0	2	0	0	0	2	0	0	0	0	1	0	0	0	0
Miscellaneous Pesticides																			
Arsenic Pesticides	67	67	41	0	0	20	0	5	1	63	0	2	0	7	23	5	2	0	0
Borates and/or Boric Acid Pesticides (Excluding Other Uses)	5,928	5,832	5,031	122	43	491	12	118	15	5,735	47	29	16	392	1,565	196	22	0	0
Metam Sodium	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Repellents																			
Animal Repellents	381	372	106	27	8	166	7	55	3	341	7	2	21	36	51	96	9	0	0
Insect Repellents with DEET	4,814	4,711	2,636	702	221	942	13	174	23	4,309	84	51	261	480	697	1,462	94	1	0
Insect Repellents without DEET	1,318	1,277	918	125	26	165	4	34	5	1,212	17	3	45	93	221	264	12	0	0
Naphthalene Moth Repellants (Excluding Deodorizing Products)	1,311	1,289	881	56	28	229	9	80	6	1,244	26	8	11	247	453	81	20	0	0
Other Types of Moth Repellant	4	4	4	0	0	0	0	0	0	4	0	0	0	0	2	0	0	0	0
Paradichlorobenzene Moth Repellants (Excluding Deodorizing Products)	107	105	61	2	5	27	0	10	0	101	4	0	0	11	27	9	3	0	0
Unknown Types of Moth Repellant	2,063	2,018	1,010	78	62	607	8	231	22	1,907	68	18	20	361	484	195	29	4	0
Rodenticides																			
ANTU (1-naphthalenylthiourea)	7	7	0	6	1	0	0	0	0	4	1	0	2	0	0	4	0	0	0
Bromethalin Rodenticides	563	540	394	17	5	84	1	29	10	491	27	15	0	167	199	18	2	0	0
Cholecalciferol Rodenticides	6	6	6	0	0	0	0	0	0	6	0	0	0	2	3	0	0	0	0
Cyanide Rodenticides	2	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Long-Acting Anticoagulant Rodenticides	9,785	9,574	8,312	188	88	804	19	124	39	9,159	314	67	17	2,652	2,719	113	39	15	2
Other Types of Rodenticide	579	564	385	30	12	102	5	25	5	531	23	6	2	77	144	41	13	3	1
PNU (n-3-pyridylmethyl-n1-p-nitrophenyl urea)	4	4	1	0	0	1	0	2	0	3	0	0	0	0	2	0	0	0	0
Strychnine Rodenticides	77	64	3	3	2	43	1	11	1	38	10	9	2	25	18	6	2	1	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Unknown Types of Rodenticide	1,508	1,396	938	40	37	270	4	84	23	1,177	116	65	7	563	390	57	15	2	1
Warfarin Type Anticoagulant Rodenticides	261	244	194	3	2	30	0	11	4	222	15	6	0	90	77	3	5	1	0
Zinc Phosphide Rodenticides	94	85	26	1	1	52	0	3	2	80	3	1	1	22	31	14	0	0	0
Category Total:	**88,853**	**83,757**	**38,118**	**4,437**	**2,618**	**31,510**	**256**	**6,089**	**729**	**78,461**	**2,132**	**748**	**2,118**	**14,444**	**17,069**	**14,489**	**2,052**	**105**	**17**
Photographic Products																			
Miscellaneous Photographic Products																			
Developers, Fixing Baths, Stop Baths	136	120	14	1	46	45	0	14	0	114	2	1	2	32	21	42	7	0	0
Other Types of Photographic Product	188	171	104	9	14	38	0	5	1	165	4	1	0	19	41	14	1	0	0
Photographic Coating Fluids	4	3	2	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Unknown Types of Photographic Product	4	4	1	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0
Category Total:	**332**	**298**	**121**	**10**	**61**	**86**	**0**	**19**	**1**	**286**	**6**	**2**	**2**	**51**	**62**	**56**	**8**	**0**	**0**
Plants																			
Miscellaneous Plants																			
Plants: Amygdalin and/or Cyanogenic Glycosides	2,470	2,406	1,469	311	80	434	8	98	6	2,234	88	9	72	162	499	99	19	1	0
Plants: Anticholinergics	705	635	284	36	154	136	4	18	3	407	210	1	12	277	151	64	131	13	0
Plants: Cardiac Glycosides (Excluding Drugs)	1,376	1,336	678	173	47	348	2	82	6	1,200	97	6	28	215	326	113	26	5	1
Plants: Colchicine	17	16	11	3	1	1	0	0	0	15	0	0	1	0	5	1	1	0	0
Plants: Depressants	196	150	95	9	11	29	1	4	1	122	18	3	6	14	26	14	4	0	1
Plants: Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	7,363	7,097	5,148	670	166	907	12	166	28	6,656	242	14	175	505	1,532	601	84	5	0
Plants: Hallucinogenics (Code as Street Drug Unless Plant Part Involved)	535	462	139	31	123	139	1	24	5	234	192	8	27	170	55	70	68	5	0
Plants: Nicotine (Excluding Tobacco Products)	154	136	64	16	10	37	0	7	2	120	12	0	4	40	25	37	14	1	0
Plants: Non-Toxic	6,625	6,176	4,233	721	174	811	30	185	22	5,614	199	22	328	370	824	516	68	4	0
Plants: Other Toxic Types	4,485	4,166	2,778	491	187	527	52	117	14	3,754	247	10	151	465	981	294	106	9	0
Plants: Oxalates	5,549	5,440	4,287	462	132	452	9	85	13	5,161	205	7	59	294	1,165	962	50	1	0
Plants: Skin Irritants (Excluding Oxalate Containing Plants)	5,688	5,273	2,519	517	210	1,575	14	401	37	4,809	140	26	282	663	650	698	209	4	0
Plants: Solanine	1,381	1,345	830	98	31	298	2	77	9	1,231	39	7	65	153	335	118	9	2	0
Plants: Stimulants	195	180	50	31	15	59	0	23	2	139	28	3	8	53	51	32	11	0	0
Plants: Toxalbumins	145	137	44	14	6	57	7	7	2	117	15	0	3	54	30	28	11	1	0
Plants: Unknown Toxic Types or Unknown if Toxic	10,452	9,898	6,757	1,242	264	1,242	45	310	38	9,199	423	25	224	854	1,905	850	121	11	2
Category Total:	**47,336**	**44,853**	**29,386**	**4,825**	**1,611**	**7,052**	**187**	**1,604**	**188**	**41,012**	**2,155**	**141**	**1,445**	**4,289**	**8,560**	**4,497**	**932**	**62**	**4**
Polishes and Waxes																			
Miscellaneous Polishes and Waxes																			
Floor Waxes, Polishes, or Sealers	485	458	270	12	15	138	0	21	2	445	9	1	2	78	117	77	19	0	0
Furniture Polishes	1,926	1,857	1,566	28	34	185	4	38	2	1,807	33	6	8	189	621	234	23	4	0
Miscellaneous Polishes and Waxes (Excluding Mineral Seal Oils)	2,530	2,413	1,836	67	52	358	3	89	8	2,340	38	16	14	268	616	298	49	4	0
Category Total:	**4,941**	**4,728**	**3,672**	**107**	**101**	**681**	**7**	**148**	**12**	**4,592**	**80**	**23**	**24**	**535**	**1,354**	**609**	**91**	**8**	**0**

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Radiation																			
Ionizing Radiation																			
Radon	18	18	2	0	0	9	1	6	0	17	0	1	0	5	4	0	0	0	0
Specific Nonpharmaceutical Radionuclides	6	2	0	0	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0
X-ray Radiation	2	2	0	0	1	1	0	0	0	2	0	0	0	1	0	0	0	0	0
Miscellaneous Radiation																			
Nonpharmaceutical Radiation: Type Unknown	262	211	13	5	14	125	2	45	7	178	0	10	13	69	15	19	5	1	0
Non-ionizing Radiation																			
Extremely Low-frequency Radiation	2	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Microwave Radiation	5	5	0	0	0	3	0	2	0	5	0	0	0	0	1	0	0	0	0
Non-ionizing Radiation: Type Unknown	2	2	0	0	0	1	0	1	0	2	0	0	0	2	1	1	0	0	0
Radio Frequency Radiation	4	4	0	0	0	0	0	0	4	4	0	0	0	4	0	0	0	0	0
Ultraviolet Radiation	1	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0
Visible Light Radiation (Lasers)	1	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Category Total:	**303**	**248**	**18**	**5**	**15**	**140**	**4**	**55**	**11**	**212**	**1**	**12**	**13**	**83**	**21**	**21**	**6**	**1**	**0**
Sporting Equipment																			
Miscellaneous Sporting Equipment																			
Fishing Baits	54	53	42	2	4	5	0	0	0	49	4	0	0	5	9	5	1	0	0
Fishing Products, Miscellaneous	21	21	17	3	0	0	0	1	0	20	1	0	0	4	3	2	0	0	0
Golf Balls (Including Liquid Center of Golf Balls)	4	4	0	0	1	2	0	1	0	4	0	0	0	2	0	0	0	0	0
Gun Bluing Compounds	22	19	7	0	0	10	0	2	0	17	0	1	1	10	4	6	2	0	0
Hunting Products, Miscellaneous	303	295	158	22	24	75	0	14	2	263	16	14	0	93	82	40	6	0	0
Other Types of Sporting Equipment	13	13	10	0	0	3	0	0	0	12	1	0	0	2	3	1	1	0	0
Unknown Types of Sporting Equipment	4	3	2	0	1	0	0	0	0	3	0	0	0	2	1	1	0	0	0
Category Total:	**421**	**408**	**236**	**27**	**30**	**95**	**0**	**18**	**2**	**368**	**22**	**15**	**1**	**118**	**102**	**55**	**10**	**0**	**0**
Swimming Pool/Aquarium																			
Miscellaneous Swimming Pool/Aquarium																			
Algicides	1,676	1,621	612	183	79	632	0	106	9	1,573	26	6	15	280	175	433	137	2	1
Aquarium Products, Miscellaneous	1,415	1,352	1,062	65	34	152	0	37	2	1,320	21	5	5	121	341	102	12	0	0
Bromine Shock Treatments	98	90	41	5	3	38	0	3	0	88	0	0	2	17	13	32	3	0	0
Chlorine Shock Treatments	3,248	3,123	481	367	261	1,703	39	239	33	3,015	57	9	40	863	186	1,233	409	9	1
Other Types of Swimming Pool or Aquarium Product	1,828	1,708	407	259	110	790	11	117	14	1,636	24	6	39	360	183	661	134	9	0
Swimming Pool and Aquarium Test Kits	154	140	106	7	6	19	1	1	0	139	1	0	0	22	41	19	3	0	0
Category Total:	**8,419**	**8,034**	**2,709**	**886**	**493**	**3,334**	**51**	**503**	**58**	**7,771**	**129**	**26**	**101**	**1,663**	**939**	**2,480**	**698**	**20**	**2**
Tobacco/Nicotine Products																			
Miscellaneous Tobacco Products																			
Chewing Tobacco	906	887	743	21	42	69	0	11	1	840	26	7	10	226	260	274	18	0	0
Cigarettes	5,690	5,493	5,162	36	47	201	12	31	4	5,373	68	27	21	872	1,802	1,009	77	1	0
Cigars	106	100	68	1	10	18	1	2	0	84	7	1	8	24	35	15	7	0	0
Dissolvable Tobacco	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Filter Tips Only (i.e. Butts)	83	82	74	0	1	5	1	1	0	82	0	0	0	8	34	9	1	0	0
Other Types of Tobacco Product	116	96	51	0	9	31	0	5	0	76	18	0	2	24	22	19	5	1	0

(Continued)

Table 22A. Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility	Outcome				
			<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Snuff	501	483	410	2	18	47	0	6	0	451	13	6	13	127	138	153	20	0	0
Unknown Types of Tobacco Product	922	878	574	23	28	201	0	46	6	755	63	9	48	226	232	200	40	3	0
Nicotine Containing (Excluding Tobacco Products)																			
Electronic Cigarettes: Device and/or Cartridge Containing Nicotine	258	245	81	3	11	134	1	14	1	194	12	1	37	55	47	49	13	0	0
Electronic Cigarettes: Nicotine Liquid	11	11	3	0	0	7	0	1	0	10	0	0	1	3	2	6	1	0	0
Category Total:	**8,595**	**8,276**	**7,167**	**86**	**166**	**713**	**15**	**117**	**12**	**7,866**	**207**	**51**	**140**	**1,565**	**2,572**	**1,734**	**182**	**5**	**0**
Waterproofers/Sealants																			
Miscellaneous Waterproofers/Sealants																			
Waterproofers/sealants: aerosols	248	237	106	21	19	77	0	11	3	220	11	1	5	62	38	66	21	1	0
Waterproofers/sealants: liquids	99	93	38	6	2	42	0	5	0	91	0	0	2	26	13	19	6	0	0
Waterproofers/sealants: solids	5	4	3	0	0	1	0	0	0	4	0	0	0	2	1	1	0	0	0
Waterproofers/sealants: unknown form	35	34	18	0	0	11	3	1	1	34	0	0	0	5	7	7	1	0	0
Category Total:	**387**	**368**	**165**	**27**	**21**	**131**	**3**	**17**	**4**	**349**	**11**	**1**	**7**	**95**	**59**	**93**	**28**	**1**	**0**
Weapons of Mass Destruction																			
Miscellaneous Weapons of Mass Destruction																			
Anthrax	8	8	0	0	0	6	0	2	0	3	1	3	0	4	1	0	1	0	0
Nerve Gases	1	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0
Other Biological Weapons	23	18	6	2	1	7	0	2	0	16	0	1	1	3	7	2	1	0	0
Other Chemical Weapons	84	71	0	0	2	56	0	9	4	63	1	4	1	52	7	18	19	0	0
Other Suspicious Powders	12	12	4	2	0	3	0	3	0	11	0	1	0	1	7	2	1	0	0
Other Suspicious Substances (Non-Powder)	1	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0
Suspicious Powders in Envelope or Package	7	7	0	0	0	4	0	3	0	2	0	5	0	2	3	0	1	0	0
Category Total:	**136**	**118**	**11**	**4**	**3**	**77**	**0**	**19**	**4**	**96**	**2**	**15**	**2**	**64**	**26**	**22**	**23**	**0**	**0**
Nonpharmaceuticals Total:	**1,178,750**	**1,071,939**	**593,560**	**70,366**	**49,995**	**290,407**	**3,087**	**58,027**	**6,497**	**1,002,579**	**37,624**	**10,998**	**16,813**	**161,606**	**186,770**	**175,511**	**33,310**	**2,223**	**286**

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Pharmaceuticals																			
Analgesics																			
Acetaminophen Alone																			
Acetaminophen Alone, Adult	34,745	22,659	6,664	1,062	4,285	9,654	12	837	145	12,328	9,718	25	322	11,875	5,969	2,498	1,573	460	58
Acetaminophen Alone, Pediatric	32,150	29,993	28,034	1,638	131	132	29	18	11	29,628	211	13	114	4,071	6,857	310	38	15	0
Acetaminophen Alone, Unknown if Adult or Pediatric	6,762	4,165	1,547	179	635	1,648	6	107	43	2,323	1,665	4	51	2,279	1,241	461	373	124	22
Acetaminophen Combinations																			
Acetaminophen in Combination with Other Drugs, Adult Formulations	18,367	10,739	2,345	245	2,005	5,669	7	378	90	4,129	6,249	22	230	6,707	2,442	2,326	1,583	203	13
Acetaminophen in Combination with Other Drugs, Pediatric Formulations	118	104	91	10	0	3	0	0	0	101	3	0	0	23	30	12	0	0	0
Acetaminophen with Codeine	4,437	2,303	665	156	303	1,060	3	92	24	1,208	841	4	228	1,084	598	457	146	15	2
Acetaminophen with Diphenhydramine	126	82	18	1	12	49	0	1	1	41	41	0	0	47	16	13	12	0	1
Acetaminophen with Hydrocodone	28,504	12,502	2,088	350	1,288	7,839	13	778	146	5,437	6,029	49	776	6,435	2,786	2,446	1,002	248	36
Acetaminophen with Other Narcotics or Narcotic Analogs	823	375	66	9	40	243	0	16	1	160	174	8	25	245	90	68	58	13	1
Acetaminophen with Oxycodone	10,414	4,751	900	95	438	2,953	4	313	48	2,163	2,120	32	351	2,472	1,103	948	462	81	6
Acetaminophen with Propoxyphene	841	369	74	11	50	206	0	19	9	140	203	0	22	230	101	77	36	2	0
Acetylsalicylic Acid Alone																			
Acetylsalicylic Acid Alone, Adult Formulations	7,563	4,325	1,804	190	706	1,498	3	102	22	2,427	1,710	7	131	2,133	1,155	506	584	58	3
Acetylsalicylic Acid Alone, Pediatric Formulations	775	485	364	41	23	52	0	5	0	420	53	0	11	118	137	22	12	1	0
Acetylsalicylic Acid Alone, Unknown if Adult or Pediatric Formulations	10,056	5,291	1,756	210	919	2,205	1	151	49	2,542	2,496	4	135	3,101	1,175	838	930	132	19
Acetylsalicylic Acid Combinations																			
Acetylsalicylic Acid in Combination with Other Drugs, Adult Formulations	1,558	931	258	52	86	487	2	40	6	568	285	3	60	383	172	161	125	11	0
Acetylsalicylic Acid in Combination with Other Drugs, Pediatric Formulations	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Acetylsalicylic Acid with Carisoprodol	27	12	0	0	3	9	0	0	0	5	7	0	0	8	2	4	1	1	0
Acetylsalicylic Acid with Codeine	87	48	13	1	5	23	0	5	1	17	29	0	2	30	13	10	8	0	0
Acetylsalicylic Acid with Other Narcotics or Narcotic Analogs	25	8	1	1	0	5	0	0	1	2	6	0	0	6	2	1	1	0	0
Acetylsalicylic Acid with Oxycodone	46	23	2	1	4	14	0	2	0	9	13	0	1	15	3	8	2	1	0
Acetylsalicylic Acid with Propoxyphene	1	1	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0
Miscellaneous Analgesics																			
Non-Aspirin Salicylates (Excluding Topicals and/or Gastrointestinal Drugs)	287	218	138	6	11	55	1	7	0	185	22	0	10	52	56	21	11	1	0
Other Analgesics	391	325	179	8	19	102	0	16	1	272	15	1	35	49	85	60	6	2	0
Phenacetin	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenazopyridine	1,307	1,071	760	43	36	198	1	30	3	952	53	0	64	241	351	127	22	5	0
Salicylamide	4	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Unknown Analgesics	177	77	20	2	24	28	0	3	0	31	41	0	1	47	17	10	7	2	0
Nonsteroidal Antiinflammatory Drugs																			
Colchicine	411	260	47	2	12	180	1	16	2	194	32	0	34	144	47	45	43	8	1
Cyclooxygenase-2 Inhibitors	1,035	530	227	23	11	228	0	41	0	474	31	0	25	73	152	21	3	0	0
Ibuprofen	82,879	65,841	46,384	3,327	5,944	8,897	41	1,030	218	55,150	9,781	38	707	11,996	15,723	3,530	739	59	1
Ibuprofen with Diphenhydramine	23	11	4	1	2	4	0	0	0	6	4	0	0	4	5	0	2	0	0
Ibuprofen with Hydrocodone	302	165	40	7	21	87	0	9	1	94	58	0	12	65	33	30	12	1	0
Indomethacin	564	339	92	13	14	194	1	22	3	217	79	1	41	100	77	53	7	1	0
Ketoprofen	93	56	32	3	3	15	0	3	0	45	9	0	2	11	14	5	0	0	0
Naproxen	13,457	8,229	2,818	243	1,487	3,252	6	367	56	5,196	2,435	7	534	2,619	1,985	990	218	10	0
Other Types of Nonsteroidal Antiinflammatory Drug	6,963	4,153	1,711	182	244	1,732	2	250	32	3,452	489	3	187	850	1,115	357	69	3	0
Unknown Types of Nonsteroidal Anti inflammatory Drug	17	7	2	1	2	1	0	1	0	4	3	0	0	4	3	1	0	0	0
Opioids																			
Buprenorphine	3,625	2,399	1,121	36	107	932	9	159	35	1,409	668	86	191	1,647	349	690	427	42	3
Butorphanol	88	61	11	2	2	42	0	4	0	41	14	0	5	23	14	11	3	0	0
Codeine	2,054	1,542	699	214	121	446	1	49	12	1,280	186	0	68	290	403	192	26	3	0
Dihydrocodeine	2	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
Fentanyl	1,724	963	37	7	42	780	1	80	16	216	584	20	118	663	72	207	236	113	16

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Hydrocodone Alone or in Combination (Excluding Combination Products with Acetaminophen, Acetylsalicylic Acid or Ibuprofen)	1,986	1,089	259	66	88	580	2	81	13	675	297	5	90	395	190	246	67	10	1
Hydromorphone	1,119	506	47	15	23	364	0	51	6	238	206	3	54	269	78	96	58	13	2
Meperidine	238	104	19	8	11	57	1	7	1	58	34	1	8	46	20	19	9	3	0
Methadone	4,693	1,893	230	38	136	1,307	3	146	33	630	1,006	65	110	1,348	227	325	451	196	51
Morphine	4,157	2,017	300	34	119	1,368	0	162	34	1,061	766	26	118	1,117	396	374	236	73	24
Nalbuphine	32	15	1	0	1	12	0	1	0	6	3	2	4	13	2	3	6	0	0
Other or Unknown Narcotics	1,991	660	94	16	57	416	1	66	10	241	293	42	43	467	82	115	158	52	8
Oxycodone Alone or in Combination (Excluding Combination Products with Acetaminophen or Acetylsalicylic Acid)	8,963	3,973	620	125	333	2,540	5	272	78	1,886	1,700	48	236	2,036	659	758	469	108	37
Oxymorphone	1,041	489	49	6	55	336	0	34	9	162	277	5	29	327	57	97	99	44	4
Pentazocine	92	64	9	1	3	44	0	5	2	25	24	1	13	37	4	22	5	1	0
Propoxyphene	90	25	4	1	4	14	0	1	1	9	13	0	3	18	3	7	3	0	0
Remifentanil	1	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0
Sufentanil	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0
Tapentadol	427	260	30	4	8	201	0	17	0	126	90	2	36	157	40	56	56	5	1
Tramadol	12,424	6,361	1,191	171	675	3,922	3	337	62	2,614	3,170	44	447	3,942	1,543	1,264	979	188	6
Other Acetaminophen and Acetylsalicylic Acid Combinations																			
Acetaminophen and Acetylsalicylic Acid with Other Ingredients	9,751	6,863	3,484	133	1,194	1,844	5	159	44	4,425	2,163	3	240	2,775	1,891	1,069	389	8	0
Acetaminophen and Acetylsalicylic Acid without Other Ingredients	268	171	79	5	10	72	0	3	2	110	50	1	7	67	42	29	23	4	0
Category Total: Anesthetics	**320,104**	**209,909**	**107,431**	**8,995**	**21,752**	**64,002**	**164**	**6,294**	**1,271**	**145,138**	**56,450**	**575**	**5,931**	**73,157**	**49,628**	**21,998**	**11,785**	**2,320**	**316**
Inhalation Anesthetics																			
Nitrous Oxide	179	125	10	13	16	72	0	9	5	50	62	1	10	69	8	19	26	3	0
Other Types of Inhalation Anesthetic	131	102	8	5	5	74	0	8	2	85	6	4	4	53	12	36	13	1	1
Unknown Types of Inhalation Anesthetic	3	2	0	0	0	2	0	0	0	0	1	1	0	2	0	0	0	1	0
Local and/or Topical Anesthetics																			
Dibucaine	32	30	22	1	0	4	0	3	0	29	0	0	1	4	14	3	0	0	0
Lidocaine	1,515	1,320	527	80	106	511	1	88	7	1,082	75	4	154	319	308	163	75	17	3
Other or Unknown Local and/or Topical Anesthetic	5,214	4,947	3,438	236	150	945	6	157	15	4,552	129	17	238	647	1,652	519	84	13	1

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Miscellaneous Anesthetics																			
Ketamine and Analogs	220	121	11	3	21	81	0	4	1	26	82	4	9	101	11	32	46	2	0
Other Types of Anesthetic	30	20	8	3	1	4	0	3	1	17	1	0	1	7	4	3	1	1	0
Unknown Types of Anesthetic	9	6	3	0	0	3	0	0	0	4	0	0	2	2	1	1	1	0	0
Category Total:	**7,333**	**6,673**	**4,027**	**341**	**299**	**1,696**	**7**	**272**	**31**	**5,845**	**356**	**31**	**419**	**1,204**	**2,010**	**776**	**246**	**38**	**5**
Anticholinergic Drugs																			
Miscellaneous Anticholinergic Drugs																			
Anticholinergic Drugs (Excluding Cough and Cold Preparations, and Plants)	11,327	8,958	419	72	120	7,199	11	1,081	56	8,455	324	14	147	764	1,337	269	187	16	0
Category Total:	**11,327**	**8,958**	**419**	**72**	**120**	**7,199**	**11**	**1,081**	**56**	**8,455**	**324**	**14**	**147**	**764**	**1,337**	**269**	**187**	**16**	**0**
Anticoagulants																			
Miscellaneous Anticoagulants																			
Glycoprotein IIIa/IIb Inhibitors	7	7	0	0	0	6	0	1	0	7	0	0	0	7	2	0	2	0	0
Heparins	296	244	55	5	5	154	0	22	3	186	27	1	28	106	54	23	21	5	2
Other Antiplatelets	2,856	1,116	326	15	7	679	1	83	5	1,044	33	1	36	178	264	26	18	1	0
Other Types of Anticoagulant	598	452	40	3	2	363	0	41	3	369	7	0	72	132	94	12	35	14	7
Unknown Types of Anticoagulant	21	16	8	0	0	7	0	1	0	11	4	1	0	10	2	0	2	1	0
Warfarin (Excluding Rodenticides)	4,496	2,650	916	42	35	1,483	4	151	19	2,310	251	12	67	785	603	89	135	18	2
Category Total:	**8,274**	**4,485**	**1,345**	**65**	**49**	**2,692**	**5**	**299**	**30**	**3,927**	**322**	**15**	**203**	**1,218**	**1,019**	**150**	**213**	**39**	**11**
Anticonvulsants																			
Anticonvulsants: Carbamazepine and Analogs																			
Carbamazepine	4,229	2,151	370	95	185	1,398	2	88	13	1,014	844	2	223	1,458	340	607	465	88	0
Anticonvulsants: Gamma Aminobutyric Acid and Analogs																			
Gabapentin	2	2	0	1	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0
Anticonvulsants: Hydantoins																			
Phenytoin	3,173	1,971	192	23	61	1,592	0	92	11	838	495	2	520	1,487	310	542	482	46	1
Miscellaneous Anticonvulsants																			
Lamotrigine	6	1	1	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0
Other Types of Anticonvulsant (Excluding Barbiturates)	31,610	14,097	3,622	994	1,684	7,055	4	665	73	8,848	4,425	37	653	6,481	3,636	2,725	1,200	122	4
Primidone	333	116	17	0	2	90	0	7	0	88	20	0	6	48	19	30	13	3	0
Succinimides	137	101	61	25	5	6	1	3	0	96	4	0	1	20	43	10	1	1	0
Topiramate	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Unknown Types of Anticonvulsant (Excluding Barbiturates)	11	3	0	1	0	1	0	1	0	0	2	1	0	2	0	0	0	0	0
Valproic Acid	8,052	3,124	447	203	446	1,879	0	129	20	1,453	1,232	11	325	1,962	789	610	426	56	3
Category Total:	**47,557**	**21,566**	**4,710**	**1,342**	**2,383**	**12,022**	**7**	**985**	**117**	**12,340**	**7,022**	**53**	**1,728**	**11,459**	**5,137**	**4,525**	**2,587**	**316**	**8**
Antidepressants																			
Cyclic Antidepressants																			
Amitriptyline	6,425	2,753	470	97	324	1,714	1	119	28	1,033	1,543	2	87	1,999	416	576	735	212	15

