Toxicology

A special contribution from the American Association of Poison Control Centers.

1993 Annual Report of the American Association of Poison Control Centers Toxic Exposure Surveillance System

TOBY L. LITOVITZ, MD, LYNN R. CLARK, BSN, CSPI, ROSE ANN SOLOWAY, RN, MSEd, ABAT

1993 was a landmark year for the American Association of Poison Control Centers' (AAPCC) nationwide poisoning surveillance effort. Several substantial revisions in the format and extent of data collected were implemented, with successful transition to the new system in all but two poison centers. The most significant of these changes is the implementation of a system to record specific clinical effects manifested in each poison exposure case. Changes in field definitions and expanded fields to document medical outcome, age, patient disposition, and reason for exposure are evident in the data that follow.

Toxic Exposure Surveillance System (TESS) data are used to identify hazards early, preventing needless injury. TESS data have prompted product reformulations, repackaging, recalls, and bans. Applications for conversion from prescription to over-the-counter status have been supported with TESS safety data, and TESS data have been used for postmarketing surveillance of newly released drugs and products.

From its inception in 1983 until 1992, TESS grew steadily with increases in the number of participating poison centers, population served by those centers, and reported human ex-

From the Data Collection Committee, American Association of Poison Control Centers.

The authors acknowledge the generous contribution of Micromedex, Inc, to the programming and processing of this annual report.

Centers participating in this report include Children's Hospital of Alabama Regional Poison Control Center, Birmingham, Alabama; Alabama Poison Center, Tuscaloosa, AL; Arizona Poison and Drug Information Center, Tucson, AZ; Samaritan Regional Poison Center, Phoenix, AZ; University of California Davis Medical Center Regional Poison Control Center, Sacramento, CA; San Diego Regional Poison Center, San Diego, CA; University of California Irvine Regional Poison Center, Orange, CA; Santa Clara Valley Medical Center Regional Poison Center, San Jose, CA; Central California Regional Poison Control Center, Fresno, CA; Rocky Mountain Poison and Drug Center, Denver, CO; Connecticut Poison Control Center, Farmington, CT; National Capital Poison Center, Washington, DC; Florida Poison Information Center and Toxicology Resource Center, Tampa, FL; Florida Poison Information Center-Jacksonville, Jacksonville, FL; Georgia Poison Control Center, Atlanta, GA; Idaho Poison Center, Boise, ID; Indiana Poison Center, Indianapolis, IN; St. Luke's Poison Center, Sioux City, IA; Mid-America Poison Control Center, Kansas City, KS; Kentucky Regional Poison Center of Kosair Children's Hospital, Louisville, KY; Louisiana Drug and Poison Information Center, Monroe, LA; Maryland Poison Center, Baltimore, MD; Massachusetts Poison Control System, Boston, MA; Children's Hospital of Michigan Poison Control Center, Detroit, MI; Blodgett Regional Poison Center, Grand Rapids, MI; Hennepin Regional Poison Center, Minneapolis, MN; Cardinal Glennon Children's Hospital Regional Poison Center, St. Louis, MO; The Poison Center, Omaha, NE; New Hampshire Poison Information Center, Lebanon, NH; New Jersey Poison Information and Education System, Newark, NJ; New Mexico Poison and Drug Information Center, Albuquerque, NM; New York City Poison Control Center, New York, NY; Hudson Valley Poison Center, Nyack, NY; Long Island Regional Poison Control Center, Mineola, NY; Finger Lakes Regional Poison Center, Rochester, NY; Central New York Poison Control Center, Syracuse, NY; Western New York Regional Poison Control Center, Buffalo, NY; Triad Poison Center, Greensboro, NC; Carolinas Poison Center, Charlotte, NC; North Dakota Poison Information Center, Fargo, ND; Akron Regional Poison Center, Akron, OH; Cincinnati Drug and Poison Information Center, Cincinnati, OH; Central Ohio Poison Center, Columbus, OH; Greater Cleveland Poison Control Center, Cleveland, OH; Mahoning Valley Poison Center, Youngstown, OH; Oregon Poison Center, Portland, OR; Pittsburgh Poison Center, Pittsburgh, PA; The Poison Control Center, Philadelphia, PA; Central Pennsylvania Poison Center, Hershey, PA; Rhode Island Poison Center, Providence, RI; McKennan Poison Control Center, Sioux Falls, SD; Middle Tennessee Regional Poison and Clinical Toxicology Center, Nashville, TN; Southern Poison Center, Inc., Memphis, TN; North Texas Poison Center, Dallas, TX; Texas State Poison Center, Galveston, TX; Utah Poison Control Center, Salt Lake City, UT; Virginia Poison Center, Richmond, VA; Blue Ridge Poison Center, Charlottesville, VA; Washington Poison Center, Seattle, WA; Spokane Poison Center, Spokane, WA; West Virginia Poison Center, Charleston, WV; University of Wisconsin Hospital Regional Poison Center, Madison, WI; Poison Center of Eastern Wisconsin, Milwaukee, WI; Green Bay Poison Center, Green Bay, WI.