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Amoxapine	26	9	0	1	1	7	0	0	0	5	3	0	1	5	1	2	0	0	0
Cyclic Antidepressants Formulated with a Benzodiazepine	27	11	1	0	1	8	0	1	0	4	7	0	0	8	2	4	2	0	0
Cyclic Antidepressants Formulated with a Phenothiazine	61	33	9	2	4	17	0	1	0	15	16	0	2	25	9	6	5	2	0
Desipramine	83	32	6	1	1	22	0	2	0	19	11	0	2	25	6	6	7	3	0
Doxepin	1,472	562	52	28	35	415	0	27	5	177	352	0	21	423	77	119	144	48	7
Imipramine	399	199	54	22	25	87	0	8	3	126	64	0	8	102	66	31	14	7	0
Maprotiline	5	2	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0
Nortriptyline	1,057	474	61	21	38	326	0	27	1	223	210	1	32	287	81	77	93	22	1
Other Types of Cyclic Antidepressant	2,413	1,012	252	47	86	563	0	59	5	611	319	8	53	525	252	150	147	50	4
Protriptyline	17	7	1	0	2	3	0	1	0	4	2	0	1	1	2	0	0	0	0
Unknown Types of Cyclic Antidepressant	23	6	1	0	2	2	0	1	0	1	3	0	0	5	1	0	0	1	0
Miscellaneous Antidepressants																			
Lithium	6,737	3,437	149	89	368	2,645	2	158	26	983	1,230	12	1,016	2,819	583	677	1,152	154	3
Monoamine Oxidase Inhibitors	246	107	16	1	2	78	0	10	0	64	11	2	29	43	22	11	18	2	0
Other Types of Antidepressant	23,460	10,131	2,290	373	1,159	5,715	8	516	70	5,891	3,654	50	461	5,700	2,664	1,751	1,407	275	10
Selective Serotonin Reuptake Inhibitors	46,587	19,929	5,295	1,134	4,359	8,090	13	884	154	10,515	8,408	54	832	10,126	6,052	3,498	1,623	134	11
Trazodone	16,575	6,234	569	200	995	4,105	2	301	62	1,796	4,206	17	151	4,529	1,293	1,973	913	57	2
Unknown Types of Antidepressant	92	23	1	1	6	10	0	4	1	2	18	0	3	15	2	2	2	1	0
Category Total: Antihistamines	**105,705**	**44,961**	**9,227**	**2,017**	**7,408**	**23,808**	**26**	**2,120**	**355**	**21,470**	**20,057**	**146**	**2,700**	**26,637**	**11,529**	**8,883**	**6,262**	**968**	**53**
Miscellaneous Antihistamines																			
Cimetidine and Other Histamine-2 Blockers	8,520	6,388	5,071	229	164	779	5	129	11	6,060	248	2	71	615	1,692	212	21	1	0
Diphenhydramine Alone (Over the Counter)	5,812	4,737	3,513	308	207	645	1	54	9	4,078	590	0	56	1,232	1,146	694	238	15	1
Diphenhydramine Alone (Prescription)	37	29	11	2	2	12	0	2	0	18	9	0	2	16	7	5	6	0	0
Diphenhydramine Alone (Unknown if Over the Counter or Prescription)	31,076	21,643	11,497	1,460	2,211	5,853	13	494	115	15,075	6,017	18	404	7,846	4,754	3,307	2,329	193	11
Other Antihistamines Alone (Excluding Cough and Cold Preparations)	47,522	34,372	19,711	4,838	2,549	6,390	23	771	90	30,335	3,395	8	535	5,843	8,811	2,352	813	54	4
Category Total: Antimicrobials	**92,967**	**67,169**	**39,803**	**6,837**	**5,133**	**13,679**	**42**	**1,450**	**225**	**55,566**	**10,259**	**28**	**1,068**	**15,552**	**16,410**	**6,570**	**3,407**	**263**	**16**
Anthelmintics																			
Diethylcarbamazine	62	59	19	2	3	22	0	12	1	57	2	0	0	5	13	0	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other Types of Anthelmintic	1,777	1,651	934	87	46	481	2	89	12	1,534	54	5	52	164	431	103	10	3	0
Piperazine	265	258	187	16	4	43	1	6	1	241	9	7	0	40	82	16	4	0	0
Unknown Types of Anthelmintic	9	9	8	0	0	1	0	0	0	9	0	0	0	0	2	0	0	0	0
Antibiotics																			
Systemic Antibiotic Preparations (Oral, Intravenous, Intramuscular)	37,435	30,858	16,093	2,860	1,659	8,592	49	1,457	148	26,158	1,181	30	3,422	3,583	5,179	2,256	465	43	8
Topical Antibiotic Preparations (Dermal, Otic, Ophthalmic, Nasal)	7,112	6,834	4,897	316	161	1,155	18	269	18	6,615	65	8	144	236	1,144	316	24	1	0
Unknown Types of Antibiotic Preparation	399	288	157	22	14	72	1	19	3	237	13	0	36	44	49	42	2	0	0
Antifungals																			
Systemic Antifungal Preparations (Oral, Intravenous, Intramuscular)	1,580	1,326	750	96	44	364	3	64	5	1,191	29	1	105	189	276	90	15	0	0
Topical Antifungal Preparations (Dermal, Otic, Ophthalmic, Nasal)	9,919	9,562	7,186	224	124	1,682	19	306	21	9,291	81	11	175	613	1,624	614	43	0	0
Unknown Types of Antifungal Preparation	12	12	5	1	0	6	0	0	0	12	0	0	0	5	4	4	1	0	0
Antiparasitics																			
Antimalarials	773	470	154	30	31	221	1	28	5	395	36	1	34	184	152	49	25	9	0
Metronidazole	1,330	831	248	26	47	427	0	75	8	647	55	0	124	126	149	92	17	0	0
Other Types of Antiparasitic	27	25	10	2	1	9	0	3	0	22	0	0	3	5	6	2	0	0	0
Antituberculars																			
Isoniazid	249	181	42	22	47	57	0	13	0	90	53	0	29	114	32	15	22	41	0
Other Types of Antitubercular	20	6	1	2	1	1	0	0	1	4	1	0	1	2	0	1	0	0	0
Rifampin	86	53	23	4	3	20	0	3	0	44	3	0	6	18	15	5	2	0	0
Antivirals																			
Amantadine	202	78	20	7	9	37	0	5	0	63	8	0	5	31	24	7	8	1	0
Antiretrovirals	693	371	97	6	13	222	0	30	3	296	55	2	16	103	78	34	9	0	0
Other Anti-Influenza Agents	678	614	318	151	35	88	4	14	4	562	4	0	48	52	117	40	7	0	0
Systemic Antiviral Preparations (Oral, Intravenous, Intramuscular)	1,219	896	323	33	51	425	0	61	3	772	59	0	60	158	199	52	18	1	1
Topical Antiviral Preparations (Dermal, Otic, Ophthalmic, Nasal)	211	209	104	15	14	59	1	15	1	197	4	1	7	8	30	13	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Unknown Types of Antiviral Preparations	446	285	106	15	14	123	0	26	1	242	21	0	21	43	64	14	3	1	0
Miscellaneous Antimicrobials																			
Other Types of Antimicrobial	111	100	58	2	3	31	0	4	2	94	3	0	3	15	23	8	1	0	0
Unknown Types of Antimicrobial	21	13	7	0	0	3	0	3	0	10	1	0	1	4	2	1	1	0	0
Category Total:	**64,636**	**54,989**	**31,747**	**3,939**	**2,324**	**14,141**	**99**	**2,502**	**237**	**48,783**	**1,737**	**66**	**4,292**	**5,742**	**9,695**	**3,774**	**677**	**100**	**9**
Antineoplastics																			
Miscellaneous Antineoplastics																			
Antineoplastic Drugs	1,824	1,391	274	47	44	873	4	139	10	1,261	32	2	89	424	319	139	47	6	4
Category Total:	**1,824**	**1,391**	**274**	**47**	**44**	**873**	**4**	**139**	**10**	**1,261**	**32**	**2**	**89**	**424**	**319**	**139**	**47**	**6**	**4**
Asthma Therapies																			
Miscellaneous Asthma Therapies																			
Albuterol	6,196	5,563	4,214	585	172	500	7	74	11	5,111	290	10	138	667	1,415	505	207	3	0
Aminophylline or Theophylline	281	181	17	3	3	150	1	6	1	112	27	0	34	116	31	31	47	14	4
Leukotriene Antagonist or Inhibitor	9,640	8,029	6,246	1,242	145	353	5	37	1	7,820	172	0	27	714	1,965	110	13	0	0
Non-Selective Beta Agonists	1,463	1,440	501	374	93	429	1	41	1	1,383	36	4	13	347	95	655	191	1	0
Other Asthma Therapeutic Agents	279	193	56	13	7	107	0	10	0	146	17	1	23	70	50	21	19	4	2
Terbutaline and Other Beta-2 Agonists	2,073	1,808	594	210	50	807	5	133	9	1,669	75	1	56	182	347	111	64	6	0
Unknown Asthma Therapeutic Agents	11	6	2	1	1	1	0	0	1	5	1	0	0	3	2	2	0	0	0
Category Total:	**19,943**	**17,220**	**11,630**	**2,428**	**471**	**2,347**	**19**	**301**	**24**	**16,246**	**618**	**16**	**291**	**2,099**	**3,905**	**1,435**	**541**	**28**	**6**
Cardiovascular Drugs																			
Miscellaneous Cardiovascular Drugs																			
Alpha Blockers	2,770	1,071	261	21	29	670	0	86	4	867	129	1	70	369	305	112	76	3	0
Angiotensin Converting Enzyme Inhibitors	17,837	8,095	3,486	465	246	3,518	3	360	17	7,212	728	3	134	2,233	2,961	270	216	10	1
Angiotensin Receptor Blockers	6,535	3,169	802	89	75	1,992	3	202	6	2,952	162	0	51	627	1,047	162	60	0	0
Antiarrhythmics	1,817	1,090	156	14	16	828	0	72	4	1,011	36	1	40	375	389	62	68	15	8
Antihyperlipidemics	13,165	5,739	2,472	221	108	2,574	5	339	20	5,422	137	1	168	493	1,112	107	39	1	0
Antihypertensives (Excluding Diuretics)	4,555	2,714	908	993	248	513	3	47	2	2,360	231	7	109	1,270	916	422	344	14	1
Beta Blockers (Including All Propranolol Cases)	23,902	10,485	3,229	369	354	6,003	5	486	39	8,915	1,293	4	226	4,111	4,117	509	779	81	9
Calcium Antagonists	11,764	5,140	1,326	125	143	3,264	4	252	26	4,518	485	2	112	2,430	2,021	315	422	90	26
Cardiac Glycosides	2,513	1,601	190	17	9	1,346	1	36	2	819	78	1	636	1,178	262	155	558	132	27
Clonidine	8,606	4,739	1,926	1,102	544	1,053	18	74	22	3,553	999	12	130	3,068	942	1,085	1,231	120	2
Hydralazine	805	338	108	12	21	182	0	14	1	285	40	0	9	142	121	40	27	0	1
Long-Acting Nitrates	880	298	69	7	10	197	0	14	1	273	18	0	7	92	99	22	22	0	0
Nitroglycerin	1,385	997	657	41	8	253	2	29	7	866	95	5	21	278	433	57	21	1	0
Nitroprusside	17	16	1	0	0	14	0	1	0	2	0	0	14	16	3	5	3	1	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other Types of Cardiovascular Drug	636	320	115	4	4	179	0	17	1	295	10	0	14	71	91	19	8	1	0
Other Types of Vasodilator	1,299	929	340	24	28	450	1	73	13	699	88	15	116	298	264	90	49	3	1
Unknown Types of Cardiovascular Drug	69	25	8	0	1	9	0	4	3	16	5	0	2	12	5	2	2	0	0
Unknown Types of Vasodilator	12	9	4	0	0	4	0	1	0	8	1	0	0	4	1	2	0	0	0
Vasopressors	3,186	2,896	962	666	204	900	2	155	7	2,798	62	5	25	874	241	1,196	277	6	0
Category Total:	**101,753**	**49,671**	**17,020**	**4,170**	**2,048**	**23,949**	**47**	**2,262**	**175**	**42,871**	**4,597**	**57**	**1,884**	**17,941**	**15,330**	**4,632**	**4,202**	**478**	**76**
Cold and Cough Preparations																			
Acetaminophen and Acetylsalicylic Acid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine																			
Acetaminophen and Acetylsalicylic Acid with Decongestant and/or Antihistamine Combinations without Phenylpropanolamine or Opioids	65	47	27	5	3	10	0	1	1	38	6	0	2	12	12	4	1	0	0
Acetaminophen, Acetylsalicylic Acid, and Dextromethorphan Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	143	116	84	8	11	12	0	0	1	100	11	0	3	27	32	18	7	0	0
Acetaminophen, Acetylsalicylic Acid, and Opioid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	18	12	9	0	1	2	0	0	0	8	2	0	2	4	3	2	0	0	0
Acetaminophen and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine																			
Acetaminophen and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid	126	86	60	9	7	9	0	1	0	74	9	0	2	22	26	7	2	0	0
Acetaminophen, Phenylpropanolamine, and Codeine Combinations with Decongestant and/or Antihistamine	6	5	2	1	1	1	0	0	0	5	0	0	0	2	1	1	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Acetaminophen, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine	442	331	244	28	25	30	0	4	0	294	26	0	10	71	104	34	11	2	0
Acetaminophen, Phenylpropanolamine, and Other Opioid Combinations with Decongestant and/or Antihistamine	4	2	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Acetaminophen Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine																			
Acetaminophen and Codeine Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	43	36	30	0	1	4	0	1	0	32	2	0	2	11	13	4	0	0	0
Acetaminophen and Dextromethorphan Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	13,409	8,031	4,388	553	1,048	1,802	1	203	36	5,971	1,736	6	268	2,352	1,971	992	347	26	0
Acetaminophen and Other Opioid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	53	39	26	4	3	6	0	0	0	33	6	0	0	9	9	3	2	0	0
Acetaminophen with Decongestant and/or Antihistamine Combinations without Phenylpropanolamine or Opioids	3,367	2,223	1,240	127	342	464	4	42	4	1,576	538	1	88	683	514	301	178	6	1
Acetaminophen, Acetylsalicylic Acid, and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine																			
Acetaminophen, Acetylsalicylic Acid, and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid	21	18	9	2	2	5	0	0	0	13	4	0	1	7	4	4	1	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Acetaminophen, Acetylsalicylic Acid, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine	94	72	50	5	6	7	1	2	1	59	11	0	1	23	20	14	3	0	0
Acetaminophen, Acetylsalicylic Acid, Phenylpropanolamine, and Opioid Combinations with Decongestant and/or Antihistamine	5	5	3	2	0	0	0	0	0	5	0	0	0	2	2	1	0	0	0
Acetylsalicylic Acid and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine																			
Acetylsalicylic Acid and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid	25	21	13	4	2	2	0	0	0	18	2	0	1	2	5	2	0	0	0
Acetylsalicylic Acid, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine	28	24	19	1	3	1	0	0	0	24	0	0	0	6	9	0	1	0	0
Acetylsalicylic Acid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine																			
Acetylsalicylic Acid and Dextromethorphan Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	44	31	16	0	2	12	0	1	0	22	1	0	8	3	4	6	1	0	0
Acetylsalicylic Acid and Other Opioid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	9	8	5	1	0	2	0	0	0	7	0	0	1	1	2	3	0	0	0
Acetylsalicylic Acid with Decongestant and/or Antihistamine Combinations without Phenylpropanolamine or Opioids	66	46	22	7	8	9	0	0	0	32	11	0	3	14	3	8	4	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Antihistamine and/or Decongestant with Phenylpropanolamine																			
Antihistamine and/or Decongestant with Phenylpropanolamine and Codeine	14	10	4	2	1	3	0	0	0	8	2	0	0	2	5	2	0	0	0
Antihistamine and/or Decongestant with Phenylpropanolamine and Dextromethorphan	563	477	360	55	24	35	0	3	0	433	38	0	5	98	166	53	20	1	0
Antihistamine and/or Decongestant with Phenylpropanolamine and Other Opioid	14	11	5	2	0	3	0	1	0	9	0	0	2	5	6	2	1	0	0
Antihistamine and/or Decongestant with Phenylpropanolamine without Opioid	338	264	205	32	8	15	1	3	0	244	15	0	5	53	88	23	5	0	0
Antihistamine and/or Decongestant without Phenylpropanolamine																			
Antihistamine and/or Decongestant with Codeine without Phenylpropanolamine	1,264	1,013	432	147	88	316	2	25	3	833	141	1	35	223	255	136	46	5	1
Antihistamine and/or Decongestant with Dextromethorphan without Phenylpropanolamine	13,375	10,999	6,547	992	2,035	1,315	12	72	26	8,025	2,783	7	149	3,766	2,566	1,646	1,202	44	2
Antihistamine and/or Decongestant with Other Opioid without Phenylpropanolamine	810	680	261	84	37	260	1	31	6	561	92	4	17	197	187	124	37	1	0
Antihistamine and/or Decongestant without Phenylpropanolamine and Opioid	17,062	13,232	9,011	1,265	738	1,937	7	242	32	12,161	721	9	309	2,250	3,832	1,176	288	11	2
Miscellaneous Cold and Cough Preparations																			
Acetaminophen in Combination with Dextromethorphan (Without Decongestants or Antihistamines)	450	370	315	30	8	16	0	1	0	352	11	0	7	62	108	31	2	0	0
Acetylsalicylic Acid in Combination with Dextromethorphan	3	3	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Expectorants or Antitussives (Without Narcotics or Narcotic Analogs)	3,256	2,328	1,079	195	187	748	2	111	6	1,961	231	3	120	442	468	161	53	6	1
Non-Acetylsalicylic Acid Salicylates in Combination with Dextromethorphan	21	17	13	0	1	2	0	1	0	17	0	0	0	0	5	0	0	0	0
Other Dextromethorphan Preparations	14,219	11,126	5,163	1,479	1,938	2,305	9	197	35	8,146	2,591	14	312	3,314	2,135	1,665	1,026	27	2
Other Phenylpropanolamine Preparations (Excluding Street Drugs and Diet Aids)	240	197	96	1	4	82	0	14	0	195	1	0	1	17	55	4	3	0	0
Other Types of Cough and Cold Preparation (Excluding Phenylpropanolamine, Dextromethorphan, Acetaminophen, and Acetylsalicylic Acid)	2,700	2,273	1,813	128	80	207	1	39	5	2,118	84	0	65	258	572	163	19	1	1
Unknown Types of Cough and Cold Preparation	1,452	796	320	42	195	197	5	25	12	403	346	1	27	432	123	135	111	4	0
Non-Acetylsalicylic Acid Salicylates and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine																			
Non-Acetylsalicylic Acid Salicylates and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid	5	5	4	0	0	1	0	0	0	5	0	0	0	0	3	0	0	0	0
Non-Acetylsalicylic Acid Salicylates, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine	8	7	5	1	1	0	0	0	0	5	2	0	0	4	3	1	1	0	0
Non-Acetylsalicylic Acid Salicylates with Decongestant and/or Antihistamine without Phenylpropanolamine																			
Non-Acetylsalicylic Acid Salicylates and Dextromethorphan Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	8	7	6	0	0	1	0	0	0	6	0	0	1	0	3	0	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Non-Acetylsalicylic Acid Salicylates and Opioid Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	3	1	1	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0
Non-Acetylsalicylic Acid Salicylates with Decongestant and/or Antihistamine without Phenylpropanolamine and Opioid	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Category Total:	**73,774**	**54,970**	**31,890**	**5,215**	**6,810**	**9,821**	**46**	**1,020**	**168**	**43,800**	**9,423**	**46**	**1,447**	**14,375**	**13,315**	**6,726**	**3,372**	**134**	**10**
Diagnostic Agents																			
Miscellaneous Diagnostic Agents																			
Diagnostic Tablets for Glucose or Ketones	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0
Other Types of Diagnostic Agent	469	424	95	16	17	211	1	75	9	366	4	1	51	141	73	75	16	1	0
Unknown Types of Diagnostic Agent	6	4	2	1	0	1	0	0	0	3	0	0	1	0	2	2	0	0	0
Category Total:	**476**	**429**	**97**	**17**	**17**	**213**	**1**	**75**	**9**	**370**	**4**	**1**	**52**	**142**	**75**	**78**	**16**	**1**	**0**
Dietary Supplements/Herbals/Homeopathic																			
Amino Acids																			
Creatine	229	168	88	10	28	33	0	8	1	118	19	3	28	45	33	25	10	1	0
Other Amino Acid Dietary Supplements	725	531	286	29	56	141	0	19	0	381	48	2	98	129	94	58	26	2	0
Botanical Products																			
Citrus Aurantium (Single Ingredient)	6	4	2	0	1	1	0	0	0	3	1	0	0	2	0	0	1	0	0
Echinacea	249	186	138	30	2	14	0	2	0	175	5	0	6	12	41	10	0	0	0
Ginkgo Biloba	100	62	33	2	4	20	0	2	1	45	7	0	10	8	12	5	4	0	0
Ginseng	99	67	40	1	3	20	0	3	0	45	9	0	12	21	12	5	4	0	1
Kava Kava	57	31	4	1	5	18	0	1	2	12	9	0	10	11	2	4	3	0	0
Ma Huang/Ephedra (Single Ingredient)	50	35	11	0	2	21	0	1	0	15	15	0	5	22	8	7	7	0	0
Multi-Botanicals with Citrus Aurantium	83	71	49	0	7	14	0	0	1	54	8	0	9	30	21	13	1	0	0
Multi-Botanicals with Ma Huang	235	169	65	3	28	68	0	3	2	84	61	0	24	91	43	24	32	3	0
Multi-Botanicals without Ma Huang or Citrus Aurantium	2,442	1,961	1,007	61	163	653	3	66	8	1,283	309	5	355	538	380	274	182	5	0
Other Single Ingredient Botanicals	2,235	1,689	1,005	66	78	448	3	77	12	1,389	125	3	162	258	346	150	52	3	0
St. John's Wort	182	111	66	4	12	25	0	4	0	83	19	0	9	21	33	8	3	0	0
Valerian	248	129	51	3	15	45	0	15	0	68	42	2	15	48	37	13	6	0	0
Yohimbe	202	169	40	1	12	107	0	9	0	57	27	0	82	108	22	28	49	2	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Cultural Medicines																			
Asian Medicines	134	107	46	4	2	49	0	6	0	79	8	1	19	53	26	18	9	1	0
Ayurvedic Medicines	12	10	6	0	0	4	0	0	0	8	1	0	1	3	2	2	1	0	0
Hispanic Medicines	10	9	7	0	1	1	0	0	0	7	0	0	2	5	3	1	0	0	0
Other Cultural Medicines	40	34	17	1	1	15	0	0	0	16	7	1	10	17	5	3	6	0	0
Energy Products																			
Energy Drinks: Caffeine Containing (From Any Source Including Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	797	548	227	60	141	111	1	8	0	321	120	5	98	145	92	121	58	2	1
Energy Drinks: Caffeine Only (Without Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	1,507	1,062	582	91	128	226	6	24	5	742	173	4	141	201	189	208	61	4	0
Energy Drinks: Ethanol and Caffeine Containing (From Any Source Including Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	321	131	15	5	78	28	0	4	1	28	95	0	6	84	5	36	26	3	0
Energy Drinks: Ethanol and Caffeine Only (Without Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	4	3	1	0	0	2	0	0	0	2	1	0	0	2	0	1	1	0	0
Energy Drinks: Ethanol Containing Without Caffeine (From Any Source)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Energy Drinks: No Caffeine (From Any Source)	25	21	9	4	4	3	0	1	0	16	0	2	3	3	7	4	0	0	0
Energy Drinks: Unknown	566	331	109	33	78	94	0	14	3	181	80	0	69	76	47	59	26	2	0
Energy Products: Other	263	210	77	8	27	86	0	9	3	105	54	0	48	70	39	44	25	1	0
Hormonal Products																			
Androgen or Androgen Precursor Dietary Supplements	142	104	65	7	5	23	1	3	0	84	3	0	17	23	24	11	3	0	0
Glandular Dietary Supplements	76	63	57	0	0	5	0	1	0	60	0	0	3	9	13	1	0	0	0
Melatonin	8,790	7,010	5,038	819	535	515	5	73	25	6,037	845	8	98	1,032	1,627	750	33	0	0
Phytoestrogen Dietary Supplements	81	54	27	1	0	23	0	2	1	37	3	0	14	13	9	8	3	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Miscellaneous Dietary Supplements/Herbals/Homeopathic																			
Homeopathic Agents	10,756	10,164	9,331	217	93	428	17	67	11	9,847	108	22	175	709	2,248	319	43	4	0
Unknown Dietary Supplements or Homeopathic Agents	2,159	1,766	991	86	128	479	7	66	9	1,301	174	2	283	509	373	177	130	10	2
Other Dietary Supplements																			
Blue-Green Algae	235	220	59	31	26	75	2	26	1	209	3	3	5	52	26	61	11	0	0
Glucosamine (with or without Chondroitin)	584	392	263	17	4	95	2	11	0	356	7	1	27	26	65	13	1	1	0
Other Single Ingredient Non-Botanical Dietary Supplements	1,652	936	689	43	21	148	2	29	4	832	32	5	62	87	169	50	7	1	0
Category Total:	**35,297**	**28,558**	**20,501**	**1,638**	**1,688**	**4,038**	**49**	**554**	**90**	**24,080**	**2,418**	**69**	**1,906**	**4,463**	**6,053**	**2,511**	**824**	**45**	**4**
Diuretics																			
Miscellaneous Diuretics																			
Furosemide	3,418	1,155	546	47	22	501	1	37	1	1,054	72	0	27	290	267	124	36	2	0
Other Types of Diuretic	2,034	917	421	50	36	368	1	34	7	808	59	1	44	211	270	74	19	2	0
Thiazide	4,814	1,839	813	126	57	770	1	69	3	1,651	144	0	41	379	496	95	22	0	1
Unknown Types of Diuretic	265	117	48	10	1	51	0	6	1	99	13	1	4	29	27	12	3	0	0
Category Total:	**10,531**	**4,028**	**1,828**	**233**	**116**	**1,690**	**3**	**146**	**12**	**3,612**	**288**	**2**	**116**	**909**	**1,060**	**305**	**80**	**4**	**1**
Electrolytes and Minerals																			
Miscellaneous Electrolytes and Minerals																			
Calcium and Calcium Salts	16,255	14,610	13,334	537	138	481	13	92	15	14,303	205	10	85	353	2,490	211	27	0	0
Chromium, Trivalent	262	232	86	17	13	90	1	24	1	208	12	0	11	37	46	17	5	1	0
Colloidal Silver	86	76	35	5	0	34	0	1	1	47	11	0	16	32	15	10	7	1	0
Fluoride (Excluding Vitamins, Hydrofluoric Acid & Mouthwashes)	2,330	2,189	1,859	193	29	93	2	11	2	2,099	22	4	58	107	427	135	5	0	0
Germanium and Germanium Salts	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iron and Iron Salts (Excluding Vitamins with Iron)	5,030	3,777	2,171	114	290	1,025	9	150	18	3,161	421	4	175	1,025	974	395	101	6	0
Magnesium and Magnesium Salts	1,232	978	379	41	43	450	1	55	9	770	106	2	97	162	170	131	23	1	1
Multi-Mineral and Multi-Herbal Dietary Supplement	1,009	823	505	26	86	179	1	20	6	590	143	0	86	315	261	113	54	3	0
Multi-Mineral Dietary Supplements	182	131	67	9	10	25	15	5	0	113	6	0	12	31	23	9	3	0	0
Other Types of Electrolyte or Mineral	51	42	13	3	3	15	0	6	2	32	4	1	5	7	7	4	0	1	0
Potassium and Potassium Salts	1,615	631	230	18	14	318	2	49	0	539	53	0	34	110	168	34	13	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Selenium and Selenium Salts	106	80	28	7	2	34	0	7	2	68	4	1	5	24	8	19	2	1	0
Sodium and Sodium Salts	3,128	2,552	1,402	281	133	579	12	125	20	2,227	242	23	44	354	489	349	31	2	1
Unknown Types of Electrolyte or Mineral	17	17	5	2	1	7	0	1	1	16	0	0	1	5	3	1	2	0	0
Vanadium and Vanadium Salts	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Zinc and Zinc Salts	1,126	943	508	23	44	302	1	64	1	796	45	2	93	101	130	105	16	0	0
Category Total:	**32,431**	**27,082**	**20,622**	**1,276**	**806**	**3,633**	**57**	**610**	**78**	**24,970**	**1,274**	**47**	**722**	**2,663**	**5,211**	**1,533**	**289**	**16**	**2**
Eye/Ear/Nose/Throat Preparations																			
Miscellaneous Eye/Ear/Nose/Throat Preparations																			
Topical Steroids For Eye/Nose/Throat	2,112	1,660	956	276	38	321	3	59	7	1,581	40	2	33	57	311	101	5	0	0
Nasal Preparations																			
Other Nasal Decongestants or Sympathomimetics (Excluding Tetrahydrazoline)	2,350	2,222	979	118	144	831	2	143	5	2,030	53	6	131	260	580	259	35	0	0
Other Types of Nasal Preparation	656	629	414	19	5	159	3	28	1	603	4	2	19	31	107	62	3	0	0
Tetrahydrozoline, Nasal Preparations	43	41	28	2	5	6	0	0	0	39	1	1	0	9	18	3	0	0	0
Unknown Types of Nasal Preparation	8	7	4	1	0	2	0	0	0	7	0	0	0	5	2	0	1	0	0
Ophthalmic Preparations																			
Contact Lens Products	3,241	3,154	1,650	62	218	1,034	3	183	4	3,071	51	3	27	567	358	595	127	2	0
Glaucoma Medications	315	270	84	4	7	144	1	28	2	247	5	0	18	48	58	27	14	0	0
Other Ophthalmic Sympathomimetics	1,344	1,291	755	41	99	297	4	85	10	1,056	60	121	46	294	445	77	28	0	0
Other Types of Ophthalmic Preparation	2,189	2,097	1,247	88	78	532	5	137	10	1,931	47	44	71	225	471	106	44	1	0
Tetrahydrozoline, Ophthalmic Preparations	1,420	1,372	960	41	78	234	3	50	6	1,191	54	110	14	363	555	104	27	1	0
Unknown Types of Ophthalmic Preparation	62	56	16	2	7	18	1	8	4	37	4	10	5	14	7	7	1	0	0
Otic Preparations																			
Combination Products	2,234	2,194	1,103	242	69	656	2	116	6	2,174	7	0	12	202	423	573	28	0	0
Other Types of Otic Preparation	2,116	2,084	891	104	65	854	0	159	11	2,048	7	3	26	203	281	560	38	0	0
Unknown Types of Otic Preparation	53	51	12	6	5	23	0	5	0	50	0	0	1	7	7	15	1	0	0
Throat Preparations																			
Other Types of Throat Preparation	446	412	158	42	42	145	1	22	2	366	36	0	8	49	88	33	9	0	0
Throat Lozenges with Local Anesthetics	306	273	137	31	26	62	1	15	1	242	17	0	13	13	87	13	4	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Throat Lozenges without Local Anesthetics	1,216	1,128	988	52	22	57	2	4	3	1,088	23	0	17	50	229	42	8	0	0
Category Total:	**20,111**	**18,941**	**10,382**	**1,131**	**908**	**5,375**	**31**	**1,042**	**72**	**17,761**	**409**	**302**	**441**	**2,397**	**4,027**	**2,577**	**373**	**4**	**0**
Gastrointestinal Preparations																			
Antacids																			
Antacids: Other Types	5,871	5,487	4,989	210	29	220	2	37	0	5,355	85	1	45	118	819	67	4	0	0
Antacids: Proton Pump Inhibitors	10,748	6,130	3,452	217	171	1,935	6	319	30	5,696	228	4	192	550	1,351	201	27	1	0
Antacids: Salicylate-Containing	2,602	2,323	1,889	160	40	202	2	30	0	2,165	78	2	72	214	610	70	12	1	0
Antidiarrheals																			
Antidiarrheals: Diphenoxylate and Atropine Containing	313	179	82	9	11	68	0	8	1	136	33	0	7	109	83	16	12	0	0
Antidiarrheals: Loperamide	1,313	1,018	601	44	26	292	0	48	7	842	111	2	58	297	380	96	34	8	1
Antidiarrheals: Non-Narcotic Containing (Excluding Salicyl Containing)	35	25	11	0	4	10	0	0	0	19	1	3	2	3	2	3	0	0	0
Antidiarrheals: Other Narcotic Containing	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0
Antidiarrheals: Paregoric Containing	8	6	3	0	0	2	0	1	0	4	1	0	1	1	2	0	0	0	0
Antispasmodics																			
Antispasmodics: Anticholinergic Containing	3,149	1,654	762	114	113	573	4	76	12	1,316	225	1	91	576	540	228	119	4	0
Antispasmodics: Other Types	37	24	7	1	4	11	0	1	0	17	4	0	2	6	5	5	2	0	0
Miscellaneous Gastrointestinal Preparations																			
Laxatives	16,367	14,549	10,613	636	436	2,417	11	408	28	13,500	532	90	403	1,276	2,207	1,475	132	4	1
Other Types of Gastrointestinal Preparation	9,574	8,333	6,960	256	105	823	13	156	20	7,866	157	7	280	580	1,477	255	71	8	1
Unknown Types of Gastrointestinal Preparation	32	25	22	0	0	2	0	1	0	24	1	0	0	3	6	2	0	0	0
Category Total:	**50,050**	**39,754**	**29,392**	**1,647**	**939**	**6,555**	**38**	**1,085**	**98**	**36,940**	**1,456**	**110**	**1,154**	**3,734**	**7,482**	**2,418**	**414**	**26**	**3**
Hormones and Hormone Antagonists																			
Miscellaneous Hormones and Hormone Antagonists																			
Androgens	538	436	96	19	22	243	1	49	6	303	57	3	68	116	50	64	28	0	0
Corticosteroids	11,366	9,322	4,619	743	347	3,067	10	499	37	8,592	164	11	538	649	1,432	338	68	1	0
Estrogens	1,642	1,091	719	47	45	233	2	42	3	1,006	44	0	40	55	228	46	3	1	0
Insulin	6,545	5,705	196	86	104	4,833	2	453	31	5,187	411	10	78	1,988	2,331	307	770	32	3
oral Contraceptives	7,444	6,275	4,876	210	448	591	11	126	13	5,693	463	9	93	432	1,061	191	19	0	0
Other Hormone Antagonists	548	416	139	36	11	202	1	25	2	383	16	1	16	66	99	13	3	1	0
Other Hormones	1,048	816	289	95	41	339	0	48	4	710	47	1	53	201	217	66	17	1	0
Progestins	1,607	1,404	851	59	67	347	2	69	9	1,256	39	2	100	148	289	43	11	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Selective Estrogen Receptor Modulators	341	187	58	15	7	95	0	11	1	177	5	0	5	32	44	10	3	0	0
Thyroid Preparations (Including Synthetics and Extracts)	13,753	9,498	4,705	419	242	3,647	6	456	23	9,100	262	10	110	1,200	1,886	167	54	2	0
Unknown Hormones or Hormone Antagonists	24	15	5	0	3	4	0	2	1	11	1	0	2	6	2	1	1	0	0
Oral Hypoglycemic																			
Oral Hypoglycemics: Biguanides	7,927	3,749	877	118	247	2,270	2	222	13	3,119	505	4	97	945	960	260	135	31	9
Oral Hypoglycemics: Other or Unknown	1,175	522	209	14	10	256	2	28	3	474	24	0	21	215	206	24	38	4	0
Oral Hypoglycemics: Sulfonylureas	4,064	1,687	804	39	46	722	5	61	10	1,404	181	3	65	1,210	654	65	419	53	1
Oral Hypoglycemics: Thiazolidinediones	914	317	143	8	5	139	1	19	2	289	21	1	5	106	125	13	9	2	0
Category Total:	**58,936**	**41,440**	**18,586**	**1,908**	**1,645**	**16,988**	**45**	**2,110**	**158**	**37,704**	**2,240**	**55**	**1,291**	**7,369**	**9,584**	**1,608**	**1,578**	**128**	**13**
Miscellaneous Drugs																			
Other Miscellaneous Drugs																			
Allopurinol	789	309	159	8	3	119	0	19	1	287	9	0	13	44	98	5	1	1	0
Disulfiram	204	63	9	2	2	38	0	11	1	32	12	3	13	22	8	9	9	1	0
Ergot Alkaloids	171	135	73	10	10	33	2	7	0	114	10	0	10	77	48	22	10	2	0
Levo-Dopa and Related Drugs	1,086	577	139	6	6	387	0	38	1	507	42	1	19	145	134	71	34	0	0
Methylsergide	2	2	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0
Neuromuscular Blocking Agents (Succinylcholine, Curare, etc)	11	6	1	1	0	4	0	0	0	4	1	0	1	5	1	2	1	1	0
Nicotine Pharmaceuticals	1,413	1,310	717	132	47	344	1	66	3	1,075	104	7	119	296	391	242	47	1	0
Other Types of Miscellaneous Prescription or Over the Counter Drug	18,911	12,616	5,331	796	650	5,101	21	652	65	10,857	723	33	944	2,857	3,031	1,553	504	23	4
Category Total:	**22,587**	**15,018**	**6,429**	**955**	**718**	**6,028**	**24**	**793**	**71**	**12,876**	**903**	**44**	**1,119**	**3,446**	**3,711**	**1,904**	**606**	**29**	**4**
Muscle Relaxants																			
Miscellaneous Muscle Relaxants																			
Carisoprodol (Formulated Alone)	8,174	3,381	244	31	210	2,722	2	132	40	657	2,587	9	39	2,739	397	1,152	825	131	2
Cyclobenzaprine	10,960	4,747	1,409	206	431	2,463	7	192	39	2,495	2,103	4	81	2,891	1,198	1,146	674	80	3
Methocarbamol	1,600	732	128	25	65	470	1	38	5	366	321	0	33	397	190	163	74	5	0
Other Types of Skeletal Muscle Relaxant	7,772	3,357	658	87	231	2,202	1	155	23	1,550	1,595	12	143	2,144	617	724	732	180	5
Unknown Types of Muscle Relaxant	213	46	12	2	2	23	2	3	2	16	24	0	3	31	7	8	6	2	0
Category Total:	**28,719**	**12,263**	**2,451**	**351**	**939**	**7,880**	**13**	**520**	**109**	**5,084**	**6,630**	**25**	**299**	**8,202**	**2,409**	**3,193**	**2,311**	**398**	**10**

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Narcotic Antagonists																			
Miscellaneous Narcotic Antagonists																			
Miscellaneous Narcotic Antagonist	444	216	13	7	9	158	0	26	3	73	55	19	63	135	22	47	47	5	0
Category Total:	**444**	**216**	**13**	**7**	**9**	**158**	**0**	**26**	**3**	**73**	**55**	**19**	**63**	**135**	**22**	**47**	**47**	**5**	**0**
Radiopharmaceuticals																			
Miscellaneous Radiopharmaceutical																			
Specific Pharmaceutical Radionuclides	43	37	3	1	1	28	0	3	1	19	1	0	14	16	2	2	5	0	0
Category Total:	**43**	**37**	**3**	**1**	**1**	**28**	**0**	**3**	**1**	**19**	**1**	**0**	**14**	**16**	**2**	**2**	**5**	**0**	**0**
Sedative/Hypnotics/Antipsychotics																			
Barbiturates																			
Long Acting Barbiturates	2,142	1,284	329	30	48	804	1	65	7	906	299	9	36	533	313	196	140	34	1
Short or Intermediate Acting Barbiturates	282	121	9	3	10	81	0	15	3	72	37	3	6	65	19	30	11	9	2
Unknown Types of Barbiturate	28	8	0	1	0	4	0	3	0	1	5	0	1	5	0	0	2	0	0
Miscellaneous Sedative/Hypnotics/Antipsychotics																			
Atypical Antipsychotics	42,449	17,729	2,757	1,297	3,188	9,631	11	706	139	7,129	9,471	55	873	12,568	3,272	4,926	3,679	396	8
Benzodiazepines	82,086	31,057	6,381	819	3,011	18,697	24	1,717	408	11,095	18,561	345	569	20,892	5,979	9,831	3,465	300	15
Buspirone	3,257	1,019	196	33	119	607	2	56	6	438	514	4	57	577	298	228	74	2	0
Chloral Hydrate	141	88	26	5	4	46	0	4	3	35	39	2	10	60	7	27	25	3	1
Glutethimide	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meprobamate	51	19	2	2	2	11	0	1	1	7	10	0	1	15	2	6	3	1	1
Methaqualone	13	6	1	0	1	3	0	1	0	2	4	0	0	6	2	1	1	0	0
Other Types of Sedative/Hypnotic/Anti-Anxiety or Anti-Psychotic Drug	24,433	11,347	1,494	589	1,178	7,350	7	621	108	4,482	6,366	28	282	7,038	1,664	3,802	1,353	98	7
Phenothiazines	4,974	2,026	280	49	209	1,337	3	129	19	870	879	13	237	1,372	386	423	515	31	2
Sleep Aids, Over the Counter Only (Excluding Diphenhydramine)	1,515	889	181	25	108	519	0	48	8	293	570	0	16	592	151	206	174	21	0
Unknown Types of Sedative/Hypnotic/Anti-Anxiety or Anti-Psychotic Drug	266	96	5	3	17	48	0	15	8	14	74	3	2	76	10	15	18	1	0
Category Total:	**161,638**	**65,689**	**11,661**	**2,856**	**7,895**	**39,138**	**48**	**3,381**	**710**	**25,344**	**36,829**	**462**	**2,090**	**43,799**	**12,103**	**19,691**	**9,460**	**896**	**37**
Serums, Toxoids, Vaccines																			
Miscellaneous Serums, Toxoids, Vaccines																			
Miscellaneous Serums, Toxoids and Vaccines	2,151	1,893	338	135	132	985	16	253	34	1,410	10	4	457	628	190	324	99	11	0
Category Total:	**2,151**	**1,893**	**338**	**135**	**132**	**985**	**16**	**253**	**34**	**1,410**	**10**	**4**	**457**	**628**	**190**	**324**	**99**	**11**	**0**

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Stimulants and Street Drugs																			
Cannabinoids and Analogs																			
Marijuana	5,370	1,777	232	58	666	701	8	83	29	430	1,169	76	56	1,230	133	492	410	28	0
Tetrahydrocannabinol (THC) Homologs	6,968	5,778	22	46	2,741	2,673	5	202	89	306	5,397	21	28	5,071	196	1,931	2,269	142	4
Tetrahydrocannabinol (THC) Pharmaceuticals	94	64	9	1	15	37	0	2	0	20	37	2	4	41	6	20	11	2	0
Diet Aids																			
Diet Aids: Phenylpropanolamine and Caffeine Combinations	13	11	5	1	1	4	0	0	0	9	2	0	0	4	1	0	3	0	0
Diet Aids: Phenylpropanolamine Only	18	14	6	2	1	3	0	2	0	12	0	0	2	3	4	3	0	0	0
Other Types of Diet Aid, Over the Counter Only	293	229	126	3	20	76	1	3	0	152	30	2	44	102	60	39	27	0	0
Other Types of Diet Aid, Prescription Only	83	65	37	0	4	23	0	1	0	42	10	0	12	45	18	12	14	0	0
Unknown Types of Diet Aid	107	86	34	7	8	34	0	3	0	45	18	0	21	46	21	15	9	1	0
Miscellaneous Stimulants and Street Drugs																			
Amphetamines and Related Compounds	15,829	10,472	3,695	2,025	1,823	2,592	8	267	62	7,283	2,575	62	419	5,119	2,688	1,726	1,550	90	5
Amyl or Butyl Nitrites (Street Drugs)	99	81	11	1	5	56	0	6	2	35	43	3	0	41	10	14	12	0	0
Caffeine	3,667	2,655	1,055	83	428	938	2	128	21	1,512	789	15	321	888	533	496	290	11	0
Cocaine	5,485	1,597	67	12	129	1,232	3	118	36	168	1,327	47	5	1,333	231	245	435	101	34
Ephedrine	243	196	100	6	9	71	0	9	1	145	41	0	8	66	37	25	20	0	0
gamma-Hydroxybutyric Acid including Analogs or Precursors	464	303	9	7	21	236	1	25	4	69	158	47	16	224	13	55	98	46	0
Hallucinogenic Amphetamines	2,421	1,445	23	9	551	741	0	86	35	104	1,272	41	11	1,144	66	267	518	67	3
Heroin	3,147	1,573	12	3	162	1,191	1	145	59	86	1,397	56	17	1,356	146	235	439	204	25
Lysergic acid diethylamide (LSD)	331	193	1	4	86	86	0	10	6	18	165	9	0	153	5	30	87	4	0
Mescaline/Peyote	100	84	15	6	12	40	2	8	1	49	29	2	3	36	1	19	17	2	0
Methamphetamines	3,273	1,826	184	96	143	1,177	9	175	42	541	1,176	51	25	1,403	262	294	465	73	55
Methylphenidate	9,798	6,791	1,565	2,654	1,388	1,056	14	92	22	5,341	1,189	17	190	2,208	1,744	991	655	25	0
Other Hallucinogens	110	74	0	0	30	42	0	1	1	7	64	1	1	66	0	12	43	4	0
Other Stimulants (Excluding Amphetamines)	333	219	24	6	27	142	0	18	2	92	94	3	27	114	25	40	63	8	1
Other Street Drugs	6,242	4,897	38	13	724	3,705	1	331	85	222	4,545	62	24	4,108	132	839	2,264	257	17
Phenylcyclohexylpiperidine (PCP)	884	445	12	2	71	311	0	38	11	57	342	22	3	379	25	92	163	32	1
Unknown Hallucinogens	25	21	0	0	5	14	0	1	1	3	18	0	0	17	0	3	12	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Unknown Stimulants or Street Drugs	330	241	9	4	85	118	0	21	4	21	186	20	5	196	10	46	98	16	0
Category Total:	**65,727**	**41,137**	**7,291**	**5,049**	**9,155**	**17,299**	**55**	**1,775**	**513**	**16,769**	**22,073**	**559**	**1,242**	**25,393**	**6,367**	**7,941**	**9,972**	**1,113**	**145**
Topical Preparations																			
Miscellaneous Topical Preparations																			
Acne Preparations	3,266	3,137	1,795	163	417	620	2	124	16	2,901	55	5	172	207	572	342	31	0	0
Boric Acid or Borates (As Antiseptics, Excluding Insecticides)	92	90	35	0	2	45	0	7	1	86	1	2	0	9	23	10	0	0	0
Calamine (Including All Caladryl Type Products)	3,195	3,111	2,318	85	28	593	3	73	11	3,083	17	1	9	130	505	183	4	0	0
Camphor	10,918	10,725	8,741	256	209	1,267	14	221	17	10,493	139	14	71	1,097	3,015	1,330	82	6	1
Camphor and Methyl Salicylate Combinations	1,711	1,692	1,389	56	27	186	3	28	3	1,640	19	3	30	185	467	241	20	0	0
Diaper Care and Rash Products	40,425	39,847	38,117	320	242	947	54	152	15	39,755	42	14	33	637	6,075	852	19	1	0
Hexachlorophene Containing Antiseptics	20	20	12	1	1	4	0	2	0	17	1	0	2	4	3	2	1	0	0
Hydrogen Peroxide 3%	11,971	11,656	4,486	466	510	5,307	11	834	42	11,280	247	42	65	690	1,432	1,633	63	1	0
Iodine or Iodide Containing Antiseptics	1,178	1,051	304	48	90	499	5	96	9	878	80	7	77	216	216	175	25	0	0
Mercury Containing Antiseptics	67	62	36	1	1	18	1	4	1	48	5	1	7	15	12	9	2	0	0
Methyl Salicylate	9,139	9,037	6,775	385	241	1,337	12	263	24	8,774	68	25	164	764	2,021	1,367	43	4	0
Minoxidil, Topical	150	142	59	2	3	68	0	10	0	116	7	1	18	30	35	11	9	3	0
Other Types of Rubefacient or Liniment (Excluding Camphor and Methyl Salicylate)	3,518	3,431	2,292	85	60	812	5	164	13	3,061	32	7	327	178	587	614	31	0	0
Other Types of Topical Antiseptic	2,761	2,695	1,784	125	119	559	5	92	11	2,606	50	12	26	233	535	259	19	0	0
Podophyllin	53	52	11	4	4	25	1	6	1	33	7	2	10	19	6	11	6	0	0
Silver Nitrate	137	107	8	6	43	42	1	7	0	91	3	2	11	28	9	37	6	0	0
Topical Steroids (Including Otic, Ophthalmic, and Dermal Preparations)	11,169	10,878	7,031	594	192	2,510	10	517	24	10,683	63	8	119	221	1,646	381	20	0	0
Topical Steroids in Combination with Antibiotics (Including Otic, Ophthalmic, and Dermal Preparations)	1,367	1,325	641	100	47	432	4	95	6	1,292	5	1	26	84	204	223	14	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Wart Preparations and Other Keratolytics	1,410	1,390	917	104	38	263	5	57	6	1,318	16	6	49	213	306	250	35	1	0
Category Total:	**102,547**	**100,448**	**76,751**	**2,801**	**2,274**	**15,534**	**136**	**2,752**	**200**	**98,155**	**857**	**153**	**1,216**	**4,960**	**17,669**	**7,930**	**430**	**16**	**1**
Unknown Drug																			
Miscellaneous Unknown Drug																			
Miscellaneous Unknown Drugs	21,085	15,573	5,143	723	1,968	6,190	111	1,069	369	7,453	4,762	891	733	9,688	3,027	2,239	2,352	770	72
Category Total:	**21,085**	**15,573**	**5,143**	**723**	**1,968**	**6,190**	**111**	**1,069**	**369**	**7,453**	**4,762**	**891**	**733**	**9,688**	**3,027**	**2,239**	**2,352**	**770**	**72**
Veterinary Drugs																			
Miscellaneous Veterinary Drugs																			
Miscellaneous Veterinary Drugs without Human Equivalent	3,361	3,165	847	105	116	1,750	11	311	25	3,006	47	16	88	436	735	566	77	4	0
Category Total:	**3,361**	**3,165**	**847**	**105**	**116**	**1,750**	**11**	**311**	**25**	**3,006**	**47**	**16**	**88**	**436**	**735**	**566**	**77**	**4**	**0**
Vitamins																			
Miscellaneous Vitamins																			
Other Types of Vitamin	703	520	371	40	16	68	1	21	3	468	18	5	26	74	107	40	8	0	0
Unknown Types of Vitamin	758	533	386	66	17	44	4	13	3	488	24	1	15	58	98	23	4	0	0
Multiple Vitamin Liquids: Adult Formulations																			
Multiple Vitamin Liquids: Adult Formulations with Fluoride (No Iron)	3	3	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Multiple Vitamin Liquids: Adult Formulations with Iron (No Fluoride)	90	66	42	3	2	18	1	0	0	61	4	0	1	12	10	2	0	0	0
Multiple Vitamin Liquids: Adult Formulations with Iron and Fluoride	2	2	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0
Multiple Vitamin Liquids: Adult Formulations without Iron or Fluoride	294	201	120	17	15	45	1	3	0	168	14	2	15	26	26	17	8	0	0
Multiple Vitamin Liquids: Pediatric Formulations																			
Multiple Vitamin Liquids: Pediatric Formulations with Fluoride (No Iron)	185	178	174	3	0	1	0	0	0	176	1	0	1	9	50	9	0	0	0
Multiple Vitamin Liquids: Pediatric Formulations with Iron (No Fluoride)	576	546	529	13	0	2	0	2	0	540	0	0	6	35	94	24	0	0	0
Multiple Vitamin Liquids: Pediatric Formulations with Iron and Fluoride	63	59	55	4	0	0	0	0	0	58	1	0	0	1	12	2	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Multiple Vitamin Liquids: Pediatric Formulations without Iron or Fluoride	497	466	432	28	3	3	0	0	0	454	9	0	3	27	77	14	1	0	0
Multiple Vitamin Tablets: Adult Formulations																			
Multiple Vitamin Tablets: Adult Formulations with Fluoride (No Iron)	61	53	52	0	0	1	0	0	0	53	0	0	0	2	8	0	0	0	0
Multiple Vitamin Tablets: Adult Formulations with Iron (No Fluoride)	6,510	5,369	4,099	98	166	880	3	111	12	5,069	206	4	84	522	1,312	206	16	1	0
Multiple Vitamin Tablets: Adult Formulations with Iron and Fluoride	47	39	30	0	4	4	0	1	0	37	1	0	1	4	8	3	0	0	0
Multiple Vitamin Tablets: Adult Formulations with Iron Carbonyl (No Fluoride)	96	87	64	9	2	11	0	1	0	85	1	0	1	7	23	4	0	0	0
Multiple Vitamin Tablets: Adult Formulations without Iron or Fluoride	4,165	3,160	2,183	241	133	508	11	74	10	2,856	190	4	105	282	661	128	29	1	0
Multiple Vitamin Tablets: Pediatric Formulations																			
Multiple Vitamin Tablets: Pediatric Formulations with Fluoride (No Iron)	656	618	580	33	3	1	1	0	0	616	1	0	1	36	158	12	1	0	0
Multiple Vitamin Tablets: Pediatric Formulations with Iron (No Fluoride)	7,609	7,252	6,352	713	111	65	1	6	4	7,063	143	12	31	537	1,674	280	15	0	0
Multiple Vitamin Tablets: Pediatric Formulations with Iron and Fluoride	63	59	54	3	1	0	1	0	0	58	0	0	1	8	20	1	0	0	0
Multiple Vitamin Tablets: Pediatric Formulations with Iron Carbonyl (No Fluoride)	11	8	8	0	0	0	0	0	0	8	0	0	0	0	2	1	0	0	0
Multiple Vitamin Tablets: Pediatric Formulations without Iron or Fluoride	27,410	26,626	20,946	4,757	592	226	69	25	11	25,502	1,081	6	21	909	4,996	472	8	2	0
Multiple Vitamins, Unspecified Adult Formulations																			
Multiple Vitamins, Unspecified Adult Formulations with Fluoride (No Iron)	7	7	5	1	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0

(Continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category.

			Age							Reason				Treated in Health Care Facility	Outcome				
	No. of Case Mentions	No. of Single Exposures	<=5	6–12	13–19	>=20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Multiple Vitamins, Unspecified Adult Formulations with Iron (No Fluoride)	1,876	1,296	900	51	65	226	3	46	5	1,202	69	0	24	138	266	53	2	0	0
Multiple Vitamins, Unspecified Adult Formulations with Iron and Fluoride	12	8	6	0	0	2	0	0	0	7	1	0	0	1	3	2	0	0	0
Multiple Vitamins, Unspecified Adult Formulations without Iron or Fluoride	95	80	55	7	5	11	0	2	0	73	3	0	4	5	17	2	1	0	0
Multiple Vitamins, Unspecified Pediatric Formulations																			
Multiple Vitamins, Unspecified Pediatric Formulations with Fluoride (No Iron)	46	40	40	0	0	0	0	0	0	40	0	0	0	1	8	0	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations with Iron (No Fluoride)	76	72	63	5	1	3	0	0	0	70	1	0	0	12	11	6	1	0	0
Multiple Vitamins, Unspecified Pediatric Formulations with Iron and Fluoride	4	3	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations without Iron or Fluoride	872	842	698	128	11	3	1	1	0	816	25	0	1	29	153	8	0	0	0
Other Vitamins																			
Other B Complex Vitamins	5,120	3,796	3,214	90	38	373	2	73	6	3,622	77	5	81	238	743	84	4	1	1
Vitamin A	536	435	315	14	13	76	0	16	1	397	16	1	21	37	60	16	0	0	0
Vitamin B3 (Niacin)	2,740	2,193	637	29	239	1,093	1	171	23	1,061	333	3	788	448	166	661	117	4	0
Vitamin B6 (Pyridoxine)	347	204	155	7	4	31	0	5	2	187	9	0	6	24	36	8	1	0	0
Vitamin C	1,887	1,352	1,047	115	42	122	2	21	3	1,239	82	4	26	63	225	69	4	0	1
Vitamin D	5,626	4,380	2,512	235	98	1,342	4	177	12	4,151	77	1	142	441	840	144	28	0	0
Vitamin E	846	573	454	28	11	61	1	17	1	541	16	0	16	30	90	27	1	0	0
Category Total:	**69,889**	**61,126**	**46,584**	**6,739**	**1,592**	**5,221**	**107**	**787**	**96**	**57,181**	**2,403**	**48**	**1,421**	**4,016**	**11,954**	**2,318**	**249**	**9**	**2**
Pharmaceuticals Total:	**1,541,220**	**1,018,759**	**518,442**	**63,040**	**79,759**	**314,932**	**1,222**	**36,017**	**5,347**	**778,509**	**193,856**	**3,856**	**34,623**	**292,968**	**221,315**	**117,062**	**62,708**	**8,181**	**808**
GRAND TOTAL (Nonpharmaceuticals + Pharmaceuticals):	**2,719,970**	**2,090,698**	**1,112,002**	**133,406**	**129,754**	**605,339**	**4,309**	**94,044**	**11,844**	**1,781,088**	**231,480**	**14,854**	**51,436**	**454,574**	**408,085**	**292,573**	**96,018**	**10,404**	**1,094**

Grand Totals include 4 exposure cases (3 single exposures cases) did not include a valid pharmaceutical or nonpharmaceutical product code (invalid generic codes).