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TABLE 1. Growth of the AAPCC Toxic Exposure Surveillance System

Year	No. of Participating Centers	Population Served (Millions)	Human Exposures Reported	Exposures/ 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
Total			14,264,936	

posures (Table 1).[1-10] For the first time ever, in 1993, TESS participation declined, reflecting several factors: (1) eight poison centers that participated in 1992 had closed by the start of 1993; (2) one center was inadequately staffed, because of inadequate funding, to allow participation; and (3) two centers were unable to convert to the revised data collection system in a timely manner because of logistical problems.

The cumulative AAPCC database now contains 14.2 million human poison exposure cases. This report includes 1,751,476 human exposure cases reported by 64 participating poison centers during 1993, a decline of 6% compared with 1992 poisoning reports. The decline in the number of reporting centers, reported poisonings, and population served by reporting centers undoubtedly mirrors the present funding crisis faced by our nation's poison centers. No progress has been made toward our national goal of providing access by all United States (US) citizens to certified regional poison centers. Indeed, only 50% of the US population is currently served by the nation's 36 certified regional poison centers. The number of certified centers decreased from 38 just 1 year ago, and the population served by these centers is down to 50% (a decrease from 59% 2 years ago). Furthermore, the tenuous funding base of those centers that remain operational has, in many centers, led to impaired service, decreased surveillance efforts, and a decrease in poison prevention activity. Indeed, it is appalling that several of our