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AAPCC Fatality Review Team

The Lead and Peer review of the 2011 fatalities was carried out by the 38 individuals listed here. The authors and the AAPCC wish to express our appreciation for their volunteerism, dedication, hard work and good will in completing this task in a limited time.

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**These reviewers further volunteered to read the top ranked 200 abstracts and judged to publish or omit each.*

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AAPCC Surveillance Team

NPDS surveillance anomalies are analyzed daily by a team of 10 medical and clinical toxicologists working across the country in a distributed system. These dedicated professionals interface with the Health Studies Branch, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, Centers for Disease Control and Prevention (CDC) and the PCs on a regular basis to identify anomalies of public health significance and improve NPDS surveillance systems:

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Regional Poison Center (PC) Fatality Awards

Each year the AAPCC and the Fatality Review team recognized several regional PCs for their extra effort in their preparation of fatality reports and prompt responses to reviewer queries during the review process. The awards were presented at the October 2012, North American Congress of Clinical Toxicology meeting in Las Vegas, NV.

First Center to Complete all Cases (28-Dec 2011, last of 16 cases), West Virginia Poison Center (Charleston)
Largest Number with Autopsy Reports (35 of 90 cases), Carolinas Poison Center (Charlotte)
Highest Percentage with Autopsy Reports (75% of 53 cases), Maryland Poison Center (Baltimore)
Largest Number of INDIRECT cases (771 of 1087 total cases reported for 2011), Oklahoma Poison Control Center (Oklahoma City)
Highest Overall Quality of Reports (9.93 of possible 13 for 24 cases), Central Ohio Poison Center (Columbus)
Greatest improvement in Overall Quality of Reports (5.16 increase from 4.78), Central Ohio Poison Center (Columbus)

Most Abstracts Published in last year's Annual report (11 of the 80 published narratives), Carolinas Poison Center (Charlotte)

Most Helpful Regional Poison Center Staff (based on survey of AAPCC review team), Marcel Casavant, Central Ohio Poison Center (Columbus)

honorable mention, Carol Hesse, Rocky Mountain Poison & Drug Center

Appendix B – Data Definitions

Reason for Exposure

NPDS classifies all calls as either EXPOSURE (concern about an exposure to a substance) or INFORMATION (no exposed human or animal). A call may provide information about one or more exposed person or animal (receptors).

Specialists in Poison Information (SPIs) coded the reasons for exposure reported by callers to PCs according to the following definitions:

Unintentional general: All unintentional exposures not otherwise defined below.

Environmental: Any passive, non-occupational exposure that results from contamination of air, water, or soil. Environmental exposures are usually caused by manmade contaminants.

Occupational: An exposure that occurs as a direct result of the person being on the job or in the workplace.

Therapeutic error: An unintentional deviation from a proper therapeutic regimen that results in the wrong dose, incorrect route of administration, administration to the wrong person, or administration of the wrong substance. Only exposures to medications or products used as medications are included. Drug interactions resulting from unintentional administration of drugs or foods which are known to interact are also included.

Unintentional misuse: Unintentional improper or incorrect use of a nonpharmaceutical substance. Unintentional misuse differs from intentional misuse in that the exposure was unplanned or not foreseen by the patient.

Bite/sting: All animal bites and stings, with or without envenomation, are included.

Food poisoning: Suspected or confirmed food poisoning; ingestion of food contaminated with microorganisms is included.

Unintentional unknown: An exposure determined to be unintentional, but the exact reason is unknown.

Suspected suicidal: An exposure resulting from the inappropriate use of a substance for reasons that are suspected to be self-destructive or manipulative.

Intentional misuse: An exposure resulting from the intentional improper or incorrect use.

Medical Outcome

No effect: The patient did not develop any signs or symptoms as a result of the exposure.

Minor effect: The patient developed some signs or symptoms as a result of the exposure, but they were minimally bothersome and generally resolved rapidly with no residual disability or disfigurement. A minor effect is often limited to the skin or mucus membranes (e.g., self-limited gastrointestinal symptoms, drowsiness, skin irritation, first-degree dermal burn, sinus tachycardia without hypotension, and transient cough).

Moderate effect: The patient exhibited signs or symptoms as a result of the exposure that were more pronounced, more prolonged, or more systemic in nature than minor symptoms. Usually, some form of treatment is indicated. Symptoms were not life-threatening, and the patient had no residual disability or disfigurement (e.g., corneal abrasion, acid-base disturbance, high fever, disorientation, hypotension that is rapidly responsive to treatment, and isolated brief seizures that respond readily to treatment).

Major effect: The patient exhibited signs or symptoms as a result of the exposure that were life-threatening or resulted in significant residual disability or disfigurement (e.g., repeated seizures or status epilepticus, respiratory compromise requiring intubation, ventricular tachycardia with hypotension, cardiac or respiratory arrest, esophageal stricture, and disseminated intravascular coagulation).

Death: The patient died as a result of the exposure or as a direct complication of the exposure.

Not followed, judged as nontoxic exposure: No follow-up calls were made to determine the outcome of the exposure because the substance implicated was nontoxic, the amount implicated was insignificant, or the route of exposure was unlikely to result in a clinical effect.

Not followed, minimal clinical effects possible: No follow-up calls were made to determine the patient's outcome because the exposure was likely to result in only minimal toxicity of a trivial nature. (The patient was expected to experience no more than a minor effect.).

Unable to follow, judged as a potentially toxic exposure: The patient was lost to follow-up, refused follow-up, or was not followed, but the exposure was significant and may have resulted in a moderate, major, or fatal outcome. Unrelated effect: The exposure was probably not responsible for the effect.

Confirmed nonexposure: This outcome option was coded to designate cases where there was reliable and objective evidence that an exposure initially believed to have occurred actually never occurred (e.g., all missing pills are later located). All cases coded as confirmed nonexposure are excluded from this report.

Death, indirect report: Death, indirect report are deaths that the poison center acquired from medical examiner or media, but did not manage nor answer any questions about the death.

Relative Contribution to Fatality (RCF)

The definitions used for the Relative Contribution to Fatality (RCF) classification were as follows:

Undoubtedly responsible - In the opinion of the CRT the Clinical Case Evidence establishes beyond a reasonable doubt that the SUBSTANCES actually caused the death.

Probably responsible - In the opinion of the CRT the Clinical Case Evidence suggests that the SUBSTANCES caused the death, but some reasonable doubt remained.

Contributory - In the opinion of the CRT the Clinical Case Evidence establishes that the SUBSTANCES contributed to the death, but did not solely cause the death. That is, the SUBSTANCES alone would not have caused the death, but combined with other factors, were partially responsible for the death.

Probably not responsible - In the opinion of the CRT the Clinical Case Evidence establishes to a reasonable probability, but not conclusively, that the SUBSTANCES associated with the death did not cause the death

Clearly not responsible - In the opinion of the CRT the Clinical Case Evidence establishes beyond a reasonable doubt that the SUBSTANCES did not cause this death.

Unknown - In the opinion of the CRT the Clinical Case Evidence is insufficient to impute or refute a causative relationship for the SUBSTANCES in this death.

Appendix C – Abstracts of Selected Cases

Selection of Abstracts for Publication

The abstracts included in Appendix C were selected for publication in a 3-stage process consisting of qualifying, ranking and reading. Qualifying was based on the RCF -- only RCF = 1-Undoubtedly Responsible, 2-Probably Responsible or 3-Contributory were eligible for publication. Fatalities by Indirect report were excluded beginning with the 2008 annual report. Ranking was based on the number of substances (1/N) and weighted case score. The case-weighting factors were the averages chosen based on review team recommendations in 2006. Each case score was multiplied by the respective factors to obtain a weighted publication score: Hospital records * 4.4 + Postmortem * 7.6 + Blood levels * 6.9 + Quality/Completeness * 6.4 + Novelty/Educational value * 6.0. Scores were normalized (z-score) within each reviewer before the final weighting: 33% for 1/N and 67% for weighted case scores.

The top ranked abstracts (200 + ties) were each read by individual reviewers (See Appendix A) and the 2 managers (Cantilena and Spyker). Each reader judged each abstract as "publish" or "omit" and all abstracts receiving 5 or more of 8 publish votes were selected, further edited and cross-reviewed by the 2 managers.

Abstracts

Abstracts of the cases were selected (see Selection of Abstracts for Publication, above) from the human fatalities judged related to be an exposure as reported to US PCs in 2010. A structured format for abstracts was required in the PC preparation of the abstracts and was used in the abstracts presented. Abbreviations, units and normal ranges omitted from the abstracts are given at the end of this appendix

Case 1. Acute ethanol ingestion: undoubtedly responsible.

Scenario/Substances: A 4-y/o black female was found unresponsive in bed by her father around midnight, with a bottle of rum on the floor near her bed. The bottle was missing and suspected to have been ingested by the 4-y/o sometime that evening.

Past Medical History: No known past medical history, did not take any medications or herbal/dietary supplements.

Physical Exam: 4-y/o female arrived with asystole cardiac arrest. She was intubated and resuscitated but remained unresponsive, acidotic, tachycardic, and became hypotensive. Right pupil unreactive, left pupil sluggishly reactive.

Laboratory Data: ABG-pH 6.7/pCO2 45/pO2 94,

Na 138	Cl 102	BUN 40	Glu < 15
K 6.8	HCO_3 6	Cr 0.7	

Alk phos 365, bilirubin 0.3, Ca 8.7, AST 591, ALT 1296, ethanol 272 mg/dL; salicylate and acetaminophen not detected. UDS negative.

Clinical Course: After resuscitation, the patient was transported to a tertiary care hospital via helicopter ~4 hrs after being first found. Prior to transfer, the patient was given D5NS IV for volume replacement and management of hypoglycemia. Hemodialysis was also considered, but the patient was too hypotensive at the time. She was admitted to the PICU and given dopamine and sodium bicarbonate boluses. The child remained acidotic with pH < 6.9 and hypoglycemic with glu 45 despite IV dextrose. ~7 hrs after being found, the patient had cardiac arrest from which she could not be resuscitated.

Autopsy Findings: The antemortem blood alcohol measured at the crime laboratory was 0.202 g/L and the AST to ALT ratio was > 2. Liver revealed diffuse hepatic microsteatosis; subdural/subarachnoid hemorrhage and cortical contusions of frontal lobes; subcutaneous hemorrhage in posterior neck and back. (injuries to head, neck, back not thought to be severe enough to have caused death); mildly elevated 17 hydroprogesterone (8 ng/ml); paratubal cysts.

Case 31. Acute methanol ingestion: undoubtedly responsible.

Scenario/Substances: A 41y/o male with a history of alcohol abuse had been drinking at home and his family left him in a state that they assumed was typical intoxication. When they returned several hours later he was unresponsive. The family called EMS, who found the patient to have agonal breathing, pupils small and fixed, T 32.8°C. He was transported to the ED.

Past Medical History: Alcohol abuse.

Physical Exam: He was unresponsive, with fixed, small pupils.

Laboratory Data: At the initial ED: K 6.0, HCO_3 6.5, Cr 2.1, pH 6.6.

Clinical Course: At the initial ED, he had 1 generalized seizure and was hypotensive. He was intubated and placed upon on dopamine for hypotension. He was then transferred

to a tertiary care hospital where he was found to be unresponsive, pupils 2 mm and unreactive bilaterally, HR 130–140, T 34.1°C. He was receiving dopamine, norepinephrine, and sodium bicarbonate for hypotension. His urine fluoresced under a black light indicating the presence of fluorescein and he was started on fomepizole at 15 mg/kg IV. He also received thiamine, pyridoxine, and folic acid. His laboratory results were:

Na 147	Cl 108	BUN 9	Glu 238
K 6.9	HCO_3 9	Cr 2.37	

Ca 7.6, lactate 10.5, PT 11.0, INR 1.0, ABG-pH 6.94/pCO2 52/pO2 428/HCO3 11/BE -21, O2 sat 100%. HR 133, BP 114/47, EKG QRS 100, QT/QTc 336/500. Repeat labs showed HCO_3 14, anion gap 17; pH 7.15, BE -15. Methanol 620 mg/dL, ethylene glycol negative 2 hr later methanol 485 mg/dL. After 5 hr of dialysis, his methanol level was 72 mg/dL without clinical improvement, HR 106, BP 138/84, RR 10, O2 sat 95%. On Day 4 methanol was not detected, but, he remained unresponsive with fixed pupils and no corneal, cough, or gag reflexes. Head CT showed cerebral edema with evidence of transtentorial and impending cerebellar tonsillar herniation. An apnea test showed no signs of respiratory effort after 8 min. He was declared brain dead, comfort measures were instituted and he expired 25 min later.

Autopsy Findings: No autopsy was done.

Case 110. Acute methanol and organophosphate ingestion: undoubtedly responsible.

Scenario/Substances: A 55-y/o male was brought to the ED by police complaining of abdominal pain and diarrhea. The previous day, police had been chasing him on foot, and the patient hid in a wooded area prior to capture. While climbing over a fence he had sustained a neck laceration that was stapled in the ED. He had been observed carrying a container, but the container was not recovered. The next day he was brought back to the ED because of profuse diarrhea and abdominal pain. The patient denied ingestion. He had been in a police holding cell for about a day before the second ED visit.

Past Medical History: Hepatitis C, alcohol and methamphetamine abuse, but none for the last 6 months. No regular medications.

Physical Exam: BP 133/80, HR 104, RR 14. T 34.9°C (tympanically), O2 sat 97% on room air. Patient was noted to smell of paint thinner. Pupils miotic but reactive, Oral mucosa dry. Neck: Supple, 1 cm laceration stapled the previous day, heart and lungs unremarkable, abdomen soft with mild diffuse tenderness and no rebound, bowel sounds present, sleepy but oriented × 3.

Laboratory Data: WBC 20.6, Hgb 16.7, Hct 49.3, platelets 228, PTT 28, INR 1.1, ABG-pH 7.10/pCO_2 18/pO_2 121 on room air

Na 138	Cl 98	BUN 17	Glu 177
K 4.5	HCO_3 7	Cr 1.2	

Methanol 40 mg/dL ethylene glycol, isopropanol, acetone not detected.

Clinical Course: The patient received oral vancomycin and IV metronidazole for presumed C. difficile enterocolitis. He became progressively more obtunded and was intubated. A sodium bicarbonate infusion was begun for high anion gap academia. Methanol was detected and the patient received 6 hr of hemodialysis (no fomepizole was given). Repeat methanol was <10 mg/dL. The patient remained minimally responsive despite correction of acidosis. A brain MRI was unremarkable. Based on the prognosis the family opted for institution of comfort measures and he expired on Day 8. Six weeks after the patient expired, police investigators located a 355 mL container about half full of gas line antifreeze (99% methanol). A second 355 mL container was about 1/4 full of chlorpyrifos.

Autopsy Findings: Bilateral acute bronchopneumonia with hemorrhagic pulmonary edema, and multiple lung abscesses; acute cerebral edema and congestion. Methanol was not detected, and there was no testing for organophosphates or cholinesterase activity.

Case 112. Acute ethylene glycol ingestion: probably responsible.

Scenario/Substances: A 59-y/o male was seen in the urgent care center for dyspnea, given a bronchodilator, and sent to the ED when his dyspnea persisted. He had been drinking heavily the night before, but there was no history of other acute ingestion of medications or toxins.

Past Medical History: Hypertension, hyperlipidemia, obesity, depression, and previous suicide attempts × 2.

Physical Exam:. In the ED ee was alert and anxious; BP 215/114, HR 106, RR 32, T 37 C, O2 sat 96% on room air. His chest was clear. There were no focal neurological findings and no signs of leg or calf swelling.

Laboratory Data: ABG-pH 6.82/PCO2 44/PO2 132

Na 140	Cl 104	BUN 13	Glu 282
K 5.1	HCO_3 11	Cr 1.6	

Lactate >30 mmol/L, CK 3000, serum ketones negative, serum acetaminophen and salicylate not detected. UDS negative, CxR perihilar infiltrates suggestive of failure vs. pneumonia. Urinalysis was positive for a small amount of blood on dipstick and the presence of calcium phosphate crystals on microscopic exam.

Clinical Course: In the ED he received lorazepam for anxiety, but then he showed decreased respiratory effort and became cyanotic so he was intubated and placed on a ventilator. IV fluids and sodium bicarbonate were given and he was admitted to the ICU. On Day 2 his readings were BUN 15, Cr 2.94. Ethylene glycol from admission came back 38 mg/dL and he was started on fomepizole and hemodialysis. He remained unconscious and head CT Day 3 showed loss of grey-white matter differentiation in the occipital lobe with low attenuation in central cranial structures. An MRI was consistent with global anoxic brain injury. He remained

unresponsive over the next week, the family opted for institution of comfort measures and he expired.
Autopsy Findings: Kidney and liver showed geographic patterns of discoloration, which is suggestive of infarcts. The heart showed cardiomegaly, biventricular hypertrophy, severe atherosclerosis, and old infarct scars. There was severe bilateral pulmonary congestion and edema. There were multiple cerebrocortical infarcts. The coroner determined the cause of death to be acute ethylene glycol toxicity.

Case 115. Acute disc battery ingestion: undoubtedly responsible.
Scenario/Substances: A 4-y/o female was found unresponsive, pulseless, and apneic.
Past Medical History: Previously healthy.
Physical Exam: Comatose, with blood coming from mouth and nares.
Clinical Course: Child was brought to the ED as a suspected trauma. During resuscitation a chest radiograph was obtained to check positioning of the endotracheal tube and a button battery was noted in the esophagus. She received mechanical ventilation, IV fluids, epinephrine, blood transfusion, and was taken to operating room. An aortoesophageal fistula was found, but the child could not be resuscitated.
Autopsy Findings: Esophagus to aorta fistula from erosion due to button battery.

Case 117. Acute crotalinae envenomation bite/sting: contributory.
Acute envenomation by Mojave rattlesnake (Crotalus scutulatus): contributory
Scenario/Substances: A physician reported a 54-y/o male reportedly bitten by a Mojave rattlesnake 2 days earlier. The patient had been working at railroad in a rural area late at night picking up trash when he was bitten. He developed symptoms consistent with an allergic reaction and was treated by EMS with diphenhydramine and epinephrine. His co-worker reported that he had altered mental status soon after the bite.
Past Medical History: Hypertension, diabetes, hyperlipidemia, previous traumatic brain injury, post-traumatic stress disorder.
Physical Exam: Bilateral puncture wounds to the hands with bilateral hand swelling.
Laboratory Data: BUN 59, Cr 3.6, INR "normal"; Day 2 post envenomation: Cr 6.7, phos 6.08, lactate 4.0, ionized Ca 3.3, PT 14.4, INR 1.49, Mg 1.7.
Clinical Course: The patient was treated with antivenin (Polyvalent Immune Fab –4 vials on Day 1 and 10 vials on Day 2). He had no further coagulation abnormalities or significant progression of swelling. When he arrived at the ED, he had a large upper GI bleed and developed multi-organ system failure including acute renal failure and hypoxia refractory to intubation and ventilation with 100% O2. A CT chest showed no pulmonary emboli. The patient expired of multi-organ system failure on Day 6.
Autopsy Findings: Not performed.

Case 120. Acute-on-chronic, epinephrine ingestion: probably responsible.
Scenario/Substances: This 28-y/o female used 30 doses of her epinephrine CFC inhaler, presumably to treat bronchospasm. She had a generalized seizure on that day and another on the following day. EMS was called to her home because of the recurrent convulsion, and they witnessed a generalized seizure and gave diazepam 5 mg IV.
Past Medical History: Bronchospasm, depression. No seizure history. Medications: paroxetine, epinephrine CFC inhaler.
Physical Exam: Nonverbal, but opened eyes after stimuli. Pupils 2 mm and sluggish, BP 111/82, HR 100–130 s; RR 26.
Laboratory Data: Metabolic panel was normal, except her K was 3.2. Salicylate 5.3 mg/dL, ethanol and acetaminophen were not detected. EKG showed sinus tachycardia with prolonged QTc 508.
Clinical Course: In the ED, her mental status worsened, becoming responsive only to painful stimuli. She had an additional seizure, and was given lorazepam 4 mg IV and loaded with 1 IV fosphenytoin. A CT and MRI of the brain showed basilar artery occlusion and had a large ischemic stroke. She was endotracheally intubated, and air-transport to a tertiary-care center where she underwent a successful cerebral angiogram and thrombectomy. On Day 2, she developed cerebral edema with herniation, brain death was declared, comfort measures were instituted, she expired, and organs were harvested.
Autopsy Findings: No autopsy was performed.

Case 124. Acute cyanide injection: undoubtedly responsible.
Scenario/Substances: A 33-y/o healthy female went to her boyfriend's house to collect her things, while her brother waited outside. The boyfriend, a jeweler, stabbed the patient in the buttock with a syringe containing clear liquid and then drank from a cup containing clear liquid. The patient cried out for her brother, who ran upstairs and called EMS, who found the boyfriend was in cardiac arrest and the patient hypotensive and bradycardic. They were both transported to the ED, where the boyfriend was pronounced dead. EMS saw bottles containing ammonia and bleach on the kitchen table, and assumed that the deceased was stabbed with a syringe containing bleach and ammonia. When speaking to the detectives, they noted that the ammonia was purple in color, and bleach was white and cloudy, making it unlikely to be the source of clear liquid noted in the syringe.
Past Medical History: Healthy.
Physical Exam: In the ED, the patient was intubated, BP 80s/50s, and HR40. Her physical examination was otherwise unremarkable. The physicians couldn't see the injection site.
Laboratory Data: Initial VBG-pH 6.97/pCO2 42/HCO3 56/BE 10, O2 sat 66% on 100% FIO2 vent, ABG-pH 7.08/pCO_2 19/pO_2 310/HCO_3 6, O2 sat 99% on 100% FIO2 vent, lactate 20 mmol/L, cyanide 76 (reported 1 week later).
Clinical Course. Vasopressors included dopamine, epinephrine, dobutamine, neosynephrine, and vasopressin. 5 g of hydroxocobalamin was given ~3 hr after admission (Hour

3), ABG-pH 6.76/pCO_2 36/pO_2 155/HCO_3 5, Lactate 21.4 mmol/L, WBC 46, Hgb 13, Hct 43.8, platelets 164, Na 120, Bicarb 6, Cr 2.4, AST 700, ALT 200. ECG showed sinus bradycardia. She continued to have a significant metabolic acidemia with an elevated lactate. Hour 6 she received another 5 g hydroxocobalamin despite maximal supportive therapy and the patient died on Day 2. Detectives ultimately determined that the substance in the syringe and the cup from which the boyfriend drank contained cyanide.
Autopsy Findings: The postmortem revealed decomposition of most body organs.

Case 131. Acute fluoride ingestion: undoubtedly responsible.
Scenario/Substances: A 51-y/o healthy male who worked at a water treatment plant came to the ED stating he had ingested 3 tablespoons of sodium silicofluoride (98%) 1 hrs prior in a suicide attempt.
Past Medical History: Healthy.
Physical Exam: Normal appearing male; BP 175/94, HR 118, RR 20, T 36.3°C, O2 sat 98% on room air.
Laboratory Data: Ca 9.2 (8.2 corrected); K 4.2; acetaminophen and salicylate were not detected.
Clinical Course: The patient's only complaint in the ED was bladder pain. At 3 hrs post ingestion he became agitated, developed a widened QRS complex with sinus bradycardia and became hypotensive (BP 80/50). He was given IV fluids, insulin, kayexalate, furosemide, CaCl2 (via peripheral line), 1 amp of sodium bicarbonate and 1 amp D50W. The ECG reverted to normal sinus rhythm. During this time the patient had an episode of severe respiratory impairment with agonal respirations that resolved with an albuterol treatment and supplemental oxygen by nasal cannula. He continued to complain of stomach pain for which he received hydromorphone. At ~5 hrs post ingestion, he became pulseless and was resuscitated with epinephrine, atropine and 2 amps of calcium chloride. The ECG showed a wide QRS with long PR interval and peaked T waves. ~2 hrs later, he again widened his QRS complex and had VT, then bradycardia and again became pulseless. Resuscitation was unsuccessful and he expired ~8 hrs after ingestion.
Autopsy findings: Not performed.

Case 133. Acute nitric acid, cocaine, clonazepam, morphine ingestion, unknown: undoubtedly responsible.
Scenario/Substances: A 53-y/o female came to the ED after intentional ingestion of 6–7 ounces of acid compound containing nitric acid, selenium and copper compounds; pH 0–1.
Past Medical History: Multiple suicide attempts including self-inflicted gunshot to head and medication overdoses; history of bipolar disorder, crack cocaine abuse, and alcoholism.
Physical Exam: Responsive, severe abdominal pain, throat irritation, hematemesis and asking staff to "just let her die". BP 135/70, HR 84.
Laboratory Data: Hgb 18, Hct 55, PT 13.5, INR 1.3; clonazepam 21 ng/mL; acetaminophen, salicylate and ethanol not detected. Blood screen positive for cocaine.
Clinical Course: Upper endoscopy showed the gastrointestinal lining to be black; the patient was admitted to the ICU and received a proton pump inhibitor and sulcralfate with normal saline at 100 ml/h with morphine prn. Day 2: the patient had 2 cardiac arrests and expired during the second arrest.
Autopsy Findings: The findings revealed acid injuries to the upper trachea and stomach. Toxicology revealed parent cocaine in postmortem blood and vitreous fluid, as well as breakdown products in ante- and postmortem blood, consistent with acute cocaine use. Postmortem blood screen was positive for cocaine, clonazepam 3.2 ng/mL, UDS was positive for benzodiazepine and cocaine. The cause of death was complications of acid ingestion. The manner of death was ruled a suicide.

Case 134. Acute hydrofluoric acid ingestion: undoubtedly responsible.
Scenario/Substances: A 54-y/o male ingested about 1 oz of rust remover containing 1.92% hydrofluoric acid. Within 1 hr, he arrived at the ED with headache, nausea, abdominal pain and bloody emesis.
Past Medical History: Insomnia, hypertension, diabetes mellitus and hyperlipidemia.
Physical Exam: Male patient with headache, nausea, abdominal pain, bloody emesis; BP 138/88, HR 78, RR 18, T 36.7°C.
Laboratory Data: At 40 min post-ingestion: Ca 9.3, Mg 2, Cr 1.9; at 3 hrs post-ingestion: ABG-pH 7.06/pCO2 32.9/pO2 465; At 4.5 hrs post-ingestion: ABG-pH 7.26/pCO2 35/pO2 111; Ca 7.8, Cr 1.9; HCO3 16.3; At 6 hrs post-ingestion: Ca 5.1, Cr 1.9, Mg 1.0; At 10 hrs post-ingestion: ABG-pH 7.6/pCO2 23.6/pO2 272; Ca 9.8, Mg 2.9.
Clinical Course: Initially the patient was given oral calcium tablets in the ED, he had a cardiac arrest, was resuscitated with defibrillation, IV atropine, epinephrine, calcium and midazolam. He was transferred to the ICU and had several additional cardiac arrests and was given Mg and NaCO3 and hemodialysis. His family agreed that further care was futile, comfort measures were instituted and he expired ~11 hrs post-ingestion.
Autopsy Findings: Not performed. The death summary listed the cause of death as VF cardiac arrest from severe hypocalcemia, hypomagnesiumemia and metabolic acidosis due to intentional ingestion of hydrofluoric acid.

Case 138. Acute cyanide ingestion: contributory.
Scenario/Substances: 57-y/o male was brought to ED following ingestion of an unknown substance in an apparent suicide attempt. The patient had greeted EMS at his home and was walking at the scene, but lost consciousness during transport. A suicide note was found at the scene.
Past Medical History: Cerebral aneurysms s/p surgical clipping, severe migraine headaches, opioid dependence, ethanol abuse, s/p orchiectomy from testicular gang-related trauma. Social history: worked as a goldsmith.
Physical Exam: Unresponsive, diaphoretic male. BP 141/87, HR 80. Pupils midrange and reactive.

Laboratory Data: ABG-pH 7.58/PCO2 14/O2 99; anion gap 31, lactate 16 mmol/L; acetaminophen, salicylate and ethanol not detected; UDS: positive for amphetamines, opiates, benzodiazepines and THC. CxR: reported as negative.
Clinical Course: No response observed after naloxone. Intubation performed for airway protection, head CT negative. Further history from family indicated that the patient had sent an email indicating he planned to commit suicide using cyanide salts which he had access to as a goldsmith. The patient had an unexplained anion gap metabolic academia with serum lactate 16 mmol/L. Blood for measurement of serum cyanide was drawn and hydroxocobalamin 5 g IV was administered. The metabolic acidemia improved and the patient started to become more arousable, requiring a propofol infusion for sedation. Repeat ABG-pH 7.39/PCO2 35/PO2 209; repeat lactate 3 mmol/L. Upon transfer to the ICU he was noted to be "beefy red" with "raspberry colored urine". He had transient elevated bilirubin, AST and ALT following hydroxocobalamin. On Day 2 the patient suffered a myocardial infarction followed by a cerebrovascular accident on Day 3. He was also treated for ethanol and opioid withdrawal with benzodiazepines and opioids. He was successfully extubated on Day 7. He has right sided flaccid paralysis and was transferred to a neurological unit. The patient did not pass swallowing tests and was given tube feedings but expired on Day 20 from an aspiration pneumonia.
Autopsy Findings: Cause of death: Aspiration pneumonia, CVA and cyanide poisoning. Pre-hydroxocobalamin whole blood cyanide concentration: 4.7 mcg/mL. Manner of death: suicide.

Case 153. Acute hydrofluoric acid ingestion: undoubtedly responsible.
Scenario/Substances: A 2-y/o male ingested an unknown amount of rust remover and possibly another cleaner at the babysitters. The babysitter called the father who came and picked up the child an hour later when he found the child in obvious distress. The child was crying, had vomited, and quickly became unresponsive. EMS was called and found the child in arrest. There were no obvious burns apparent in the child's mouth. He was noted to be in and out of v-fib and asystole, was intubated, defibrillated, received multiple doses of epinephrine, atropine, sodium bicarbonate, and was transported to the ED. The police alleged that the babysitter's home was a meth lab.
Physical Exam: Apeneic, pulseless, abdomen distended, head/neck, pharynx clear, unresponsive, no motor responses, reflexes absent, no signs of trama, no rash, pupils fixed and dilated, cyanosis noted around nail beds and eyes.
Laboratory Data: Initial, Ca 8.2, pH 6.1, phosphorus 9.5

Na 125	Cl	BUN 13	Glu 42
K 5.9	HCO_3 29	Cr 0.61	

WBC 5.8, RBC 1.91, Hgb 5.4, HCT 17
VBG-pH/pCO_2 77/pO_2 22/HCO_3 9/BE -24.1, vO2 sat 12%.
Clinical Course: In the ED CPR was continued and the patient received multiple boluses of calcium carbonate and additional sodium bicarbonate. He received insulin for hyperkalemia and glucose for hypoglycemia. External cardiac pacing was attempted without capture or perfusion. CPR was discontinued after >2 hrs.
Autopsy Findings: Cause of death was the toxic effecs of hydrofluoric acid ingestion and secondary hemorrhagic gastritis. Toxicology findings postmortem included methamphetamine blood <0.01 mg/L, methamphetamine hair 1174 pg/mg.

Case 173. Acute mineral oil ingestion, ingestion with aspiration: undoubtedly responsible.
Scenario/Substances: A 2-y/o girl y ingested baby oil while exploring her environment. Her mother estimated the dose at 5–10 mL. She immediately started coughing and choking. Child's home nurse spoke with her physician. After 2 hr the nurse called EMS. The child was transported to the ED on oxygen; she continued to have respiratory distress en route.
Past Medical History: Trisomy 21 (Down's Syndrome), pulmonary hypertension, reactive airway disease, congenital heart disease, and severe dysphagia/swallowing disorder. Because of this last problem, she'd been fed by a gastrotomy tube and kept NPO for most of her life. She'd had prior admissions for respiratory distress, including 2 episodes of aspiration pneumonia after having gotten into food or drink. At home she had a constant attendant nurse, and lived on 2 L oxygen by nasal cannula.
Physical Exam: In the ED: HR 172, BP 113/59, RR 54, afebrile, O_2 sat 72% on 2 L O_2, in severe respiratory distress with wheezing, coughing, and use of accessory muscles of respiration.
Laboratory Data: Initial radiograph showed bilateral diffuse infiltrates, worse on the left side. Initial serum pH 7.46, pCO2 38, pO2 45, anion gap 12.
Clinical Course: On arrival at the ED, she was placed on a 100% non-rebreather mask, and given a series of albuterol aerosols. She had no improvement in respiratory status, so was endotracheally intubated and placed on a ventilator with 100% oxygen. Respiratory failure progressed, and on Day 1 x-ray findings and respiratory function, and she was switched to an oscilatory ventilator. Anemia was treated with packed RBCs. A cardiac arrest was treated successfully with CPR via APLS, after which she was enrolled in a prospective 3 day trial of hypothermia for cardiac arrest. She was randomized to the hypothermia arm. After rewarming on Day 3, her pulmonary status remained dismal. She remained ventilator dependant, developed abdominal compartment syndrome Day 44, and died on Day 45.
Autopsy Findings: Based on an external examination, the county coroner ruled cause of death was sepsis, due to aspiration pneumonia.

Case 174. Acute-on-chronic, 1,1-difluoroethane inhalation/nasal: undoubtedly responsible.
Scenario/Substances: A 28-y/o female with a history of huffing was found dead in her bed. She was last heard from

2 days prior to finding her deceased. There were ~150 cans of hairspray in her bedroom.
Past Medical History: Home medications were omeprazole and promethazine.
Autopsy Findings: Postmortem labs (blood)**:** Negative for ethanol, amphetamines, barbiturates, benzodiazepines, cocaine metabolites, opiates, PCP, THC metabolite, methadone, and propoxyphene. Volatile organic compounds: 1,1-difluoroethane 25 mcg/mL. Negative for other VOCs. Cause of death was death due to huffing.

Case 185. Acute hydrogen sulfide inhalation: undoubtedly responsible.
Scenario/Substances: A 20 yo male stopped his car on the interstate, called police, and reported that he had poisonous chemicals in his car and intended to commit suicide. When police arrived they found a note taped to the window stating that the car contained hydrogen sulfide. The police secured the scene and called hazmat. It took >2 hr for the team to arrive. The patient was removed from the car and decontaminated on scene with soap and water. He was unresponsive, tachypneic and tachycardic. He vomited X2 in the ambulance during transport to the ED. The chemicals found in the vehicle were calcium polysulfide and hydrochloric acid, the ingredients in an internet recipe for hydrogen sulfide.
Physical Exam: In the ED: HR 124, BP 125/63, RR 32, the patient was thrashing around, but lacked purposeful movements. He was sedated, intubated, and ventilated; O2 sat was 98% after intubation. He had burns on his feet and what appeared to be corneal burns. There were abrasions on his face around the left eye and chin, possibly incurred during extraction from vehicle.
Laboratory Data: ABG-pH 7.1/pCO_2 45/pO_2 14/HCO_3 14/BE -15.5, Glu 328, K 2.8, UDS-negative. Serum acetaminophen, ethanol and salicylate not detected. CxR clear.
Clinical Course: The patient received 1 amp of bicarb and IV fluids with 20 meq of K. He was given amyl nitrite 0.3 amp X 2, sodium nitrite 300 mg, and sodium thiosulfate 12.5 g. He was transported by air to a tertiary facility where he was admitted to the burn unit. His acidemia worsened, he arrested, and resuscitation was not successful.
Autopsy Findings: No autopsy performed.

Case 226. Acute carbon monoxide inhalation/nasal: undoubtedly responsible.
Scenario/Substances: A 60-y/o female was found unresponsive, apneic, and pulseless in her home after a house fire was extinguished. There had been intense thick black smoke in the house. She was found in PEA and resuscitated in the field.
Past Medical History: Hypertension, diabetes, COPD, ischemic heart disease, anemia, cardiomyopathy, placement of an internal cardiac defibrillator, mitral valve disease, dyslipidemia, recurrent gastrointestinal bleeding, narcotic and benzodiazepine abuse, and medical noncompliance. Medications included: lorazepam, ipratropium and albuterol nebulizers, amiodarone, amitriptyline, acetylsalicylic acid, buspirone, carvedilol, furosemide, levothyroxine, lisinopril, omeprazole, potassium, quetiapine, spironolactone, warfarin, zolpidem, venlafaxine, and home oxygen therapy.
Physical Exam: Unresponsive, intubated female; BP 80, without spontaneous respirations. Atraumatic with fixed and dilated pupils. A large amount of soot was on her face and body. Skin: warm and dry, without burns or edema; Lungs: clear to auscultation; Heart: irregular rhythm; Abdomen was soft, nontender, and nondistended; GCS 3.
Laboratory Data: ABG-pH 7.29/pCO2 45/pO2 118; COHb 29%;

Na 142	Cl 105	BUN 17	Glu 276
K 3.4	HCO_3 20	Cr 1.4	

Lactate 7.5, AST 90, ALT 77, albumin 2.8, total protein 5.4; PT 18.4, INR 1.8, PTT 32.6; CK 110, CKMB 2.1, troponin 0.04, WBC 12.2, Hgb 9.0, platelets 306; acetaminophen 4.0 mcg/mL, salicylic acid 3.8 mg/dL, UDS negative for amphetamines, phencyclidine, barbiturates, benzodiazepines, cocaine, marijuana, opiates and methadone. Day 2 HCO3 13, AST 1551, ALT 1469, Alk phos 165; PT 41, INR 3.9, WBC 16.4, Hgb 11, platelets 236. ECG irregular rhythm with HR 71, QRS 182, QTc 535 with left bundle branch block, no acute ST elevations or depressions.
Clinical Course: The patient had several subsequent asystolic arrests requiring resuscitation. She was given one 50 mL vial of 25% sodium thiosulfate over 2 min and sodium nitrate (300 mg over 10 min). There was no improvement in neurologic status; T increased to 40.6°C with consolidation noted on chest x-ray. She underwent brain activity testing later in the day and expired ~36 hrs after presentation.
Autopsy Findings: Moderate to severe atherosclerotic cardiovascular disease and evidence of bronchopneumonia and necrotizing bronchitis/bronchiolitis with focal sloughing of the respiratory epithelium and acute and chronic inflammation. Necrotizing inflammation present within the submucosa and mucosa of the trachea. Brain revealed eosinophilic degeneration of the neurons consistent with hypoxic damage. Cause of death: complications of thermal inhalational injuries from products of combustion with a significant contributing factor being ischemic heart disease. Toxicological analysis of premortem blood obtained at the time of admission did not detect ethanol.

Case 228. Acute methane inhalation/nasal: probably responsible.
Scenario/Substances: A 62-y/o male was working with others in a manhole, changing a valve, when his co-workers heard a pop and gas started to come out of the line. The patient, who was closest to the gas leak, collapsed immediately. EMS administered 3 doses of epinephrine and 2 doses of atropine.
Physical Exam: Unresponsive, pulseless male patient arrived in ED with CPR in progress. No external signs of trauma; skin: normal color, no unusual odors detected; abdomen: soft; extremities: no edema or cyanosis.
Laboratory Data: Glu 65; cardiac monitor: asystole. In the field: EMS reported fire department environmental oxygen

levels were measured low at 10% and the methane level was 89%. Carbon monoxide was not detected.
Clinical Course: CPR/ACLS continued; the patient briefly had fine VF and was defibrillated twice. Subsequently he had short episodes of a detectable pulse but relapsed into a pulseless state. Transcutaneous cardiac pacing was attempted unsuccessfully. Resuscitation efforts were terminated after ~1 hr.
Autopsy Findings: Rib fractures consistent with CPR were evident; no discoloration of organs or tissues was noted. Cause of death: secondary to complications from exposure to a noxious gas, presumably methane. Subsequent investigation of the worksite indicated rising levels of inflammable gases although the test could not distinguish between methane and propane. No methane or ethanol was detected in postmortem aortic and femoral blood samples, respectively.

Case 252. Thallium ingestion: undoubtedly responsible.
Scenario/Substances: A 39 yo male software engineer drove himself to the ED, and stated that he thought someone was poisoning him. He reported acute onset abdominal pain 1–2 hr after eating lunch of homemade rice and green beans. He reported nausea without vomiting, dull abdominal pain progressing in intensity, and non-bloody diarrhea. His wife ingested the same food, reported diarrhea but no pain. She reported that their child was recently hospitalized with a similar illness.
Past Medical History: His past medical history was unremarkable. Social history obtained 4 days after admission revealed that the husband and wife had filed for divorce in the previous year and the court date was the day of ED admission. His wife was a chemist and he suspected that she might be poisoning him.
Physical Exam: In the ED, the readings were HR 63, BP 137/89, RR 20. Physical exam was unremarkable including his abdominal exam.
Laboratory Data: Normal CBC, electrolytes, and liver functions. Abdominal ultrasound and CT of the abdomen and pelvis were unremarkable.
Clinical Course: Later on the day of admission, he began complaining of hyposthesias (pins and needles) and bilateral parasthesias of his hands, and then a day later developed painful paresthesias of his feet. These parasthesias progressed during the hospital stay as did his abdominal pain. Eventually the paresthesias became so severe that he could not move his legs. He reported an episode of paresthesias a year earlier and that this episode had started 2 days before admission. Guillain Barre Syndrome was suspected and he received IV immunoglobulin with no relief of symptomatology. He developed fluctuating levels of alertness and on Day 8 day he was found actively seizing, required large doses of anti-convulsive medication, became ventilator dependent, and was transferred to the ICU. On Day 10, a 24 hr urine for heavy metal screen was reported negative for lead, mercury. On Day 12 a 24 hr urine for thallium level was reported as $>$800 mcg/L on a 4300 mL urine volume. On Day 12, he developed hypotension, received pressor support, multiple dose activated charcoal every 4 hrs, 2 g Prussian Blue, and high flux hemodialysis. Medicinal grade Prussian Blue was unavailable, so the patient received technical grade reagent. Despite aggressive therapy he developed 2 episodes of PEA and could not be resuscitated from the second, and died on Day 12.
Autopsy Findings: Embargoed by prosecutor's office.

Case 262. Acute fluorinated hydrocarbon inhalation: undoubtedly responsible.
Scenario/Substances: A 22-y/o female presented to the ED with cardiac arrest after reportedly huffing a cleaning product that contained difluoroethane. She was endotracheally intubated by EMS prior to arrival.
Past Medical History: Methamphetamine use.
Physical Exam: Patient was comatose. She was successfully resusciated (atropine, IVFs and CPR) with initial BP 130/100, HR 152, RR 20 (ventilated). O2 sat 90% on 100% FiO2.
Clinical Course: Patient was resuscitated with return of spontaneous circulation and was sedated and ventilated. Head CT showed a diffuse intracerebral bleed with subsequent edema. CxR suggested aspiration. The initial use of epineprhine was withheld due to concern about potential hydrocarbon-induced myocardial sensitization. She was taken to the operating room to evacuate the clot, but suffered a cardiac arrest and was instead returned to the ICU. She was cardioverted for VF and started on vasopressors for hypotension but died from a cardiac arrest within 24 hr of admission.
Autopsy Findings: Bilateral pleural effusions. Blood and bile positive for 1,1 diflouroethane.

Case 267. Acute fluorinated hydrocarbon inhalation: undoubtedly responsible.
Scenario/Substances: A 25-y/o male was found apenic by his roommate (last seen 4 hrs earlier). The roommate called 911 and began CPR. EMS found the patient cold, cyanotic, and in asystole. They continued CPR, intubated him, and gave glucose, atropine, naloxone and epinephrine. A container of computer dusting solution containing difluoroethane was found near the patient.
Past Medical History: No known medical problems or regular medications.
Physical Exam: In the ED he was unresponsive, in asystole, T 34.3°C, pupils fixed and dilated.
Laboratory Data: Glu 183, bedside ultrasound showed no cardiac activity.
Clinical Course: ACLS CPR was continued and he was given IV saline and bicarbonate without response and he was pronounced dead.
Autopsy Findings: Gross and microscopic examinations were unremarkable. The heart was 310 gm and showed no abnormalities of the coronary or great vessels, no focal wall or valvular defects, and no focal areas of discoloration, softening or scarring. Difluoroethane concentrations: iliac blood 1.64 mg/L, urine 3.54 mg/L, vitreous humor 0.97 mg/L. The cause of death was determined to be difluoroethane intoxication.

Case 281. Acute lamp oil ingestion and aspiration: undoubtedly responsible.
Scenario/Substances: A 22 m/o female ingested and aspirated tiki torch fuel, a hydrocarbon, and began to cough. She was transported to the local ED.
Physical Exam: Coughing toddler in significant respiratory distress; hypotensive, with frothy, bloody secretions.
Laboratory Data: ABG-pH 'acidotic, not recordable' pCO2 248/pO2 33, K 8, Glu 700, lactate 12. CxR: R lung "white out".
Clinical Course: The patient was suctioned and returned bloody and frothy secretions prior to being intubated, ventilated and transferred to a tertiary care facility able to provide a higher level of care. Upon arrival, she experienced a cardiac arrest from which she could not be resuscitated. The patient expired within 1 hr after ingestion.
Autopsy Findings: Cause of death; chemical pneumonitis due to hydrocarbon toxicity. Lungs: microscopic exam revealed extensive alveolar wall damage, neutrophilic and eosinophilic infiltrate, acute hemorrhage and extensive edema fluid; Heart: microscopic exam revealed a focal area of lymphocytic infiltrate with myocyte necrosis with a few histocytes and eosinophils. Focal myocarditis was determined although thought not be associated with hydrocarbon ingestion per the ME report. The myocarditis was focal and determined as most likely not contributing to cause of death. Antemortem blood specimen did not detect solvents or volatiles.

Case 283. Acute cyclopeptide mushrooms ingestion: probably responsible.
Scenario/Substances: A 70-y/o female with an extensive medical history presented to the ED with nausea, vomiting, and diarrhea ~10 hr after a meal she made with small brown mushrooms that were picked from her brother's back yard.
Past Medical History: Colon perforation with partial bowel resection, anemia, systemic lupus erythematosis, emphysema, osteoporosis, cerebrovascular accident, acute myocardial infarction, hypothyroidism, gastroesophageal bleeding, pneumonia.
Physical Exam: Awake and cooperative, and at her baseline speech and mentation, BP 138/80, HR 82, T 36.6°C, RR 15, O2 Sat 95%, no jaundice or liver tenderness.
Laboratory Data: AST 108, ALT 69, INR 1.04, lipase 30.

Na 134	Cl 107	BUN 24	Glu 108
K 4.1	HCO_3 20	Cr 0.84	

Clinical Course: The patient was started on IV normal saline, ondansetron to control nausea and vomiting, and oral activated charcoal. Cyclopeptide mushroom poisoning was suspected and serial liver function tests were performed. The mushroom was not positively identified but a mycologist who looked at a digital photograph of leftover mushroom segments opined it was consistent with galerina spp. She received further doses of activated charcoal, and was started on IV N-acetylcysteine and cimetidine. Day 2 AST 810, ALT 577, INR 1.91. Her clinical status abruptly deteriorated, with hypoglycemia and metabolic acidosis, and she was intubated. She developed a fever of 39.1°C. She also developed acute renal failure, and hypotension requiring norepinephrine. Her urine and blood cultures were positive for E. coli. The investigational drug silibinin was obtained and started IV on Day 2. However, she did not improve, and Day 3 readings were AST 1297, ALT 1365, INR 6.58, lactate 6.7 mmol/L. Based on the prognosis, the family opted for institution of comfort measures and she expired shortly thereafter.
Autopsy Findings: No autopsy was done. The coroner reviewed the case and determined that the cause of death was acute hepatic failure due to Amanita mushroom poisoning (although Galerina spp. seems more likely).

Case 295. Acute malathion ingestion: undoubtedly responsible.
Scenario/Substances: A 57-y/o female was seen by her family ingesting 50% malathion liquid in a suicide attempt. The family called EMS. The patient had progressive neurologic decline en route to the hospital, she vomited and then became unresponsive on arrival to the hospital with possible seizure activity. She was given 2 mg of atropine by EMS. The bottle of malathion brought to the hospital was empty and was found to contain 50% malathion (unknown quantity ingested).
Past Medical History: Previous suicide attempts, ethanol abuse.
Physical Exam: HR 135, BP 123/60, RR 16 and labored. Skin warm and diaphoretic, Thick oral secretions, pupils 5 mm and not reactive, scattered rhonchi, bowel sounds increased. She was unresponsive, GCS 3, normal muscle tone, no seizure activity.
Laboratory Data: Calcium, 8.4, magnesium 1.8

Na 134	Cl 109	BUN 2	Glu 197
K 3.7	HCO_3 17	Cr 0.6	

phosphorus 1.6, lactate 6.8 mmol/L, AST 21, ALT 11, PT 13.1, PTT 26.6, acetaminophen 7 ug/ml, salicylate not detected. On Day 2 RBC acetylcholinesterase 8.6 U/gHb pseudocholinesterase not detectable.
Clinical Course: On her arrive at the ED she was intubated and decontaminated and given pradlidoxime IV. She was started on midazolam and fentanyl for sedation. She was kept on midazolam 10 mg/hr for seizure prophylaxis with continuous EEG monitoring. No seizure activity was noted, and on Day 2 she was weaned from midazolam. She was treated with pralidoxime at 500 mg/hr for 48 hrs followed by 250 mg/hr thereafter. Urine output was 12 L on Day 1, 7 L on Day 2, replaced with normal saline. Her hypotension required norepinephrine on Day 1 + vasopressin, phenylephrine and later dopamine on Day 2. Based on the prognosis, the family opted for institution of comfort measures and she expired on Day 3.
Autopsy Findings: Not performed.

Case 304. Acute ibogaine ingestion: undoubtedly responsible.
Scenario/Substances: 25-y/o ingested 2 gm of ibogaine he purchased through the internet for treatment of opiate

dependence. The patient was suffereing from cardiac arrest when EMS arrived. According to the patient's AICD, the cardiac arrest was Vtach/Vfib.
Past Medical History: heroin abuse, SVT, AICD-pacemaker
Physical Exam: BP 113/111, HR 120, RR 12, pupils dilated, bowel sounds present, skin warm and dry, comatose, deep tendon reflexes intact without hyperreflexia.
Laboratory Data: Ca 10.7, phos 9.3, Mg 2.4, lactate 18.

Na 148	Cl 96	BUN 21	Glu 398
K 3.1	HCO_3 21	Cr 1.22	

Troponin 0.33 ng/ml, Hb 13.3, platelets 139, WBC 21, INR 1.33, ECG: QRS 208, QTc 521, Rate 112. EEG showed seizure activity and early encephalopathy.
Clinical Course: Patient was resuscitated and started on norepinephrine, phenylephrine, bicarbonate, and amiodarone. He remained hyperthermic and hypotensive despite multiple vasopressors. His lactic acidosis initially improved, but he developed hypotension, acidosis, and multisystem organ failure on Day 2. His anion gap increased to 20 with an ABG pH 7.2, ALT 491, AST 1099. The patient's EF was 10% on echo. Intralipid and balloon pump were discussed but the patient had no signs of brain activity, comfort measures were instituted and he expired on Day 2.
Autopsy Findings: Ibogaine in the heart blood 2.2 mcg/ml, iliac blood 1.8 mcg/ml, vitreous 0.98 mcg/ml, and liver 4.2 mcg/g. Along with the patient's pre-existing heart condition, ibogaine was determined to be the cause of death. Samples of the capsules were obtained and tested via GC MS – only ibogaine was found. The 3 capsules tested had significantly different amounts of ibogaine in them so it is difficult to know how much was actually ingested.

Case 305. Acute aconite, ethanol ingestion, dermal: undoubtedly responsible.
Scenario/Substances: A 28-y/o male contacted EMS to report trouble breathing. EMS found him vomiting, agitated and complaining of chest pain, and feeling as if limbs were paralyzed. He indicated that he ingested a poisonous plant by pointing at the label from a recently purchased nursery plant that read: Aconitum, Blue Lagoon, Monkshood. During transport, he developed VT then VF.
Past Medical History: Social history: patient's father committed suicide a few months prior to this event.
Physical Exam: Tachycardia with shallow respirations.
Clinical Course: Unresponsive male in ED with VF during transport to the ED. He was intubated and defibrillated into sinus rhythm briefly before developing torsade de pointes from which he could not be resuscitated. He expired in the ED.
Autopsy Findings: Severe pulmonary congestion, normal heart examination. The deceased was in possession of Monkshood and Delphinium plants and had knowledge of the poisonous nature of the plants from the sales persons at 2 local nurseries and recent internet searches found on his personal computer. At the scene, personal and financial papers were prominently displayed including an internet-purchased will. The manner of death was suicide.

Case 308. Acute methadone ingestion: undoubtedly responsible
Scenario/Substances: A 2-y/o girl drank juice then complained that her tongue "felt weird". She then took a nap and was found cold, limp and barely breathing. It was later discovered the juice had been mixed with methadone.
Physical Exam: Unresponsive, bradycardic, hypotensive 2-y/o female with cold extremities.
Clinical Course: No response was noted to naloxone administration. Patient was intubated and placed on a naloxone infusion. Urine toxicology was not tested for methadone. The patient was transferred to a tertiary care center where urine toxicology was positive for methadone. The family repeatedly denied presence of any methadone in the household. In the pediatric ICU, urine also positive for methadone. Day 2 CT scan of head showed cerebral edema with herniation. Naloxone was discontinued after 48 hrs. Serum samples were sent out for quantification of methadone. The patient was declared brain dead on the Day 6 and expired on Day 7.
Autopsy Findings: Premortem blood methadone concentrations: 219 ng/mL at 24 hrs, and 178 ng/ at 48 hrs. CNS: cerebral edema with severe diastatic separation of cranial sutures; acute hypoxic/ischemic encephalopathy, secondary subarachnoid hemorrhage of right occipital and bilateral temporal lobes. Secondary autolysis of brain parenchyma. Lungs, spleen, liver, adrenal glands, large vessels, and kidneys were procured for organ donation. Cardiovascular system: normal. Cause of death: Methadone intoxication. Manner of death: Could not be determined.

Case 311. Acute methadone ingestion: undoubtedly responsible.
Scenario/Substances: 9-y/o boy had difficulty falling asleep and, because the family ran out of diphenhydramine, ingested his mother's methadone (50 mg, liquid). Patient did not wake up for school at 5 hrs later. EMS found him suffering from cardiac arrest. Naloxone was administered with no response. CPR was initiated; the patient was intubated and transported to the ED.
Past Medical History: Obesity.
Physical Exam: Intubated male in full cardiac arrest.
Laboratory Data: ABG-pH 6.97/pCO2 66/pO2 109/HCO3 14; UDS positive for methadone.
Clinical Course: Additional naloxone was administered for a total of 4 doses with no response. Multiple doses of epinephrine were given with return of spontaneous circulation after 1 hr and the patient was admitted to the ICU where he remained comatose and exhibited post-anoxic myoclonus. Day 2 he developed diabetes insipidus. Brain perfusion studies were negative; thrombocytopenia occurred and the patient had bleeding from the nose and mouth. The urine toxicology remained positive for methadone for a total of 7 days. The patient was declared brain dead; comfort measures were instituted on Day 8, the patient expired on Day 10.
Autopsy Findings: Liquification of the majority of the brain with small hemorrhagic infarctions in lungs; myocardium was normal with no infarction. Cause of death: Methadone Intoxication. Manner of death: "could not be determined".

Case 324. Acute methadone ingestion: undoubtedly responsible.
Scenario/Substances: A 17 year old male self-medicated with his grandmother's methadone for pain after playing in a football game. He had started to slur his words, but drove himself home. He was found the following morning after last being seen at ~2AM; EMS found him unresponsive and asystolic. CPR was performed and circulation restored. Naloxone was given without response.
Past Medical History: Broken arm, depression, asthma
Physical Exam: BP 132/88, HR 125, RR 24 (on ventilator), T 33.1°C.
Laboratory Data: Ca 5.8, Mg 1.9, phos 10.6; Hgb 16, Hct 45,.