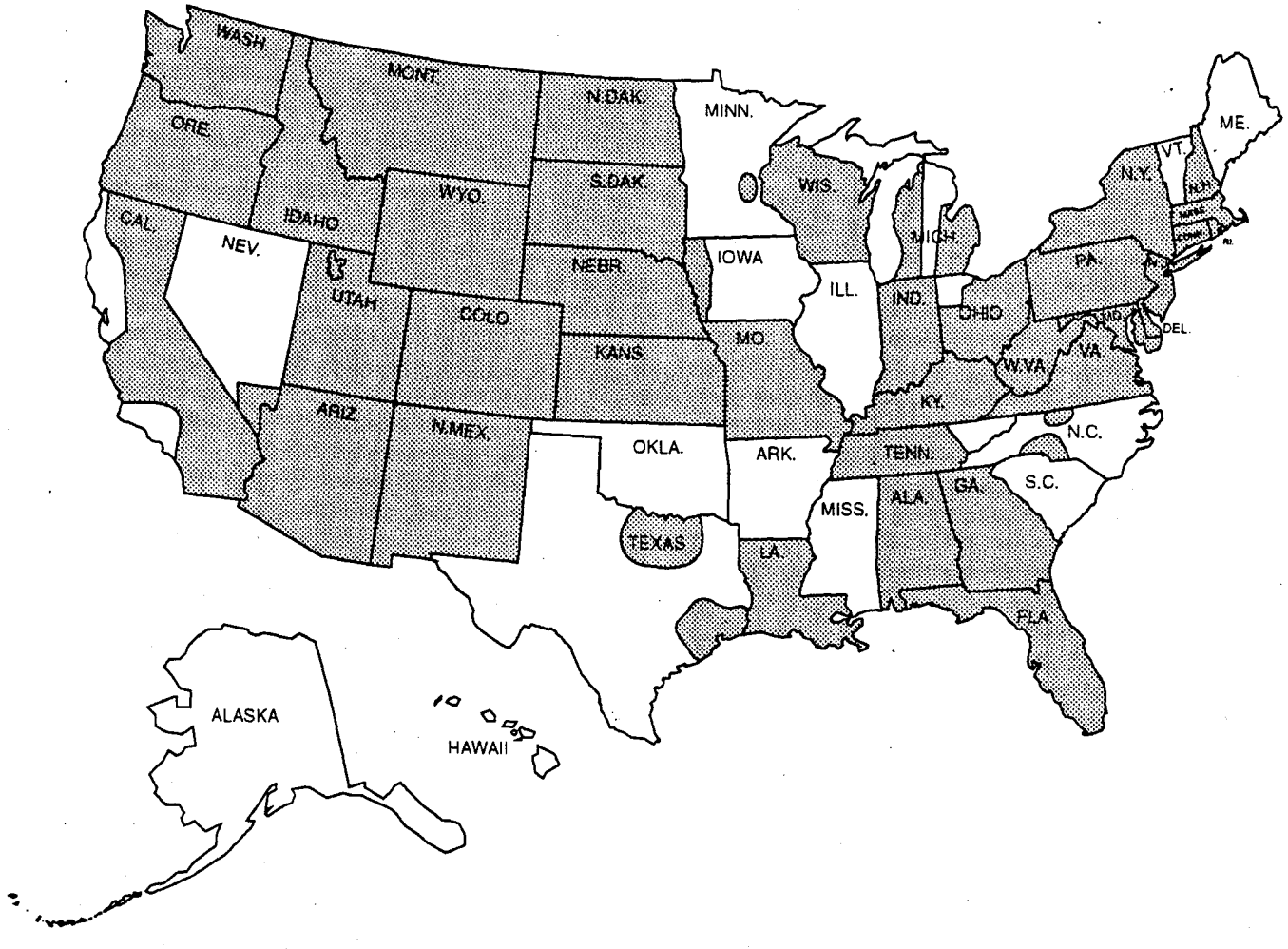

FIGURE 1. Sixty-four poison centers participated in the Toxic Exposure Surveillance System in 1993. The shaded areas denote regions served by reporting centers.

nation's largest poison centers have been forced to limit their hours of operation and/or abandon their data collection activities and poison prevention efforts. Noting the important role of poison centers in limiting health care expenditures through avoidance of unnecessary emergency department visits, as well as the role of poison centers in guiding the delivery of state-of-the-art treatment for poisonings, the stabilization of US poison control centers is an urgent need.

CHARACTERIZATION OF PARTICIPATING CENTERS

Of the 64 reporting centers, 55 submitted data for the entire year. Thirty-six of the 64 participating centers were certified as regional poison centers by the AAPCC in 1993. Annual center call volumes (human exposure cases only) ranged from 1,230 to 78,000 (mean 29,858) for centers participating for the entire year. Penetrance, calculated by state or portion of the state served, ranged from 3.9 to 16.8 per 1,000 with a mean of 9.7 reported exposures per 1,000 population. Penetrance is defined as the number of human poison exposure cases reported per 1,000 individuals in the population served.