Na 141	Cl 113	BUN 15	Glu 102
K 4.7	HCO_3 17	Cr 2.1	

methemoglobin 1.1%, COHb 2.1%; PT 19.5, PTT 35.2, INR 1.7; AST 5428, ALT 5840. UDS: negative × 2 and positive × 1 for methadone; acetaminophen, salicylate and ethanol not detected.
Clinical Course: Head CT showed diffuse cerebral and cerebellar edema with no acute hemorrhage or masses. He was maintained on a ventilator and was given metaraminol and epinephrine, later switched to dopamine and epinephrine for hemodynamic support. He was able to breath when ventilator support was temporarily decreased but showed no other positive neurological signs; pupils were fixed and dilated, no pain or gag reflexes were present. Day 2, comfort measures were instituted and the patient expired.
Autopsy findings: Premortem lab results revealed methadone, 420 ng/mL; EDDP 483 ng/mL; escitalopram was not detected. The results were consistent with death secondary to methadone toxicity. The negative escitalopram level suggested that he was non-compliant with his antidepressant medication.

Case 816. Acute acetaminophen ingestion: undoubtedly responsible.
Scenario/Substances: A 48-y/o female was transferred to a tertiary care hospital for consideration of liver transplantation after an acetaminophen overdose.
Past Medical History: Depression, prior suicide attempt by acetaminophen overdose, cesarean section, ankle surgery.
Physical Exam: Upon arrival to the tertiary care facility the readings were HR 139, BP 139/61, T 36.6°C, O2 sat 100% on 100% FiO2. She was minimally responsive to verbal stimuli. Liver edge was palpable approximately 2 cm below the right costal margin. Examination otherwise unremarkable.
Laboratory Data: Acetaminophen at the first hospital was 77 mg/L (time not known, this was 2 days before transfer to tertiary care). On arrival at the tertiary care hospital, acetaminophen was < 10 mg/L, ALT 8,000, AST 16,000, serum pH 7.24, ammonia 37 umol/L.
Clinical Course: Prior to transfer to tertiary care, she had received oral n-acetylcysteine. On arrival at tertiary care center, she was switched over to IV n-acetylcysteine, 6.25 mg/kg/hr. Hemodiafiltration was performed. On that same day, she was given sedation and endotracheally intubated. She was given oxygen via the endotracheal tube and ventilator. On Day 2 she was more alert; n-acetylcysteine dosing was adjusted based on patient weight. On Day 3 AST 3800, ALT 3600, INR 3 platelets 37. FFP and antibiotics were given. The patient developed atrial fibrillation with a ventricular rate of 125 and stable BP 94/54. On Day 4, her readings were AST 600, ALT 2,000, INR 2.2 total bilirubin (total, 6.2; direct 3.7), N-acetylcysteine was continued. On Day 6, CNS depression increased, total bilirubin 7, AST 200; ALT 1200. N-acetylcysteine treatment was discontinued. Over the next 10 days, the patient's clincal status fluctuated, her transaminases decreased and her bilirubin increased. She became hemodynamically unstable. Based on the prognosis, the family opted for institution of comfort measures and he expired on Day 18.
Autopsy Findings: Coroner's report identified immediate cause of death to be widespread hepatic necrosis as a consequence of acute intoxication by acetaminophen. Manner of death was suicide. Other significant conditions included renal tubular necrosis, ascites, bilateral pleural effusions, pulmonary edema, and cerebral edema.

Case 1151. Acute buprenorphine and naloxone ingestion: undoubtedly responsible.
Scenario/Substances: A 13 month old male was found unresponsive in his crib after a suspected exposure to buprenorphine and naloxone sublingual film.
Clinical Course: The evening before admission, the parents gave the child a bottle of buprenorphine and naloxone as a rattle. The parents later noticed that the bottle was opened and the patient had several pill fragments in his mouth and they removed them. Subsequently, the patient was fed and laid to sleep. The following morning, the child was found unresponsive by the parents and EMS was summoned. At the scene, the patient was reported to be in cardiopulmonary arrest, resuscitation was initiated and 0.8 mg of naloxone was administered without any response. The patient was declared dead on arrival to the ED. Child protective services and the ME were notified.
Autopsy Findings: The cause of death was determined to be acute buprenorphine intoxication. The patient's blood levels were buprenorphine 52 ng/ml, norbuprenorphine 23 ng/mL, and naloxone 39 ng/mL. Gastric contents buprenorphine was 7400 ng/mL, norbuprenorphine 84 ng/mL, and naloxone 970 ng/mL.

Case 1161. Acute bupivacaine injection: undoubtedly responsible.
Scenario/Substances: 50-y/o. male was having knee arthroscopy at a surgery center using a nerve block. Bupivicaine 0.5%, 30 ml was infiltrated. During administration the patient had an asystolic cardiac arrest. Fentanyl and midazolam had been given prior to the bupivicaine. CPR was immediately started.

Past Medical History: Diabetes.
Physical Exam: Unresponsive male: CPR in progress. No signs of trauma, pupils: fixed and dilated, absent corneal reflex.
Laboratory Data: ABG-pH 6.85/pCO2 92/pO2 24/HCO3 16;

Na 133	Cl 101	BUN 19	Glu 519
K 4.4	HCO_3 17	Cr 1.0	

AST 422, ALT 413, Alk phos 81, Osmol 255, WBC 7.5, Hgb 11.9, Hct 39.9, Ca ionized 1.05, Ca 7,2, tot protein 4.4, albumin 2.3, tot bilirubin 0.42, CKMB <1, myoglobin 362, troponin <0.05.
Clinical Course: CPR/ACLS was immediately instituted with endotracheal intubation, epinephrine $\times 3$, vasopressin $\times 3$, atropine, dopamine, and 2 doses of 250 ml of intralipid. The patient was transferred from the surgery center to the ED. Right main stem intubation was corrected by ETT repositioning. Procainamide was given, followed by a third bolus of intralipid (20% 1.5 ml/kg) then by constant IV infusion at 0.25 ml/kg. Multiple doses of sodium bicarbonate, CaCl2, calcium gluconate, epinephrine, infusions of dopamine, intralipid and a total of 9L of IV fluids. External pacing was attempted multiple times without success. Resuscitation efforts were terminated after 4 hrs with continued, refractory asystole.
Autopsy Findings: Not available.

Case 1169. Chronic, thrombin inhibitor ingestion: undoubtedly responsible.
Scenario/Substances: A 74-y/o female with an extensive cardiac history, being treated with dabigatran for atrial fibrillation, was referred by her PCP for anemia, acute renal failure, and coagulopathy. On presentation, she reported 1 day of increasing weakness and tremor in addition to black stools for the last 4 days.
Past Medical History: Ischemic cardiomyopathy with EF 30–35%, previous coronary stent, prior PEA arrest, with AICD, mitral valve repair, severe pulmonary hypertension, chronic atrial fibrillation. Medications: torsemide, digoxin, metoprolol (sustained release), colchicine, salicylate, simvastatin, dabigatran, clonazepam, omeprazole, nitroglycerin SL.
Physical Exam: In the ED: HR 90, BP 88/44, T 36.3°C, RR 19, O2 sat 99% on room air. She appeared chronically ill and borderline cachectic, but alert and oriented. Chest clear, heart sounds irregular (a fib), abdomen soft, trace extremity edema. NG lavage with minimal blood, guaiac positive with frank melena.
Laboratory Data: In the ED.

Na 134	Cl 106	BUN 147	Glu 126
K 4.7	HCO_3 14	Cr 4.9	

Hgb 9.2, Hct 27.1, WBC 7.6, platelets 98, INR >13.7, PTT >100, AST 44, ALT 30, alk phos 72, T-Bili 1.4, CxR: no consolidation or pulmonary edema, EKG: atrial fibrillation, old Q waves in III, aVF
Clinical Course: The patient received 1 L of crystalloid fluids gently and was transferred to the ICU. No blood products were given initially. On Day 2, she was started on CVVHD to facilitate dabigatran clearance. Shortly thereafter she went into pulseless VT that decompensated into PEA arrest with return of spontaneous circulation after CPR/ACLS. Throughout her hospitalization the patient developed progressive, worsening abdominal pain, hematemesis, melena, and infective colitis. She received vitamin K, desmopressin, and multiple units of packed RBC, FFP, platelets, and PCC. She required multiple vasopressors to maintain her BP. Despite these efforts, she died on Day 7.
Dabigatran Concentrations: Dabigatran from serial serum samples obtained during CVVHD were: >500 ng/mL at 3 and 6 hr and 225 and <45 ng/mL (pre- and post-filter) at 23 hr. One dialysate sample was >800 ng/mL. Reported concentrations at steady state in patients taking a dose of 220 mg daily ranged from 64 to 443 with a mean of 184 ng/mL.
Autopsy Findings: Not performed.

Case 1170. Acute clopidogrel, salicylate, dabigatran ingestion: undoubtedly responsible.
Scenario/Substances: A 79-y/o male presented with epistaxis and melena.
Past Medical History: Atrial fibrillation, CAD s/p CABG, on aspirin 81 mg, Plavix, and dagibatran 150 mg bid
Physical Exam: BP 83/52, HR 88, RR 17, O2 sat 97%. Copious bleeding from nose, both anterior and posterior, no neuurological deficits.
Laboratory Data: Hgb 4.9, platelets 278, INR 1.9, PTT 96.9

Na 141	Cl 107	BUN 40	Glu
K 3.3	HCO_3 15	Cr 2.4	

AST 58, ALT 22.
Clinical Course: The patient was intubated shortly after arrival for airway protection, and nasal packing was placed, but he continued to bleed around the packing. He was given FFP, packed RBCs, platelets, cryoprecipitate, and desmopressin. He was started on levophed and dopamine for hypotension. Over the course of Day 1, he had ongoing bleeding, hypotension, and evidence of tissue hypoperfusion. Lactate was 5.8, troponin was initially 2.85 and peaked at 13.
Hgb was 8.1 after multiple transfusions, platelets 141 after 4 units, AST 1000, ALT 611, INR 5.8 to 3 after vitamin K.
He received a total of 18 units FFP, 4 units platelets, 20 units cryoprecipitate, 12 units RBCs, 2 doses of desmopressin, and 3000 units of prothrombin complex concentrate. Early in Day 2 he was noted to have copious bleeding form nose and rectum. In the afternoon he became bradycardic to 40s, CPR was initiated. Based on the prognosis the family opted for institution of comfort measures and he expired early on Day 3.
Autopsy Findings: Not performed.

Case 1235. Unknown, ethanol, amitriptyline, cocaine, gabapentin ingestion: undoubtedly responsible.
Scenario/Substances: A 40y/o, 65 kg male was found unresponsive in his home by his family. He was found next to an empty bottle of amitriptyline 8 hrs after he was last seen "normal" but drinking alcohol. The suspected ingestion was up to 3 g of amitriptyline with unknown amounts of ethanol throughout the night.
Past Medical History: Depression, ethanol, caffeine, tobacco and recreational drug abuse. Routine medications were unknown.
Physical Exam: Unresponsive male; BP 92/60, HR 132.
Laboratory Data: ABG-pH 7.2/pCO2 63.7/pO2 429; O2 sat 100% after intubation and mechanical ventilation;

Na 140	Cl 101	BUN 14	Glu 143
K 4.4	HCO_3 34	Cr 1.0	

Ca 8.0, Mg 2.2, CK 428, myoglobin 557 ng/mL, CK MB 5.4 ng/mL; Hct 43; ECG: rate 165, QRS 156, QTc 596. UDS positive for cocaine, negative for barbiturates, benzodiazepines, methadone, opiates, phencyclodine, and marijuana; acetaminophen. Serum salicylate and ethanol not detected. CT scan of the brain and chest x-ray reported as "negative". The QRS remained elevated (129, 130, 136, 140 and 122) for 9, 15, 24, 38 and 40 hrs post admission. The QTc intervals varied from 472 to 596 (562 at 48 hrs post admission) over the same time period.
Clinical Course: In the ED, the patient was given 3 doses of sodium bicarbonate (50 mEq each) for a widened QRS with no improvement then 100 mg of lidocaine IV and placed on a lidocaine infusion for ventricular tachycardia after 3 unsuccessful attempts with cardioversion. At 4 hrs, when VT resolved, lidocaine was discontinued and he was transferred to a tertiary HCF. There he was treated with thiamine, multivitamin, enoxaparin, famotidine, as well as lorazepam prn for agitation and morphine prn for pain. At 36 hrs post admission he demonstrated intermittent myoclonic jerking followed by a seizure after an EEG was completed, which resolved spontaneously. 3 hrs later, a second seizure occurred and he was treated with IV lorazepam 5 mg just prior to a cardiopulmonary arrest from which he could not be resuscitated. The patient expired ˜40 hrs after he arrived to the initial HCF.
Autopsy Findings: Not performed. ME report listed the cause of death as amitriptyline toxicity with cocaine contributing to patient's death. Antemortem blood testing from the initial HCF showed blood amitriptyline 2.1 mg/kg, nortriptyline was not detected benzoylecgonine 0.044 mg/L, gabapentin 15 mg/L and presence of benzodiazepines, midazolam and lidocaine. Cocaethylene, cocaine, ethanol, opiates and opioids were not detected. The concentrations of amitriptyline and benzoylecgonine were found in amounts consistent with those previously reported in fatal cases.

Case 1238. Acute-on-chronic, bupropion, and ethano ingestion: undoubtedly responsible.
Scenario/Substances: This 40-y/o female was brought to ED after being stopped by police for erratic driving. Police noted altered mental status, and she told the police officer she had taken an overdose. An unidentified white powder was found in her car.
Past Medical History: Medications included bupropion and acamprosate.
Physical Exam: HR 110, BP 70/40. Pupils 4 mm and reactive. Oral mucosa dry with white chalky material around mouth. EKG sinus tachycardia with QRS 98 and QTc 470.
Laboratory Data: ABG-pH 7.23/pCO_2 41/pO_2 371/HCO_3 18; 1 hr later ABG-pH 7.14/pCO_2 38/pO_2 136/HCO_3 14.

Na 138	Cl 96	BUN 14	Glu 93
K 3,6	HCO_3 23	Cr 0.7	

Anion gap 19, lactate 8.1, CK 126, ammonia 82, acetaminophen and salicylate was not detected, ethanol 307 mg/dL, UDS positive for amphetamines and benzodiazepines.
Clinical Course: In ED, her mental status continued to deteriorate; she became unresponsive to painful stimuli, then had 3 tonic-clonic seizures. BP 50/30. She was intubated and sedated with propofol. Lorazepam and phenytoin were given for seizure activity and norepinephrine was started. Lipid emulsion given and sodium bicarbonate infusion was begun. In ICU T 38.9°C, HR 120s, she received phenylephrine and vasopressin in addition to norepinephrine to maintain BP Midazolam was given for continued seizures, T increased to 40 despite external cooling. Pacing was initiated and dopamine and epinephrine were added. She experienced PEA and asystole, which failed to respond to ACLS resuscitation and she died ˜14 hr after presentation to ED.
Autopsy Findings: Autopsy revealed fatty liver with severe mixed micro- and macrovesicular steatosis (fatty change). Despite postmortem bupropion levels lower than those reported in bupropion fatalities, her very elevated hydroxybupropion and her clinical picture of coma, seizures, and metabolic acidosis were judged consistent with bupropion toxicity. Cause of death was bupropion toxicity, and manner of death was accident.

Case 1276. Acute amitriptyline ingestion: undoubtedly responsible.
Scenario/Substances: A 48 y/o woman, discharged from prison earlier that day took an unknown number of amitriptyline pills while in the car with her husband. She vomited with several undigested pills in the emesis, became unresponsive, and her husband started CPR and called EMS.
Past Medical History: Bipolar disorder, seizures, and cerebral aneurysm. Medications included amitriptyline, sertraline, and oxcarbazepine.
Physical Exam: Unresponsive patient in cardiac arrest with seizure activity.
Laboratory Data: Cardiac monitor: wide complex tachycardia similar to VT; toxicology screen detected THC, cocaine and tricyclic antidepressants.
Clinical Course: The patient received multiple doses of diazepam and was defibrillated without effect. Transfer to another hospital by air occurred during which time 1 amp of

NaHCO3 was given. Four hours after arrival at the second HCF, hypotension continued, the QRS was 276 and she was defibrillated and given lidocaine, and 2 amps of NaHCO3, which resulted in a QRS of 148. Bicarbonate and norepinephrine infusions were initiated. Lab data: pH 7.37,

Na 141			Glu 320
K 2.8	HCO_3 18		

At 7 hrs, VT occurred treated with K, NaHCO3 and Mg. VS improved to BP 124/73, HR 106, RR 10 with O2 sat 99% on FIO2 0.50. IV fat emulsion, lidocaine, and insulin were added therapeutically. Further lab data showed:

Na 140	Cl 109	BUN 12	Glu 155
K 3.5	HCO_3 25	Cr 1.0	

PO4 0.5, Mg 1.7, and ionized Ca 0.92. Seizures recurred at 19 hrs post ingestion, treated with 6 mg lorezepam successfully. Hypotension recurred, treated with NaCO3. Na was 174; pH 7.75. IV lidocaine and bicarbonate drips were stopped; vasopressin was added to the norepinephrine; BP 105/60, QRS 116 and QT/QTc $>$500 ec. Multiple vasopressors were needed, aspiration pneumonia was suspected due to fever; On Day 2, she had PEA arrest from which she was resuscitated. On Day 3, pupils were 5 mm, with BP systolic 80. pH 7.69, pCO2 39, pO2 126, AST 1,131, ALT 1,150.

Na 181	Cl 121	
K 4.4	HCO_3 39	Cr 1.4

Comfort measures were put in place and the patient expired on Day 3.

Autopsy Findings: Not done. Cause of death: amitriptyline toxicity.

Case 1278. Acute venlafaxine ingestion: undoubtedly responsible.

Scenario/Substances: A 49-y/o male who was found down at home after ingesting an unknown number of 75 mg venlafaxine. The patient was lethargic with stable vital signs.

Past Medical History: Hypertension, hyperlipidemia, anxiety, depression, and prior suicide attempts $\times$ 3. Medications: simvastatin, lithium, risperidone, mirtazapine, venlafaxine, trazodone, losartan.

Physical Exam: HR, BP 127/66, T 37.1°C, RR 16–28, O2 sat 98–100% on 2 L nasal O2, somnolent but arousable, responding appropriately, exam otherwise unremarkable.

Laboratory Data: WBC 11.6, Hgb 14.3, Hct 42.4,

Na 138	Cl 107	BUN 14	Glu 116
K 3.7	HCO_3 16	Cr 1.34	

platelets 201, INR 0.9, PTT 22.4, AST 140, ALT 426, alk phos 190, T-bili 1.1, Ca 9.9, iCa 1.3, Mg 2.3, phos 2.7., serum osm 303, ABG-ph 7.25, ECG sinus tachycardia, QRS 106, QTc 396, serum acetaminophen, and salicylate not detected, Li 0.7.

Clinical Course: Several hours later he was more awake and additional history was obtained that he ingested up to 400 pills of venlafaxine extended release. HR at this time was 103, QRS 103. Aggressive gut decontamination was instituted with activated charcoal 50 gm every 2 hr for 4 doses and whole bowel irrigation. Later that day, his mental status deteriorated and he had 3 seizures that lasted about 15 s each, treated with lorazepam. He became hemodynamically unstable with QRS 134, BP 80/50 treated with IV fluids, sodium bicarbonate and norepinephrine. He was intubated and started on a propofol drip, and admitted to the ICU. He received multiple boluses of sodium bicarbonate for widened QRS and norepinephrine for hypotension. Whole bowel irrigation and charcoal had to be discontinued because the patient developed an ileus. The patient was treated with N-acetylcysteine for possible late acetaminophen presentation with transaminitis. Day 2 the QRS widened to 150, despite bicarbonate boluses. His Na was 158, pH $>$ 7.5. He was treated with 2 boluses of intralipid, lidocaine, electrical pacing, and electrical cardioversion. He developed a terminal ventricular arrhythmia and cardiogenic shock and expired on Day 2.

Autopsy Findings: The gastric lumen contained approximately 170 ml of brown fluid admixed with over 40 white tablets. The small and large bowels were remarkable for brown liquid stool admixed with over 60 white tablets. Laboratory analysis of premortun plasma/serum showed venlafaxine 13.5 mg/L and was positive for venlafaxine metabolite and caffeine. The cause of death was determined to be acute venlafaxine intoxication by suicide.

Case 1345. Acute diphenhydramine ingestion: undoubtedly responsible.

Scenario/Substances: 31-y/o male with seizures brought to ED by EMS after suspected diphenhydramine overdose of 2–3 bottles at an unknown time before presentation.

Physical Exam: Male with ongoing generalized seizures.

Laboratory Data: CK 1200 U/L, lactate 33 mmol/L.

Clinical Course: In ED, patient became bradycardic and had a cardiac arrest after arrival and was resuscitated and intubated. He received epinephrine, sodium bicarbonate and amiodarone during the resuscitation with return of spontaneous circulation but hypotensive with continued seizures. He received intralipids (bolus and infusion over 60 min) followed with benzodiazepines and a second intralipid dose (bolus and infusion over 60 min) to terminate seizure activity prior to transfer to the ICU. A third dose of intralipids (bolus and infusion) was administered when hand twitching and hypotension recurred. Ongoing hypotension and poor oxygenation were treated with more intralipids, phenobarbital, phenytoin, benzodiazepines, and then vecuronium ~12 hrs after admission. Subsequent treatment included levetiracetam prior to development of ARDS with O2 Sat 83% with FiO2 = 1.0. Lab showed troponin 10.7 U/L, phenobarbital 38.4 mcg/mL. The patient's family instituted comfort measures and he expired on Day 3.

Autopsy Findings: Lung: parenchyma congested and red-purple, exuding copious amounts of bloody fluid; Evidence

of organ procurement. Postmortem drug concentrations: diphenydramine 3.3 mg/L (peripheral blood). Cause of death: diphenhydramine intoxication. Manner of death: Suicide.

Case 1346. Acute diphenhydramine ingestion: undoubtedly responsible.
Scenario/Substances: A 32-y/o male found seizing at the scene of a low impact motor-vehicle accident; treated by EMS for presumed anaphylactoid reaction with 0.3 mg epinephrine, 10 mg midazolam, and 50 mg of diphenhydramine. Later a suicide note and 2 empty 60 table bottles of diphenhydramine 50 mg were discovered in his vehicle with a receipt dated for that day.
Past Medical History: Schizophrenia and history of "bath salts" abuse; medications included haloperidol and valproic acid.
Physical Exam: Comatose, intubated and unresponsive, pupils 5 mm non-reactive. BP 58/41, HR 58, RR 15, T 40.2°C, O2 sat 98% on 100% FIO2. QRS "markedly prolonged". PE revealed dry axillae and hypoactive bowel sounds.
Laboratory Data: ABG-pH 6.87/pCO_2 63/pO_2 252/HCO_3 11.5/BE –23, AST 145, ALT 132, INR 0.94, CK 142K;

Na 141	Cl 107	BUN 16	Glu 93
K 6.5	HCO_3 17	Cr 1.2	

UDS: cocaine, acetaminophen and salicylates not detected; ethanol 123 mg/dL. Subsequent testing for bath salts and MDPV were negative.
Clinical Course: He received 350 mEq $NaHCO_3$ which was associated with a decrease in the QRS to 106, followed by an $NaHCO_3$ infusion. Tachycardia occurred with a QTc of 541. One dose of activated charcoal was given and levetiracetam was initiated with neurotelemetry. On Day 2, the patient was without seizures and responded to sternal rub while on midazolam 2 mg/h and fentanyl prn. INR 2.15, fibrinogen 129, Cr 2.9, ALT 4,109, AST 10,270, Bilirubin 2.1, CK 35,576 with dark red urine. ECG: QRS 108, QT/QTc 318/451. Day 3: Responded to verbal commands without following commands, anasarca and mottled distal extremities with pupils equal but sluggishly reactive to light; AST 17,339 and ALT 7,052, with worsening acidosis and hyperkalemia. CVVHD was started when CK exceeded 400,000. Empiric antibiotics were given. Day 4: LE bilateral lower extremity fasciotomies were done for possible compartment syndrome. IV NAC was given for AST 7,382, ALT 3,171, T bilirubin 7.3; venous lactate 6.4, CK 178,462. Day 6; MS unchanged, AST and ALT decreasing but bilirubin (total) 11.2. Day 11: no neurologic improvement, irreversible brain injury by MRI; family decided comfort measures only, patient expired within 2 hrs of pressor support discontinuation.
Autopsy Findings: Autopsy not performed. Cause of death was diphenhydramine overdose by the coroner.

Case 1360. Acute-on-chronic, amantadine, diazepam, and clonazepam ingestion: undoubtedly responsible.
Scenario/Substances: A 33-y/o female ingested amantadine 62.5 g, diazepam 15 mg and clonazepam 1.5 mg in an apparent suicide attempt.
Past Medical History: Bipolar disorder and multiple sclerosis.
Physical Exam: BP 137/73, HR 74, asymptomatic female.
Laboratory Data: Ethanol, salicylates, acetaminophen: not detected.

Na 135		BUN 6	Glu 88
K 2.5	HCO_3 26	Cr 0.6	

Clinical Course: The patient was transported to the ED at 1.5 hrs post ingestion and was asymptomatic. At 4 hrs post-ingestion, she became acutely disoriented, developed VT, had seizures and cardiac arrest. She was resuscitated with CPR/ACLS, intubation, lidocaine, amiodarone, and physostigmine. Mg and K were also given. On Day 2, she was extubated but remained confused and hallucinating. Reintubation occurred on Day 3 for hypoxia and concern for airway compromise. ARDS ensued with septic shock with positive urine (Escherichia coli), blood (Staphylococcus epidermidis) and sputum (Haemophilus influenza) cultures. She received levofloxacin and continuous infusions of norepinephrine, propofol, midazolam and vecuronium were administered during hospitalization. Pentobarbital was given for refractory seizures confirmed by EEG on Day 14. Comfort measures were instituted on Day 21 when EEG monitoring revealed 252 hrs of persistent seizure activity. The patient subsequently expired.
Autopsy Findings: Not performed. Amantadine serum concentrations**:** 3,960 ng/mL at 1.5 hrs postingestion, 20,508 ng/mL at 10.5 hrs, 15,508 ng/mL at 21.8 hrs.**

Case 1364. Acute tilmicosin parenteral: probably responsible.
Scenario/Substances: A 51 y/o male injected 5 mL of 300 mg/mL of tilmicosin with suicidal intent. Tilmicosin a macrolide antibiotic for pneumonia treatment in cattle, sheep, and pigs. EMS transported him to the ED.
Physical Exam: Male in full cardiac arrest.
Laboratory Data: Ca 11.4, K 4.4.
Clinical Course: The patient was treated with CaCl2, dopamine and dobutamine with return of spontaneous circulation. He was intubated and placed on a ventilator and demonstrated no response to painful stimuli or blink response. At 9.5 hrs postingestion, BP 135/90, HR109, RR 22. Seizure activity was observed on Day 2, treated with lorazepam and phenytoin. On Day 3, BP 148/79, HR 95, RR 24, T 37.8°C without pressor support. Day 5, he was confused and agitated. BP 168/83, HR 95. A brain MRI showed a recent CVA. His neurologic status did not improve despite cardiovascular stability. Comfort care measures were instituted and he expired on Day 11.
Autopsy Findings: Not Available.

Case 1376. Chronic, theophylline ingestion: probably responsible.
Scenario/Substances: An 82-y/o female presented with weakness, nausea, and trouble breathing, and an elevated theophylline level.
Past Medical History: COPD, diabetes mellitus, and schizoaffective disorder. Medications included insulin,

theophylline, paroxetine, fluticasone/salmeterol, albuterol, and meclizine.
Physical Exam: On arrival, she was weak, dyspneic, diaphoretic, and tachycardic, critically ill appearing. O_2 sat was 86%.
Laboratory Data: Cr 2.34, initial serum theophylline 83 mg/L, 10 hr 76 mg/L. ECG atrial fibrillation with rapid ventricular response.
Clinical Course: On arrival, she received O_2 and IV fluids. Atrial fibrillation with rapid ventricular response persisted so she was treated with multiple IV doses of metoprolol. Once her HR was controlled, she appeared clinically improved, with resolution of nausea and diaphoresis. 10 hr later, her serum theophylline was 76 mg/L and hemodialysis was started. Her clinical status declined markedly, and she was intubated and oxygenated. Her cardiovascular status continued to decline, she suffered a cardiac arrest, resuscitation was unsuccessful, and she expired within 24 hr of admission.
Autopsy Findings: Autopsy was not performed; the hospitalist judged the death was natural, and due to complications of COPD.