A total population of 181.3 million was served by the participating centers, including portions of 43 states and the District of Columbia (Figure 1). Noting the 257.9 million 1993 United States population, the data presented represent an estimated 70% of the human poison exposures that precipitated poison center contacts in the US during 1993. Extrapolating from the 1,751,476 human poison exposures reported in this database, 2.5 million human poison exposures are estimated to have been reported to all US poison centers in 1993. However, extrapolations from the number of reported poisonings to the number of actual poisonings occurring annually in the US cannot be made from these data alone, because considerable variations in poison center penetrance were noted. Indeed, assuming all centers reached the penetrance level of 16.8 poisonings per 1,000 population reported for one state, 4.3 million poisonings would have been reported to poison centers in 1993.

The data do not directly identify a trend in the overall incidence of poisonings in the US because of changing center participation from year to year and changes in center use. An analysis of data from 59 centers that participated for the entirety of both 1992 and 1993 shows only a 0.4% increase in reported poison exposures from 1992 to 1993 within the regions served by these 59 centers. Thirty of these 59 centers actually showed a decrease in usage in 1993 compared with 1992. This stands in marked contrast with the 3.2% to 3.5% annual growth seen in poison center use from 1989 to 1992 and the 7.6% average annual growth in poison center use seen in 1984 through 1989 (range 4.2% to 10.9% increase annually). Although this levelling of use could be heralded as a welcome decrease in poisoning incidence in the US, such kudos would be premature. Instead it is evident that most US poison centers remain a long way from optimal levels of use and are now showing virtually no annual improvement in use. Inadequate poison center use leads to unnecessary health care expenditures including unnecessary emergency department visits and ambulance transports. Inadequate poison center use also affects the outcome of poisoned patients. In sum, these TESS data show the impact of decreased fiscal stability of US poison centers.

REVIEW OF THE DATA

Of the 1,751,476 human exposures reported in 1993, 90.3% occurred at a residence (Table 2). In 4% of cases (74,611 cases), multiple patients were implicated in the poison exposure episode (eg, siblings "shared" a household product, multiple patients inhaled vapors at a hazardous materials spill). Two unlikely sites of poisonings, health care facilities and schools, accounted for 8,196 (0.5%) and 21,617 (1.2%) poison exposures, respectively. Poison center peak call volumes were noted from 4 to 10 PM, although call frequency remained consistently high between 8 AM and midnight, with 92% of calls logged during this 16-hour period.

The age and gender distribution of human poison exposure victims is outlined in Table 3. Children younger than 3 years of age were involved in 42% of cases, and 56% occurred in children younger than 6 years. A male predominance is found among poison exposure victims younger than 13 years of age, but the gender distribution is reversed in teenagers and adults. Although the gender distribution was nearly equal for unintentional exposures, 60.7% of intentional exposures occurred in females, as did 64.1% of adverse reactions. Of all poison exposures captured, 6,443 occurred in pregnant women. Of those with known pregnancy duration, 32% occurred in the first trimester, 38% in the second trimester, and 30% in the third trimester.

Table 4 presents the age and gender distribution for the 626 reported fatalities. Although responsible for the majority of poisoning reports, children younger than 6 years of age comprised only 4.3% (27) of the fatalities. Fifty-seven percent of poisoning fatalities occurred in 20- to 49-year-old individuals.

A single substance was implicated in 93.2% of reports, and 1.6% of patients were exposed to more than two possibly poisonous drugs or products (Table 5). The overwhelming majority of human exposures were acute (95.7%) compared with only 64.4% of poison-related fatal exposures. Chronic exposures comprised 2.1% of all poison exposure reports, and acute-on-chronic exposures comprised 1.7%. (Chronic exposures were defined as continuous or repeated exposures occurring in a period exceeding 8 hours; the coding option "acute-on-chronic" was new in 1993.)