Case 1386. Acute flecainide, paroxetine ingestion: undoubtedly responsible.
Scenario/Substances: 29-y/o female ingested 30 tabs of paroxetine and 60 tabs of flecainide in an apparent suicide attempt ˜15 min prior to calling EMS. The patient was found awake and alert with stable vital signs, given oral administered activated charcoal and transported to the ED.
Physical Exam: Alert, awake female, BP 116/78, HR 111 RR 16, O2 sat 98% on room air, fingerstick glucose 96.
Laboratory Data: Full metabolic panel unremarkable.
Clinical Course: Within 30 min of arrival in the ED, the patient developed VT, was intubated during CPR/ACLS and given sodium bicarbonate followed by intralipid bolus and infusion. The patient developed asystole during intralipid administration and received epinephrine, atropine, and sodium bicarbonate and was defibrillated. BP returned but required multiple vasopressors. She was then transferred to a tertiary care center for ICU treatment. Multiple vasorpessors were needed to maintain MAP 30–40, hrs 60: ECG showed wide complex rhythm; the patient was placed on ECMO and given a second bolus and infusion of intralipids at ˜8 hrs after the initial intralipid bolus. No improvement in hemodynamic status was noted. A head CT demonstrated intracranial bleed. The patient expired 29 hrs after initial presentation.
Autopsy Findings: Bilateral necrosis of the globus pallidus, hemorrhagic cavity in left temporal lobe extending into the occipital lobe; full body anasarca. Blood concentrations: premortem, pre-intralipid serum flecainide 1.7 mcg/mL; postmortem: flecainide 36 mg/L (peripheral blood), paroxetine 1.1 mg/L (heart blood). Cause of death: flecainide and paroxetine intoxication. Manner of death: Suicide.

Case 1387. Acute-on-chronic flecainide and ethanol ingestion: undoubtedly responsible.
Scenario/Substances: A 30 yr old male took an intentional overdose of 60 tabs of 100 mg flecaninide.
Past Medical History: Hypertension
Laboratory Data: Ethanol 150 mg/dL, Serum acetaminophen and salicylate not detected.

Na 137	Cl 101	BUN 18	Glu 107
K 3.4	HCO_3 23	Cr 1.1	

Clinical Course: He arrived to the ED unresponsive without detectable BP and Pulseless but rhythm was recorded. He had transcutaneous pacer pads placed without capture. An attempt was made to insert a transvenous pacemaker, but he arrested prior to completion of the procedure and resuscitation was not successful.
Autopsy Findings: Postmortem showed sediments in the stomach, pulmonary congestion, cardiomegaly with left ventricular hypertrophy, clinical history of hypertension, and cardiac flecanide level of 24 mg/L. The ME signed the case out as a drug overdose sustained when the patient ingested his flecainide pills. The manner of death was ruled a suicide.

Case 1399. Acute flecainide ingestion: undoubtedly responsible.
Scenario/Substances: 38-y/o woman was in a car, unresponsive in a suspected suicide attempt by overdose.
Past Medical History: Previous suicide attempts by drug overdose, most recently with flecainide a few months prior, treated successfully with intralipids. Medications included: atenolol, clonazepam, oxcarbazepine, paroxetine, folic acid and thiamine.
Physical Exam: Unresponsive female, BP 44/14, agonal breathing, absent gag reflex.
Laboratory Data: ABG-pH 7.28, lactate 7.2,

Na 144			Glu 119
K 3.9	HCO_3 31*	Cr 0.7	

(*after administration of sodium bicarbonate), acetaminophen 22 mcg/mL (unknown time of ingestion), salicylate not detected; ECG: QRS prolongation.
Clinical Course: Patient was intubated, received IV fluids and benzodiazepines for possible seizure, D50W, sodium bicarbonate, and glucagon 4 mg. Torsade de pointes was treated with Mg (4 g IV) with resolution. Vasopressors were given for hypotension and HCO3 for QRS of 284. Review of prior hospitalization records showed previous suicide attempt with flecainide. At ~1.5 hrs after ED admission, intralipid bolus and 60-min infusion was given resulting in BP 116/60, HR 120 with continued QRS prolongation. Patient was transferred to the ICU where episodic VT occurred, treated with cardioversion. Hypotension continued, treated with pressors until the patient expired ~15 hrs. In the ICU, the ECG remained unstable with varying rhythms including short bursts of ventricular tachycardia and was cardioverted successfully. Patient remained hypotensive and vasopressors were switched. ~15 hrs after ED presentation, the patient expired. Subsequently it was learned that the flecainide was prescribed to the patient's father.

Autopsy Findings: Lungs: congested pulmonary parenchyma with slight to moderate amounts of bloody fluid. Postmortem toxicology from lipemic peripheral blood: flecainide 53 mg/L. Cause of death: flecainide toxicity. Manner of death: suicide.

Case 1550. Acute caffeine energy drink ingestion: contributory.
Scenario/Substances: 14-y/o girl went limp while watching television after drinking from a large container of caffeinated energy drink. She had started with a twitchingand then her eyes were deviated prior to urinary incontinence and loss of consciousness. She was found by EMS to be in VF. After 4 defibrillations, epinephrine and lidocaine she gained return of spontaneous circulation.
Past Medical History: Ehlers-Danlos syndrome, vascular type.
Physical Exam: BP 142/92, HR 129, RR 24, T 37°C.
Laboratory Data: WBC 9; Hgb 14.4; Platelets 355, CK 165,

Na 139	Cl 108	Glu 389
K 3.5	HCO_3 15	

troponin-I $<$ 0.01, INR 1.0. ECG: sinus tachycardia at 113, T wave inversions in III and aVL.
Clinical Course: She was placed on a ventilator and CT scan head, chest, abdomen and pelvis showed left aspiration pneumonitis without other findings. She received midazolam, propofol, phenobarbital, insulin (for hyperglycemia) and vancomycin. She was transferred to a tertiary care center for pediatric ICU treatment which included therapeutic hypothermia for 24 hrs as well as therapeutic hypernatremia. Repeat CT head showed global diffuse cerebral edema, cytotoxic not vasogenic with obliteration of the cisternal and sulcal spaces throughout. MRI; global anoxic injury. No neurologic recovery was send and the patient expired on Day 7.
Autopsy Findings: CNS: hypoxic-ischemic encephalopathy. Cardiovascular: cardiomegaly, heart weighed 335 g (predicted 206, upper range of normal 311 g); patent foramen ovale; presence of mitral valve prolapse with thickened and redundant leaflets billowing in the left atrial cavity and endocardial thickening of the left ventricle below the posterior leaflet; multifocal contraction band necrosis of the left ventricle with interstitial acute inflammation; coronary arteries normal. Cause of death: Cardiac arrhythmia due to caffeine toxicity complicating mitral valve regurgitation in the setting of Ehlers-Danlos Syndrome. Manner of death: Natural.

Case 1551. Acute magnesium sulfate ingestion: undoubtedly responsible.
Scenario/Substances: A 4-y/o male with multiple chronic health issues was given magnesium sulfate via his gastric tube to loosen his stools after a period of constipation. Several hours later he was seen in the ED with episodes of diarrhea. The child was known to the care team and was discharged from the ED in stable condition. Eighteen hours later he was found prone in his bed cyanotic and unresponsive. EMS found the patient in cardiopulmonary arrest, initiated resuscitation and transport.
Past Medical History: Premature birth at 24 weeks, cerebral palsy, dysphagia with gastric tube placement, chronic constipation.
Physical Exam: Cardiopulmonary arrest, severely dehydrated, NG tubed returned frank blood.
Laboratory Data: BUN 36, Cr 3.3 Na 179, Cl 139, Ca 10.8, K 7.9, Mg 4.5, AST 196 increased to 1759, ALT 155 increased to 1469.
Clinical Course: Resuscitation efforts for greater than 30 min returned a HR and BP, but the patient remained unresponsive. The poison center was contacted after admission to inquire what was in Epsom salts. The patient remained unstable and expired within hr of admission.
Autopsy Findings: Autopsy revealed severe dehydration with electrolyte imbalances, multiorgan failure and disseminated coagulopathy resulting in massive gastrointestinal and adrenal gland hemorrhage. Additional findings included chronic constipation with an acute severe episode of constipation treated with Epsom salts resulting in severe diarrhea, elevated magnesium level, with antemortem blood and postmortem vitreous chemistries consistent with dehydration. The cause of death was declared due to complications of severe dehydration due to severe diarrhea from treatment (Epsom salts) of chronic constipation as a consequence of debilitation/cerebral palsy/premature birth – 24 weeks.

Case 1577. Acute-on-chronic, metformin ingestion: undoubtedly responsible.
Scenario/Substances: A 61-y/o female presented with nausea and vomiting after ingesting 200 metformin tablets (1,000 mg each) 2 hrs prior to EMS arrival. EMS reported that the patient had vomited at the scene and that pill fragments were noted in the emesis.
Past Medical History: Non-insulin-dependent diabetes mellitus, bipolar disorder, and major depression.
Physical Exam: At 3 hrs post-ingestion BP 79/47, HR 74, RR 14 (mechanically-ventilated), T 33.9°C.
Laboratory Data: EMS measured HCO3 was 19; ABG 12 hrs post-ingestion; pH 6.75/pCO2 $<$ 5; BUN 2, Cr 1.1; acetaminophen and salicylate not detected.
Clinical Course: The patient was resuscitated with intravenous crystalloid and developed ventilatory-dependent respiratory failure, metabolic acidosis, and subsequent hypotension in the ED. At 12 hrs post-ingestion she remained unresponsive and required 3 vasopressors for hemodynamic support. Hemodialysis was initiated after the patient received a total of 14 L crystalloid and 6 doses (50 mEq) of sodium bicarbonate. While receiving hemodialysis, the patient was made comfort measures only; she expired ~17 hrs post-ingestion.
Autopsy Findings: Mild atherosclerosis; lungs with patchy pulmonary edema along with chronic inflammation and emphysematous changes. Postmortem toxicology: metformin 230 mg/L in aortic blood. The medical examiner determined the cause of death to be metformin toxicity.

Case 1580. Acute-on-chronic, insulin parenteral: undoubtedly responsible.
Scenario/Substances: A 71-y/o female was found unresponsive at home. EMS measured glu 15; she received IV dextrose and oxygen and became combative and agitated. GCS improved from 7 to 12 after dextrose. The patient denied being diabetic and was transported to the ED.
Past Medical History: COPD, depression with recent suicidal ideation.
Physical Exam: Unresponsive female, BP 160/98, HR 96, RR 20
Laboratory Data: ABG-pH 7.31/pCO2 40/pO2 172; WBC 13.9,

Na 142	Cl 101	BUN 23	Glu < 15
K 4.2	HCO_3 30	Cr 0.7	

AST 31, ALT 21, Alk phos 75, Bilirubin 0.3, PT 11, PTT 26.6; CK 116; acetaminophen, ethanol, heavy metals and volatiles not detected; C-peptide 0.6 ng/mL (normal range 0.8–3.5 ng/mL). ECG: sinus tachycardia. Day 2: Blood insulin 83.7 uU/mL (normal range 1.9–23.0 uU/mL).
Clinical Course: The patient was sedated with propofol and intubated. Blood glu was labile, requiring multiple doses of 25 g dextrose IV and a dextrose 20% infusion. Octreotide was administered as sulfonylurea ingestion was initially suspected. Hypotension occurred and sedation was changed to lorazepam without improvement. Blood insulin and C-peptide levels were consistent with exogenous insulin administration. The patient developed aspiration pneumonitis and urinary tract infection, was treated with broad spectrum antibiotics but continued to deteriorate with developing poor cardiac output, oliguria, atrial fibrillation and acidosis despite supportive care. Comfort measures were instituted and she was extubated on Day 41 and expired the following day.
Autopsy Findings: Cause of death; cardiorespiratory complications of insulin-induced hypoglycemia.

Case 1585. Acute-on-chronic, unknown/parenteral: undoubtedly responsible.
Scenario/Substances: A 60-y/o male had received treatment for Hepatitis C with IV alpha lipoic acid infusions at a naturopathic physician's office multiple times previously without problems. During the present treatment, he experienced severe muscle aches, back pain, and fever. He was transported to the ED. Of note, another patient receiving the same infusion at the same office also presented to the ED with similar complaints.
Past Medical History: Hepatitis C, cirrhosis, portal hypertension, diabetes, thrombocytopenia.
Physical Exam: Awake, slightly sedated male patient with severe lower back pain, nausea and vomiting and muscle aches. BP 113/72, HR 125, RR 18, T 39.4°C, O2 sat 97% on room air. pupils equal and reactive, lungs clear, abdomen slightly distended with positive fluid wave; Neuro: motor and sensation intact.
Laboratory Data: Day 1: ABG-pH 7.36/pCO2 38/pO2 105

Na 142	Cl 108	BUN 13	Glu 216
K 2.9	HCO_3 16	Cr 1.4	

WBC 6.1, Hgb 8.6, Hct 29, platelets 28, Ca 9.7, Mg 1.9, tot bilirubin 0.8, AST 443, ALT 118, osmol 301, lipase 127, CK 9612, myoglobin 23405, ammonia 279, ferritin 248, transferrin 356, Fe 30. Day 2 ABG-pH < 6.8/pCO2 58/pO2 139; WBC 17.4, Hgb 6.4, Hct 23; Cr 3.5; follow up blood and urine cultures from Day 1 were negative for bacterial growth.
Clinical Course: The patient was admitted to the ICU and remained agitated and restless. Acidosis worsened and was treated with sodium bicarbonate. Hypotension was treated with dopamine unsuccessfully. Soon after intubation the patient became pulseless and was treated with epinephrine, atropine, bicarbonate, and calcium. He regained a pulse but continued to be hypotensive, was treated with multiple pressors and expired on Day 2.
Autopsy Findings: Not available.

Case 1622. Acute-on-chronic, alprazolam and fluoxetine ingestion: undoubtedly responsible.
Scenario/Substances: A 19-y/o female ingested 20–30 alprazolam 1 mg tablets. Her boyfriend reported that she was acting "irrationally" before she took the meds. He found her unresponsive, EMS was called. They found her pulseless and apneic, instituted ACLS resuscitation and intubation. They reported a 10–15 min downtime before a spontaneous HR was regained. She was transported to the ED.
Past Medical History: Bipolar disorder, depression, a previous suicide attempt by cutting her wrists. She was on fluoxetine 40 mg per day and alprazolam 3 mg twice per day. She was known to misuse and abuse the alprazolam.
Physical Exam: Comatose with fixed and dilated pupils, no corneal reflex. HR 91, BP 100/70, T 32.8°C, O_2 sat 100% on 100% FIO_2 on the hypothermia protocol.
Laboratory Data: K 5.7, Lactic acid 1.0, pH 7.21, pCO2 40, pO2 163, HCO3 15.4, O_2 sat 99%, serum acetaminophen, UDS positive for benzodiazepines and THC.
Clinical Course: She was admitted to ICU on a ventilator. Head CT scan showed possible anoxic damage. She was being rewarmed. She was on midazolam, fentanyl, and norepinephrine drips. On neurologic exam, she had no Babinski reflex and no spontaneous respirations, her pupils remained fixed and dilated. On Day 3, a repeat head CT scan showed evidence of diffuse cerebral edema and poor gray white differentiation consistent with early diffuse ischemic changes with an impression of clinical evidence of brain death. A cerebral blood flow study on Day 4 confirmed brain death, preparations were made for her to be an organ donor and she was declared dead.
Autopsy Findings: Cause of death was anoxic encephalopathy from acute alprazolam toxicity. Blood from hospital admission**:** fluoxetine 49 ng/ml (in deaths attributable to fluoxetine overdose, reported blood or plasma concentrations of parent compound and metabolite range from 2,000 to 11,000 ng/ml.), norfluoxetine 47 ng/ml, alprazolam

130 ng/ml (drug concentrations associated with fatality range from 100 to 400 ng/ml (mean 200 ng/ml.))

Case 1732. Acute 2, 5-dimethoxy-4-ethylphenethylamine, ethanol ingestion and inhalation/nasal: undoubtedly responsible.
Scenario/Substances: A 19-y/o male developed agitation and violent behavior 1 hrs after inhaling 2C-E (4-ethyl-2, 5-dimethoxyphenethylamine) at a party where he had also been drinking ethanol. He subsequently collapsed and became unresponsive. He was driven to the hospital by his friends after they attempted CPR for ~30 min.
Physical Exam: Cyanotic male; Pulseless, T 40.4°C,
Laboratory Data: Na 150, HCO2 < 4, Cr 2.1, glu 282; Ethanol: 0.06 mg/dL, lactate 32.6, troponin: < 0.01, INR: 2.1; salicylates and acetaminophen: not detected. UDS: positive for ED administered medications, caffeine and cotinine. Urine sample did not have a similar GC-MS ion scan as the purchased stock standard of 2C-E.
Clinical Course: The patient received 1.6 mg naloxone, 4 mg atropine, 5 mg epinephrine, 3 g Ca, and 250 mEq sodium bicarbonate. Intravenous fat emulsion by bolus of 90 mL of 20% solution was administered at 0.75 hrs after ED arrival. Sustained return of spontaneous circulation occurred during the infusion. He received an additional 150 mEq of sodium bicarbonate and infusions of dopamine and norepinephrine. External cooling was initiated but he developed acute respiratory distress syndrome and disseminated intravascular coagulation. He expired several hours after arrival in the ED.
Autopsy Findings: Bilateral hemothoraces, pulmonary edema with bronchopneumonia, cerebral swelling and subendocardial hemorrhage. The Bureau of Criminal Apprehension confirmed the substance as 2C-E. Cause of death: Resuscitated cardiac arrest following witnessed use of 2C-E.

Case 1740. THC homolog ingestion: probably responsible.
Scenario/Substances: A 19-y/o male presented to the ED with confusion, hallucinations, and muscle rigidity. Two containers of bath salts were found in the patient's possesion.
Past Medical History: History of prior bath salt abuse.
Physical Exam: BP 105/27 HR102.
Laboratory Data: BUN 34, Cr 7.8.
Clinical Course: The patient was initialy treated with supportive measures for sympathomimetic toxicity and related complications. Pulmonary embolism was treated with norepinephrine infusion, vasopressin infusion, benzodiazepines, anticoagulation, and hemodialysis. The patient was intubated, ABG-pH 7.4/pCO2 34/pO2 158, O2 sat 99% on ventilator with 35% FiO_2. HR was in the 60s, systolic BP 110, and the patient remained unresponsive on the ventilator. On Day 2, the patient again received hemodialysis, Cr 2.4. The patient developed rhabdomyolysis and a repeat brain CT showed worsening cerebral edema. He was resuscitated from the first cardiac arrest, but continued to be unresponsive with fixed and dilated pupils, comfort measures were instituted and he expired.
Autopsy Findings: Postmortem urine was positive for the synthetic cannabinoid metabolite JWH-018 N-(5-hydroxypentyl). No other synthetic cannabinoid metabolites were detected.

Case 1746. Acute-on-chronic benzylpiperazine, lorazepam, marijuana, ingestion, unknown: undoubtedly responsible.
Scenario/Substances: An ICU nephrologist reported a patient thought to have ingested "bath salts" but later possibly thought to have been "transformers."
Physical Exam: Agitated female
Laboratory Data: ABG-pH 7.29, WBC 2.5, lactate 8.9 mmol/L,

Na 118			Glu 168
K 2.5	HCO_3 17		

CK 834, myoglobin > 1000, salicylate 2.9 mg/dL, acetaminophen not detected.
Clinical Course: The patient was sedated with propofol, intubated and given sodium bicarbonate infusion for the acidosis. The patient was admitted to the ICU where she remained mechanically ventilated and sedated with no gag reflex and apneic off the ventilator. Follow up labs: ABG-pH 7.32/pCO2 41/pO2 128, Ca 7.3, Mg 2.0,

Na 126	Cl 91	BUN 6	Glu 119
K 3.8	HCO_3 23	Cr 1.2	

AST 2638, ALT 3606, WBC 14.2, Hgb 12.1, Hct 35, platelets 108, PT 30.3, INR 2.9, PTT 43.6, fibrinogen 208, d-dimer 18.3 mcg/mL. A hypothermic protocol was initiated; 2 cold caloric tests were administered without positive results, EEG showed no brain activity; the patient expired on Day 3.
Autopsy Findings: The brain was severely swollen and softened; the cerebellar tonsils and medulla were necrotic; microscopic examination of the heart showed focal hemorrhagic infarcts in the papillary muscles; there was bronchopneumonia in the lungs, the liver showed early centrilobular necrosis. Antemortem blood concentrations showed cannabinoids, lorazepam and 5-methoxy-N, N—diisopropyltryptamine (quantified at 27 ng/mL). The cause of death was attributed to severe hyponatremia, and acute and chronic drug intoxication, including 5-methoxy-N,N-Diisopropyltryptamine. The manner of death was concluded to be the accidental ingestion of illicit drugs.

Case 1756. Acute methamphetamine unknown: undoubtedly responsible.
Scenario/Substances: 22-y/o male presented to the ED ~16 hr after using methamphetamine. He was initially agitated with tachycardia and diaphoresis then became lethargic and hypotensive.
Past Medical History: Methamphetamine use.
Physical Exam: Initially diaphoretic with, HR 200, T 37.7°C.

Laboratory Data: UDS positive for methamphetamine; ECG sinus tachycardia with a QRS of 199, QTc 357. CxR suggested bilateral aspiration versus ARDS.
Clinical Course: Patient was agitated and diaphoretic. He received a total of 10 mg of IV lorazepam and then became lethargic and lost his airway. He was endotracheally intubated and then developed hypotension with a mean arterial pressure of 40. He was given 2 liters of IV fluids and started on norepinephrine. He was placed on a cooling blanket and sedated with additional benzodiazepines. On norepinephrine and dopamine BP 90/47, HR 148, T 38.4°C. Patient remained hypotensive and febrile, then suffered a cardiac arrest and died. A subsequent report from his sister suggested that he had swallowed a plastic bag containing methamphetamine the night before, for unclear reasons.
Autopsy Findings: Intoxication by methamphetamine. Premortem blood methamphetamine 5.63 mg/L, amphetamine 0.16 mg/L, lorazepam 60 ng/mL. Postmortem femoral blood positive for meperidine.

Case 1759. Acute methylone, dextromethorphan, THC homolog, salvia ingestion: undoubtedly responsible.
Scenario/Substances: A 23-y/o, 109 kg male was found in a public area confused and acting erratically. Police were unable to restrain him; the patient was handcuffed prior to transportation to the ED for psychiatric evaluation. Substances labeled Salvia albocaerulea and K2 (herbal blend) were found on the patient.
Physical Exam: In the ED, BP 76/35, HR 145, RR 40, O2 sat 92% (on room air), core T 41.1°C. Combative diaphoretic male with altered mental status requiring restraints. Pupils were unequal and non-reactive; there was blood in his mouth due to a tongue laceration.
Laboratory Data: ABG-pH 7.4/pCO2 22/pO2 207 (non rebreather mask). Ca 9.8, AST 74, ALT 40,

Na 141	Cl 99	BUN 18	Glu 49
K 6.0	HCO_3 19	Cr 2.7	

serum osmolality 313; WBC 9.0, Hgb 15, Hct 45, platelets 210; CK 2518, CKMB 17.3, myoglobin > 500 NG/ML, troponin 0.18, PT 11.3, INR 1.1, PTT 21.5; procalcitonin 0.99 ng/ml; acetaminophen and salicylate not detected; UDS negative.
Clinical Course: The patient received IV saline and naloxone (no response) and, due to declining respiratory status, was given vecuronium, intubated and placed on a ventilator. His tongue laceration was sutured prior to having a seizure while in the CT scanner for which he received lorazepam. After central line access was obtained he received norepinephrine, sodium bicarbonate, and electrolyte replacements. A cooling blanket and ice packs were placed. Subsequently he was given levetiracetam, more bicarbonate, phenylepherine, dantrolene, IV hydrocortisone injection and kayexalate. While in the ED, the patient had 4 asystole arrests, was resuscitated and was transferred to the ICU unresponsive. BP 70 s systolic, HR 150 (sinus) with continued IV fluids and pressors. He also received vasopressin, epinephrine, packed RBCs, platelets, vitamin K, one dose of physostigmine, 2 doses of methylene blue and an insulin infusion. Two additional cardiac arrests occurred; he was unable to be resuscitated from the second and he expired on Day 2.
Autopsy Findings: Premortem: dextromethorphan (free and total) 0.02 mg/L; methylone concentrations (hours) were 70 mg/L (0), 0.66 mg/L (3), 0.60 mg/L (8), 0.61 mg/L (13), 0.62 mg/L (25). Postmortem methylone concentrations: 0.84 mg/L peripheral blood, 1.0 mg/L heart blood, 1.4 mg/L ocular blood, 12 mg/L gastric contents, 0.55 mg/L urine. Cause of death: Intoxication by methylone. Manner of death: Accidental.

Case 1762. Unknown, methamphetamine ingestion: undoubtedly responsible.
Scenario/Substances: A 23-y/o male was arrested and spent the night in a holding cell. The next morning he was agitated and received lorazapam 1 mg the evening before admission to the hospital, and 1 mg in the morning at the jain. EMS was called when he became lethargic and found a HR 180. EMS gave lorazepam 1 mg and naloxone 4 mg without response. He was brought to the ED ~20 hrs after ingestion. He was thought to have ingested 2 methamphetamine "eight balls" the previous day.
Physical Exam: In the ED he was unresponsive with increased muscle tone, BP 83/28, HR 173, RR 40, T 42.0°C (tympanic), diaphoretic, sclerae injected, abdomen: nondistended and nontender.
Laboratory Data: ABG-pH 7.2/pCO_2 54/pO_2 258, WBC 7.1, Hgb 15.2, platelets 136, EKG: Sinus tachycardia at 171, QRS 112, QTc 502.

Na 136	Cl 102	BUN 15	Glu 158
K 5.6	HCO_3 19	Cr 2.0	

calcium 8.2, total bilrubin 0.5, AST 40, ALT 29, Mg 2.1, UDS positive for THC, amphetamines, methamphetamine, and benzodiazepines. Head CT No acute changes.
Clinical Course: The patient was intubated in the ED. He was cooled with ice packs, a cooling blanket, bladder irrigation, and fans, with reduction in T. He was admitted to the ICU where he required vasopressors to maintain BP. He developed DIC with PT > 100. Despite treatment with antibiotics, fresh frozen plasma, and platelets he died Hour 26.
Autopsy Findings: No evidence of trauma. Bilateral hemorrhagic pulmonary edema, acute cerebral edema with bilateral herniation of the cerebellar tonsils and hippocampal gyri. Postmortem blood amphetamine level 0.67 mcg/mL, metamphetamine 22 mcg/mL.

Case 1765. Acute methylone, amphetamines and Synthetic Stimulants, codeine ingestion: undoubtedly responsible.
Scenario/Substances: 24-y/o female ingested "ecstasy" at an electronic music festival. She reportedly had a seizure. EMS found her minimally responsive, HR 132, BP 80/60, administered 5 mg diazepam IV x 2
Past Medical History: Psoriasis

Physical Exam: BP 98/38, HR 159, RR 34, T 41.8°C (oral). Pupils 6 mm equal and minimally reactive, some saliva frothing at the mouth, bilateral rales in all lung fields without wheezes, abdomen unremarkable, flaccid upper extremities and increased tone in the lower extremities with bilateral ankle clonus, withdrew to pain, but was otherwise unresponsive.
Laboratory Data: ABG-pH 7.31/pCO_2 35/pO_2 280/HCO_3 18.1, O2 sat: 100%, lactate 1.9 mMol/L, Troponin I: 0.875.

Na 148	Cl 104	BUN 11	Glu 198
K 5.0	HCO_3 23	Cr 1.9	

PTT 23.6, PT 11.1, INR 1.04, urine methylone and butylone confirmed by GC/MS
Clinical Course: In the ED, the patient was nasotrachealy intubated and active cooling measures were begun with ice packs. Hyperactivity and hyperthermia were treated with 2 mg lorazepam and 8 mg midazolam, and she was admitted to the ICU. Head CT was unremarkable. She developed epistaxis and oozing from all IV sites consistent with DIC, and she received packed RBCs and FFP. On Day 2 she she was resuscitated from a PEA arrest, epistaxis and bleeding from her IV sites continued, hypotension required 3 pressors multiple blood products. Based on the prognosis the family opted for institution of comfort measures and he expired on Day 3.
Autopsy Findings: A pill found in her clothing had a powder mass was 619 mg of which 422 mg (68%) was methylone. Butylone was present, but quantation lacked a reference standard. Methylone and ethylone were found in high concentrations in the patient's urine. Autopsy revealed evidence of coagulopathy, fatty liver and anoxic encephalopathy. Cause of death was accidental, secondary to serotonin syndrome.