To enhance coding consistency and capture additional data, five new coding options for exposure reason were im-

TABLE 2. Site of Caller and Site of Exposure, Human Poison Exposures Cases

	Site of Caller (%)	Site of Exposure (%)
Residence		
Own	77.8	87.2
Other	2.3	3.1
Workplace	2.3	2.8
Health care facility	12.4	0.5
School	0.7	1.2
Restaurant/food service	0.1	0.6
Public area	0.5	1.2
Other	3.3	1.0
Unknown	0.6	2.3

TABLE 3. Age and Gender Distribution of Human Poison Exposure Cases

	Male		Female		Unknown		Total		Cumulative Total	
Age (years)	No.	%	No.	%	No.	%	No.	%	No.	%
<1	62,457	52.1	56,368	47.0	1,041	0.87	119,866	6.8	119,866	6.8
1	155,008	52.5	138,751	47.0	1,546	0.52	295,305	16.9	415,171	23.7
2	169,511	53.4	146,150	46.1	1,635	0.52	317,296	18.1	732,467	41.8
3	79,892	54.7	65,252	44.7	801	0.55	145,945	8.3	878,412	50.2
4	35,643	55.4	28,299	44.0	406	0.63	64,348	3.7	942,760	53.8
5	19,771	56.0	15,285	43.3	250	0.71	35,306	2.0	978,066	55.8
Unknown child ≤5	1,189	42.5	1,034	37.0	572	20.47	2,795	0.2	980,861	56.0
6-12	60,056	55.9	46,530	43.3	910	0.85	107,496	6.1	1,088,357	62.1
13-19	47,559	40.8	68,331	58.7	581	0.50	116,471	6.7	1,204,828	68.8
Unknown child	1,591	37.3	1,419	33.3	1,254	29.41	4,264	0.2	1,209,092	69.0
Total children (<20)	632,677	52.3	567,419	46.9	8,996	0.74	1,209,092	69.0	1,209,092	69.0
20-29	59,942	44.7	73,935	55.1	330	0.25	134,207	7.7	1,343,299	76.7
30-39	51,797	43.0	68,393	56.8	214	0.18	120,404	6.9	1,463,703	83.6
40-49	28,003	41.3	39,654	58.5	137	0.20	67,794	3.9	1,531,497	87.4
50-59	12,274	38.5	19,593	61.4	52	0.16	31,919	1.8	1,563,416	89.3
60-69	8,016	37.0	13,639	62.9	37	0.17	21,692	1.2	1,585,108	90.5
70-79	5,344	34.7	10,037	65.1	38	0.25	15,419	0.9	1,600,527	91.4
80-89	2,585	30.3	5,925	69.5	20	0.23	8,530	0.5	1,609,057	91.9
90-99	400	26.3	1,120	73.5	3	0.20	1,523	0.1	1,610,580	92.0
Unknown adult	48,444	39.1	73,039	59.0	2,304	1.86	123,787	7.1	1,734,367	99.0
Total adults	216,805	41.3	305,335	58.1	3,135	0.60	525,275	30.0	1,734,367	99.0
Unknown age	5,857	34.2	8,041	47.0	3,211	18.80	17,109	1.0	1,751,476	100.0
Total	855,339	48.8	880,795	50.3	15,342	0.88	1,751,476	100.0	1,751,476	100.0

plemented in 1993. Thus, comparisons with data from previous years should be interpreted carefully. Definitions for these coding options are as follows (options marked with an asterisk are new in 1993): *Unintentional general:* All unintentional exposures not specifically defined below. Most unintentional exposures in children are captured here. *Environmental:* Any passive, nonoccupational exposure that results from contamination of air, water, or soil. Environmental exposures are usually, but not always, caused by man-made 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 substituted for medications are included. Drug interactions resulting from unintentional administration of drugs or foods that are known to interact are also included. *Unintentional misuse:* Unintentional improper or incorrect use of a nonpharmaceu-