Case 1772. Amphetamines (synthetic stimulants) inhalation/nasal: undoubtedly responsible.
Scenario/Substances: A 26-y/o male found attempting to enter a stranger's home after using bath salts; he was delirious and eating dirt.
Past Medical History: IV drug abuse.
Physical Exam: Combative, confused patient, shortly after ED arrival had seizures and cardiac arrest. Resuscitated to a tachyarrhythmia (HR 240), was cardioverted successfully but became hypotensive. T (rectal) 41.8°C.
Laboratory Data: UDS**:** positive for amphetamines, benzodiazepines, opiates and marijuana. At tertiary HCF: pH 7.14, HCO3 11.3, K 3.0, Cr 2.8, CK 64670, CKMB 119, AST 2209, ALT 825, lactate 5.4, troponin I 2.260, WBC 16.2, Hgb 11, Hct 32, platelets 74, urine myoglobin 115 ng/mL, serum myoglobin > 30000 ng/mL; PT 47, PTT 90, INR 8.1, d-dimer > 20 mcg/mL. Day 2 pH 7.08, PCO2 54, K 2.2, Cr 4.6, WBC 14.7, CK 43391, AST 3891 ALT 1889, lactate 5.9, CKMB 163, CK 59070. Day 3 pH 7.0, pCO2 33, Cr 5.2, INR 9.6, platelets 39, lactate 7.6, CKMB 126, CK 43504, AST 10232, ALT 5894.
Clinical Course: After experiencing uncontrollable jerking movements, the patient was transferred to a tertiary HCF where lorazepam, fentanyl and flumazenil were administered. CT head revealed diffuse brain swelling with compression of the ventricular system. He continued to be unresponsive with ARF (acute respiratory failure), severe acidosis, acute kidney injury, DIC, rhabdomyolysis, aspiration and hypokalemia. On Day 3 comfort measures only were instituted and the patient expired that day.
Autopsy Findings: Bilateral hemorrhagic infarction of lung, acute bronchopneumonia with congestion and edema, diffuse hepatic centrilobular necrosis, acute renal tubular necrosis, and diffuse cerebral and cerebellar acute hypoxic changes. Brain findings were consequences of "Excited Delirium Syndrome" associated with MDPV. Blood concentrations: (antemortem) 3,4 methylenedioxypyrovalerone (MDPV) 67 ng/mL; urine concentrations: 3,4 methylenedioxypyrovalerone 4.1 mcg/mL.

Case 1786. Acute THC homolog, caffeine, lidocaine ingestion: undoubtedly responsible.
Scenario/Substances: A 29-y/o, 78.6 kg male started shaking and appeared to faint within 15 min of drinking protein shake powder mixed in creatine water. A friend identified the product as K2 (black incense). EMS on scene witnessed the patient having seizures and administered midazolam 2 mg twice during transport to ED.
Physical Exam: Pulseless, CPR and ACLS in progress in ED. Post resuscitation BP 151/78, HR 133, RR (ventilator) 20, T 37.0°C.
Laboratory Data: ABG-pH 6.76/pCO2 90/pO2 369, O2 sat 98% on 45% FIO2

Na 144	Cl 103	BUN 21	Glu 217
K 3.5	HCO_3 14	Cr 1.5	

Ca 10.4, AST 36, ALT 20, WBC 14.5, Hgb 14.6, Hct 46, platelets 416, CK 154, CKMB 2.4 ng/mL, troponin 0.04, ammonia 25, lactate 7.9, PT 16.3, INR 1.32, PTT 27.1, acetaminophen, salicylate, and ethanol not detected on UDS. Lidocaine 2.1 mcg/mL.
Clinical Course: The patient received lorazepam, naloxone, epinephrine, bicarbonate infusion, atropine and was intubated to protect his airway. He remained unresponsive, received intravenous fluids, antibiotics, dexamethasone, nicardipine, esomolol, and TPN. Initial head CT scan was negative; Day 2 repeat CT showed diffuse cerebral edema, without hemorrhage or herniation. Coma persisted for 36 hrs without brainstem reflexes. Family instituted comfort measures only and the patient expired on Day 5.
Autopsy Findings: Anoxic encephalopathy and cerebral edema, pulmonary congestion and edema, myocardial infarction and rhabdomyolysis. Blood Drug Screen from initial blood draw on hospital admission: caffeine 67 mcg/mL, lidocaine 9.6 mcg/mL, monoethylglycinexylidide 3.6 mcg/mL. A specimen of a white crystalline powder in a black plastic bottle labeled as creatine monophosphate detected lidocaine and caffeine by GC/MS, and cocaine and caffeine by LC/MS/MS. Cause of Death: Complications of caffeine and lidocaine ingestion; Manner of Death: Accidental.

Case 1811. Acute methamphetamine inhalation/nasal: undoubtedly responsible**.**
Scenario/Substances: A 33-y/o male who was known to be smoking "ice" was transported to the ED by the county sheriffs. He was combative but responsive during transit but became unresponsive when reaching the hospital.
Physical Exam: Diaphoretic, agitated male, unresponsive to verbal commands; BP 99/33, HR 150, RR 24, O2 sat 98% on room air.
Laboratory Data: 11.8, AST 50, ALT 42, ethanol 5.0 mg/dL,

Na 151	Cl 108	BUN 29	Glu 134
K 4.4	HCO_3 21	Cr 3.0	

UDS positive for amphetamines and THC, salicylate and acetaminophen not detected; CKMB 3.3, myoglobin 1179 ng/ml, troponin 0.08; ECG: sinus tachycardia at 161, QTc 418, QRS 78.
Clinical Course: 30 min after arrival, BP 180/60, HR remaining >140. The patient received IV saline and lorazepam 2 mg for agitation and tachycardia with minimal response. He was then started on a fentanyl drip. ~2 hrs later he was intubated. Post-intubation ABG-pH 7.32/pCO2 35/pO2 163. "Posturing" was noted ~2 hrs later, the fentanyl drip was discontinued and the patient had a fatal asystole cardiac arrest. Axillary temperature at time of death was 36.7°C.
Autopsy Findings: Cause of death: methamphetamine overdose. Postmortem serum methamphetamine 4.1 mg/L.

Case 1820. Acute amphetamines (synthetic stimulant) exposure: undoubtedly responsible.
Scenario/Substances: A 34-y/o male was brought to the ED by EMS for agitated delirium. No exposure history was available, but the agitated delirium was suspected to be from exposure to "bath salts" (synthetic stimulant), because the presentation occurred during an epidemic of exposures with similar presentations.
Laboratory Data: PT > 120, INR > 10, AST 525, ALT 180, CK 16,408, Hgb 14.2, platelets 58, EtOH 24 mg/dL, UDS positive for THC and opiates.
Clinical Course: In the ED HR 180, BP 200/120, T 42.2°C (rectal), disoriented, agitated and dangerously uncooperative. The patient was sedated, endotracheally intubated, ventilated, placed on a cooling blanket, and admitted to the ICU. In the critical care unit, the patient had disseminated intravascular coagulation with oozing from all puncture sites. He received transfusions of blood and plasma. Six hr after admission his T was down to 39.2°C; HR 123, BP 63/25. IV fluid resuscitation was continued but the patient expired in hour 17.
Autopsy Findings: Autopsy: hypertensive cardiovascular disease with cardiomegaly, left ventricular hypertrophy, and nephrosclerosis, pulmonary edema, fatty liver, cerebral edema, and an incidental thyroid nodule. Cause of death was acute intoxication by methylenedioxypyrovalerone (synthetic stimulant. Autopsy also confirmed the presence of lorazepam, morphine and oxycodone.

Case 1831. Acute-on-chronic, amphetamines (synthetic stimulant) exposure: undoubtedly responsible.
Scenario/Substances: A 36-y/o male presented to the ED in cardiac/respiratory arrest following use of an unknown amount of "White Rush Bath Salts" (synthetic stimulant). History was provided by his girlfriend.
Past Medical History: Tourettes, bipolar disease, migraine headaches, and substance abuse. Routine medications included: lithium, venlafaxine, and quetiapine.
Physical Exam: He was apneic, pulseless, pupils were fixed and dilated, his jaw tightly clenched, and abdomen distended. His skin was cool, dry, and deeply cyanotic with moderate dependent lividity, lower extremity joints stiffness suggesting early rigor mortis.
Clinical Course: The patient was given 3 mg epinephrine and 4 mg atropine IV prior to arrival without improvement. He was pronounced dead on arrival to the ED.
Autopsy Findings: The patient's heart had mild to moderate atherosclerosis with chronic inflammation, but was otherwise unremarkable. Urine methylenedioxypyrovalerone >400 ng/ml, mephedrone not detected. Serum venlafaxine 3105 ng/ml, desmethylvenlafaxine 1121 ng/ml, lithium 0.22 mEq/L, quetiapine 5264 mg/ml, tetrahydrocannabinol 2.2 ng/ml, carboxy-THC 17.9 ng/ml. No other substances were found. The cause of death was ruled MDPV intoxication with atherosclerotic disease. State police visited the store where he purchased the product and obtained a sample of the brand, which was analyzed and found to contain only MDPV.

Case 1841. Acute methamphetamine injection and ingestion: undoubtedly responsible.
Scenario/Substances: A 38-y/o male was found by police in his parked car on a country road with his IV drug paraphernalia. Crystalline material found at the scene tested presumptive positive for methamphetamine. Initially he appeared high, was cooperative and answered questions appropriately, but 3 hr later, after booking, he developed muscle stiffness, diaphoresis, high HR and inablility to answer questions. He was transported to the ED by EMS ~2 hr later.
Past Medical History: Illicit drug use including IV drug use. He was released on drug charges from jail 2 weeks prior.
Physical Exam: In the ED he admitted to injecting drugs, was diaphoretic, had mydriasis, sinus tachycardia to 190, and BP 151/71 and initially was afebrile. He was treated with IV fluids and lorazepam. While in the ED, he became obtunded, had visual hallucinations, tachypnea (RR 30–40), and hypotension (70/-). He was intubated, a central line was placed, and norepinephrine initially stabilized BP 100–110/-. His T climbed to T 39.6°C treated with a cooling blanket and IV midazolam, but only intermittent neuromuscular paralysis.
Laboratory Data: on admission: Ca 9.1, Mg 2.1,

Na 146	Cl 108	BUN 16	Glu 134
K 4.8	HCO_3 24	Cr 1.67	

Amylase 108, AST 53, ALT 112, albumin 4.2, CK 338, CKMB 5.1, troponin1 0.06, UDS positive for amphetamines but negative for other common drugs of abuse; Hour 6 CK 12,744, troponin I 33.1; Hour 13, ABG-pH 7.07/CO2 42/O2 332, FiO2 100%.
Clinical Course: Progressive severe hypotension ensued, despite maximal use of norepinephrine, phenylephrine, albumin and volume administration guided by central venous pressure monitoring. He developed metabolic acidosis, myonecrosis, rhabdomyolysis and oliguria. Echocardiogram showed an EF of 27% and global hypokinesis. He was intubated, ventilated, given sodium bicarbonate. During the night, his HR decreased and he developed asystole. CPR efforts failed and he was pronounced dead Hour 23.
Autopsy Findings: Two plastic bags were found in the stomach and these contained methamphetamine. Antemortem blood sample (untimed) from hospital showed an amphetamine 70 ng/mL, methamphetamine 5775 ng/mL. Postmortem heart blood methamphetamine 34,450 ng/mL, amphetamine 207 ng/mL. GC/MS analysis was positive for caffeine, but was negative for other drugs including benzodiazepines, cocaine, opiates, cannabinoids, carisoprodol, and oxycodone.

Case 1845. Acute amphetamines (synthetic stimulant) exposure: undoubtedly responsible.
Scenario/Substances: A 39-y/o male was brought to the ED after being found outside partially clothed, combative and agitated after admitting to using "bath salts" (synthetic stimulant).
Past Medical History: ethanol abuse, substance abuse, depression and chronic back pain.
Physical Exam: Agitated, extremely combative, diaphoretic, BP 157/74, HR 103.
Laboratory Data: Urine toxicology: positive for PCP and benzodiazepines.
Clinical Course: Patient received diazepam and lorazepam, which briefly decreased his agitation which returned with "psychotic behavior, diaphoresis and ataxia. HR 116. He refused lorazepam IV and received lorazepam and promethazine orally instead. He also was given diphenhydramine by mistake instead of benzodiazepine. He was admitted to telemetry monitoring ~5 hrs after presentation to the ED. Shortly thereafter he became unresponsive, hyperthermic with HR 200, RR 20 and was transferred to the ICU where T 41.4°C, with jerking movements of the extremities; he was intubated and external cooling measures were started. VT developed and he received amiodarone and diltiazem. HR decreased to 58. At 12 hrs after ED admission he had cardiac arrest and expired.
Autopsy Findings: Neuropathology was unremarkable; Lungs: parenchyma congested with red-purple exuding moderate amounts of bloody fluid; Liver: capsule was smooth, moderately congested parenchyma with no focal lesions. Postmortem toxicological analysis: methylenedioxypyrovalerone (MDPV) 1.0 mg/L in peripheral blood; mephedrone and phenycyclidine not detected; methcathinone not assayed. Cause of death: MDPV intoxication. The manner of death: accidental.

Case 1851. Acute amphetamine (synthetic stimulant), trimethoprim, and ethanol inhalation/nasal, parenteral: undoubtedly responsible.
Scenario/Substances: A 40-y/o male was found agitated, naked, and delusional and running around after using a "bath salts" (synthetic stimulant). He required 2 applications of an electroshock device to control before being brought to the hospital.
Past Medical History: Bipolar disorder and drug abuse. Medications reported as quetiapine, methadone, temazepam and 10/650 mg hydrocodone/acetaminophen.
Physical Exam: Agitated, yelling incomprehensibly, male patient; BP 131/72, HR 164, RR 24, T (oral) 36.7°C, O2 sat 100% on a non-rebreather; Pupils dilated.
Laboratory Data:

Na 142	Cl 101	BUN 16
K 3.0	HCO_3 20	

UDS: positive for opiate, negative for cocaine, phencyclidine, amphetamine, tetrahydrocannabinol, benzodiazepines and barbiturates; salicylates 4.1 mg/dL, acetaminophen and ethanol not detected; INR 1.0, CK 234, AST 19, ALT 36. 5 hrs later: Venous blood gas; pH 7.2/pCO2 39/pO2 35; HCO3 16.2, AST 869, ALT 738, PT 47.2, INR 4.2, CK 14,839, Hgb 11.5, platelets 56, troponin I 5.22, lactate25.5. 10 hrs after presentation: ABG-pH 7.14/pCO2 30/pO2 119; HCO3 10; LDH 11,108, TSH 2.21 mIU/L with a free thyroxin of 1.10 ng/dL, factor VIII assay 31%, ammonia 150 umol/L. At 24–28 hrs: Hgb 7.1, platelets 11, AST 10873, ALT 6629, CK 75,952, INR > 9.3.
Clinical Course: Shortly after arrival in the ED, the patient was placed on a cardiac monitor and developed bradycardia and subsequent cardiac arrest. He received 2 doses of 1 mg epinephrine and 1 mg atropine, as well as 100 mg lidocaine, 2 mg of naloxone and 0.5 mg of flumazenil IV. After 30 min, he had return of spontaneous circulation; dopamine and phenylephrine infusions were started for hypotension. T (rectal) 40.8; GCS 3; his pupils were dilated. He was given IV fluids (7 L NS) and transferred to a tertiary care center. At the second HCF he remained hypotensive; norepinephrine was initiated, T 37.9°C, HR 114, RR 32 (ventilator rate set at 20), O2 sat was100%. He responded to painful stimuli; pupils were minimally reactive to light, gag reflex was present. Needle marks were noted on the patient's arms and the patient was oozing from his IV sites. ECG: HR 53 with peaked T waves, QRS 158 and QTc 420. He was treated for hyperkalemia (K 8.0) with 1 g Ca gluconate, 10 U insulin, 50 g dextrose and 50 mEq sodium bicarbonate. He developed worsening metabolic acidosis and rhabdomyolysis with oliguria then anuria; antibiotics were initiated for a right upper lobe consolidation. Subsequently he developed DIC and melanotic stools. Phytonadione, and multiple blood products were given and he received hemodialysis. Head CT showed cerebral edema and anoxic injury; EEG: anoxic injury and ultimately the patient was declared brain dead. Comfort measures were initiated and he expired ~42 hrs after presentation.
Autopsy Findings: Not performed. Antemortem blood from first HCF: MDPV 0.31 mg/L, other samples from the second

HCF: MDPV urine: 670 ng/mL; serum 82 ng/mL. Trimethoprim: urine 12 mcg/mL; serum 2.2 mcg/mL. Clonazepam 0.006 mg/L,7-aminoclonazepam not detected; methadone, hydrocodone, cocaine, ethanol, and gabapentin not detected. Cause of death: excited delirium secondary to MDPV ingestion.

Case 1917. Acute methamphetamine and phencyclidine ingestion: undoubtedly responsible.
Scenario/Substances: A 51-y/o male was arrested for drug possession. While in custody, he became agitated and belligerent. He also had an episode of bowel incontinence, during which he passed a 2-gram baggie of methamphetamine. EMS was called for transport to an ED. While in the ambulance bay at the hospital, the patient was undressing and speaking "gibberish" when he suddenly became unresponsive, pulseless, and was found to be in PEA arrest.
Past Medical History: Chronic hepatitis C.
Physical Exam: The patient was covered in feces, GCS 3, pupils 5 mm fixed and dilated, T 40.2°C (rectal).
Laboratory Data: HCO_3 20, anion gap of 19, lactate 13.1 mmol/L, AST 61, ALT 123, PT 15.7, INR 1.3. Initial ABG-pH 7.03/pCO2 63/pO2 333/HCO3 16.5/BE 14.4.
Serum acetaminophen and salicylates were not detected. UDS positive for amphetamine and methamphetamine, cocaine and/or metabolites, and phencyclidine (all confirmed by GC-MS).
Clinical Course: Intubation, CPR and epinephrine 1 mg IV × 2 restored a HR 30–40 after about 5 min. He then had another episode of PEA arrest. After atropine 1 mg IV × 3 and epinephrine 1 mg IV spontaneous circulation returned, although with persistent hypotension, for which he was started on dopamine and norepinephrine. He was admitted to the ICU, where he remained comatose without any pupillary, corneal, cough or gag reflex. A head CT showed significant diffuse cerebral edema with loss of gray-white junction and herniation into foramen magnum. No significant abnormalities were identified on abdominal/pelvic CT scan. On Day 2 he was determined to be brain dead, based on an apnea test, the brainstem reflex exam, and isoelectric EEG. BP could not be maintained despite maximum pressor doses, he expired.
Autopsy Findings: 1) Marked cerebral edema with uncal herniation; 2) marked pulmonary edema; 3) evidence of systemic hypertension: mild cardiomegaly, concentric left ventricular hypertrophy, slight arterionephrosclerosis; 4) chronic viral hepatitis (anamnestic). Postmortem toxicology report from peripheral blood were positive for methamphetamine 21,000 ng/ml, amphetamine 700 ng/ml and phencyclidine 64 ng/ml. The cause of death was acute methamphetamine, amphetamine, and phencyclidine intoxication.

Abbreviations & Normal ranges for Abstracts

Disclaimer – all laboratories are different and provide their own normal ranges. Units and normal ranges are provided here for general guidance only. These values were taken from Harrison's,[10] Goldfrank[11] or Dart.[12]

Serum electrolyte summary table.

Sodium [136–146]	Chloride [102–109]	BUN [7–20] mg/dL	Glucose [75–110] mg/dL
Potassium [3.5–5]	Bicarbonate [22–26]	Creatinine [0.5–1.2] mg/dL	

serum electrolytes have units of mEq/L = mmol/L

~ = approximately

ABG-pH/pCO_2/pO_2/HCO_3/BE

ABG	= arterial blood gases
ABG-pCO_2	= partial pressure of carbon dioxide [38–42]
ABG-pH	= hydrogen ion concentration [7.38–7.42]
ABG-pO_2	= partial pressure of oxygen [90–100]
ACLS	= advanced cardiac life support, protocol for the provision of cardiac resuscitation
AICD	= automatic implanted cardiodefibrillator
Alk phos	= alkaline phosphatase [13–100] U/L
ALT	= Alanine aminotransferase [7–41] U/L = (SGPT)
AMA	= against medical advice
Ammonia	= [25–80] mcg/dL = [15–47] mcmol/L
amp	= ampoule
APLS	= advanced pediatric life support, protocol for the provision of cardiac resuscitation
ARDS	= acute respiratory distress syndrome
AST	= Aspartate aminotransferase [12–38] U/L = (SGOT)
AVblock	= atrio-ventricular block
BAL	= British anti-Lewisite
BE	= base excess, mmol/L
Bicarbonate	= [22–26] mEq/L
Bilirubin	= total [0.3–1.3] mg/dL, direct [0.1, 0.4] mg/dL, indirect [0.2, 0.9] mg/dL
BLQ	= below the limit of quantitation
BMI	= body mass index
BP	= Blood Pressure, systolic/diastolic, (Torr)
BUN	= see Urea nitrogen
C	= degrees Centigrade
Ca	= calcium, [8.7–10.2] mg/dL
CABG	= coronary artery bypass graft
CAD	= coronary artery disease
CIWA	= Clinical Institute Withdrawal Assessment for Alcohol
CK	= creatinine kinase (CPK), total: [39–238] U/L females, [51–294] U/L males
CKMB	= MB fraction of CK [0.0–5.5 mcg/L = 0.0–5.5 ng/mL]
Fraction of total CK activity [0–0.04 = 0–4.0%]	
Cl	= chloride [102–109] mEq/L
CNS	= central nervous system
COHb	= carboxyhemoglobin
COPD	= chronic obstructive pulmonary disease
CPR	= cardio pulmonary resuscitation
Cr	= creatinine [0.5–0.9] mg/dL females, [0.6–1.2] males
CRRT	= continuous renal replacement therapy

CSF	= cerebrospinal fluid
CT	= computed tomography (CAT scan)
CVA	= cerebrovascular accident
CVVHD	= continuous venovenous hemodiafiltration
CxR	= chest radiograph, chest xray
D10W	= 10% dextrose in water
D50W	= 50% dextrose in water
D5NS	= 5% dextrose in normal saline
D5W	= 5% dextrose in water
Day	= when capitalized, Day = hospital day, i.e., days since admission
DIC	= disseminated Intravascualar coagulation
Dx	= diagnosis
ECG	= electrocardiogram (EKG), leads = I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
ECMO	= extracorporeal membrane oxygenation
ED	= emergency department, in these abstracts refers to the initial health care facility
EDDP	= principal methadone metabolite, 2-ethylidene-1,5-dimethyl-3, 3-diphenylpyrrolidine
EEG	= electroencephalogram
EF	= ejection fraction
ELISA	= enzyme-linked immunosorbent assay
EMS	= emergency medical services, paramedics, the first responders
ER	= extended release (sustained release)
FFP	= fresh frozen plasma
FiO_2	= fraction of inspired oxygen
g	= grams
g/dL	= grams per deciliter
GCS	= Glasgow Coma Score, ranges from 3 to 15
GERD	= gastroesophageal reflux disease
GI	= gastrointestinal
Glu	= glucose, fasting [75–110] mg/dL
HCF	= health care facility
HCG	= human chorionic gonadotropin test for pregnancy
HCO_3	= bicarbonate
HCP	= health care provider
Hct	= hematocrit [35.4–44.4] females, [38.8–46.4]% males
Hgb	= hemoglobin [12.0–15.8] g/dL females, [13.3–16.2] g/dL males
HIV	= human immunodefficiency virus
Hour	= when capitalized, Hour = hours since admission
HR	= HR, beats per min
hrs	= hours
ICU	= intensive care unit
IgE	= immunoglobulin E
IM	= intramuscular
INR	= international normalized ratio (PT to control) [0.8–1-2]
IU/L	= international units per Liter
IV	= intravenous
K	= potassium, [3.5–5] mEq/L
kg	= kilogram
L	= Liter
Lactate	= lactic acid [4.5–14.4] mg/dL arterial, [4.5–19.8] mg/dL venous
LBBB	= left bundle branch block on ECG
Leukocyte count	= white blood count [3.54–9.06] $10^3/mm^3$
m/o	= months old
MAP	= mean arterial pressure
mcg/dL	= micrograms per deciliter
mcg/L	= micrograms per Liter
mcg/min	= micrograms per minute
mcg/mL	= micrograms per milliliter
mcmol/L	= micromoles per liter
MDA	= 3,4-methylenedioxyamphetamine
MDMA	= methylenedioxymethamphetamine (ecstasy)
ME	= medical examiner
mEq	= milliequivalents
mEq/L	= milliequivalents per Liter
Mg	= magnesium [1.5–2.3] mg/dL
mg	= milligrams
mg/dL	= milligrams per deciliter
mg/kg	= milligrams per kilogram
mg/L	= milligrams per Liter
min	= minutes
mmol/L	= millmoles per Liter
mosm/kg	= milliosmoles per kilogram
mosm/L	= milliosmoles per Liter
MRI	= Magnetic Resonance Imaging
ms	= milliseconds

Narrative Headers:

Scenario/Substances: concise narrative of EMS & pre-HCF events
Past Medical History: available relevant past medical history
Physical Exam: initial physical exam if available
Laboratory Data: initial results, give units except for units given in abbreviations
Clinical Course: concise narrative of HCF & beyond with outcome

Autopsy Findings:	= medical examiner and/or autopsy results
NG	= nasogastric
ng/mL	= nanograms per milliliter
not detected	= analyte below the level of quantitation, negative
NPO	= nil per os, nothing by mouth
NS	= normal saline
O_2 sat	= oxygen percent saturation [94–100]% at sea level
OR	= operating room
Osm	= osmole
PALS	= pediatric advanced life support
PC	= poison center (= PCC, or Poison Control Center)

PCC	= prothrombin complex concentrate
PCP	= primary care provider
PEA	= pulseless electrical activity
PEEP	= positive end expiratory pressure
PICU	= pediatric intensive care unit
Platelets	= platelet count [150–400] $\times 10^9$/L
PO	= per os ("by mouth" in Latin)
Potassium	= [3.5–5] mEq/L
Ppm	= parts per million
PR	= P-R interval [120–200] msec on the ECG
prn	= as needed
PT	= prothrombin time, INR is preferred, but PT may be used if INR is not available
PTA	= Prior to admission
PTT	= partial thromboplastin time [26.3–39.4] sec
QRS	= ECG QRS complex duration [60–100] msec
QT	= Q to T interval on the ECG waveform, varies with HR
QTc	= QT interval corrected for HR, usually $QTcB = QT/RR^{½}$ (Bazett correction) 1–15 y-o [< 440] msec, adult male [< 430] msec, adult female [< 450] msec
RBBB	= right bundle branch block on ECG
RBC	= red blood cell(s)
RR	= respiratory rate, breaths per minute
s/p	= status post
sec	= seconds
SL	= sublingual
SVT	= supraventricular tachycardia
Synthetic Stimulant	= one or more of the products (6-APB, bath salts, plant food, Bliss, Ivory Wave, Purple Wave, Vanilla Sky, et al) or chemicals (3,4 methylenedioxypyrovalerone [MDPV], 6-(2-aminopropyl)benzofuran [6-APB], butylone, desoxypipradrol [2-DPMP], ethylone, flephedrone, naphyrone, mephedrone, methylenedioxypyrovalerone, methylone, methcathinone, et al)
T (oral)	= Temperature (oral) [36.4, 37.2]°C or
T (rectal)	= Temperature (rectal) [36.4, 37.2]°C or
T (tympanic)	= Temperature (tympanic) [36.4, 37.2]°C
THC	= tetrahydrocannabinol
THC Homolog	= one or more of the products (Blaze, Dawn, herbal incense, K2, Red X, spice, et al) or chemicals (cannabicyclohexanol, CP-47,497, JWH-018, JWH-073, JWH-200, et al)
TPN	= total parenteral nutrition
Tprot	= total protein
Troponin I	= normal range [0–0.08] ng/mL, Cut-off for MI > 0.04 ng/mL
U/dL	= units per deciliter
U/L	= units per liter
U/mL	= units per milliliter
UA	= urinalysis
UDS	= urine drug screen
Urea nitrogen (BUN)	= [6–17] mg/dL
VBG	= venous blood gasses
VF	= Ventricular fibrillation
VT	= Ventricular tachycardia
WBC	= white blood count, see leukocyte count
WNL	= within normal limits
y/o	= years old