TABLE 4. Distribution of Age and Gender for 626 Fatalities

Age (yr)	Male	Female	Unknown	Total	%	Cumulative Total	Cumulative %
<1	4	1	0	5	0.8	5	0.8
1	7	5	0	12	1.9	17	2.7
2	2	2	0	4	0.6	21	3.4
3	1	1	0	2	0.3	23	3.7
4	2	1	0	3	0.5	26	4.2
5	1	0	0	1	0.2	27	4.3
6-12	6	3	0	9	1.4	36	5.8
13-19	29	32	0	61	9.7	97	15.5
20-29	50	43	0	93	14.9	190	30.4
30-39	88	61	0	149	23.8	339	54.2
40-49	57	57	0	114	18.2	453	72.4
50-59	19	26	0	45	7.2	498	79.6
60-69	21	23	0	44	7.0	542	86.6
70-79	25	13	0	38	6.1	580	92.7
80-89	11	10	0	21	3.4	601	96.0
90-99	2	7	0	9	1.4	610	97.4
Unknown adult	12	3	1	16	2.6	626	100.0
Total	337	288	1	626	100.0		

TABLE 5. Number of Substances Involved in Human Poison Exposure Cases

No. of Substances	No. of Cases	% of Cases
1	1,631,914	93.2
2	90,992	5.2
3	16,464	0.9
4	6,191	0.4
5	2,426	0.1
6	1,028	0.1
7	415	0.0
8	237	0.0
≥9	1,809	0.1
Total	1,751,476	100.0

tical 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 of a substance for reasons other than the pursuit of a psychotropic effect. *Intentional abuse:* An exposure resulting from the intentional improper or incorrect use of a substance in which the victim was likely attempting to achieve a euphoric or psychotropic effect. All recreational use of substances for any effect is included. *Intentional unknown:* An exposure that is determined to be intentional but the specific motive is unknown. **Contaminant/tampering:* The patient is an unintentional victim of a substance that has been adulterated (either maliciously or unintentionally) by the introduction of an undesirable substance. **Malicious:* This category is used to capture patients who are victims of another person's intent to harm them. *Adverse reaction:* An adverse event occurring with normal, prescribed, labeled, or recommended use of the product, as opposed to overdose, misuse, or abuse. Included are cases with an unwanted effect caused by an allergic, hypersensitive, or idiosyncratic response to the active ingredients, inactive ingredients, or excipients. Concomitant use of a contraindicated medication or food is excluded and is coded instead as a therapeutic error.

TABLE 6. Reason for Human Poison Exposure Cases

	Reason	No.	%
Unintentional	General	1,199,418	68.5
	Therapeutic error	80,426	4.6
	Bite/sting	57,254	3.3
	Misuse	54,022	3.1
	Environmental	46,669	2.7
	Occupational	37,538	2.1
	Food poisoning	33,950	1.9
	Unknown	2,773	0.2
	Total	1,512,050	86.3
Intentional	Suicidal	132,788	7.6
	Misuse	26,663	1.5
	Abuse	19,632	1.1
	Unknown	11,890	0.7
	Total	190,973	10.9
Other	Malicious	5,403	0.3
	Contaminant/tampering	3,841	0.2
	Total	9,244	0.5
Adverse Reaction	Drug	23,230	1.3
	Food	5,879	0.3
	Other	4,806	0.3
	Total	33,915	1.9
Unknown		5,294	0.3
Total		1,751,476	100.0

The vast majority (86.3%) of poison exposures were unintentional; suicidal intent was present in 7.6% of cases (Table 6). Therapeutic errors comprised 4.6% of exposures (80,426 cases), with unintentional nonpharmaceutical product misuse comprising another 3.1% of exposures (54,022 cases). Unintentional poisonings outnumbered intentional poisonings in all age groups (Table 7). In contrast, of the 626 human poisoning fatalities reported, 83% of adult deaths (older than 19 years of age) were intentional (Table 8).

Ingestions accounted for 75.0% of exposure routes (Table 9), followed in frequency by dermal, inhalation, and ocular exposures, bites and stings, parenteral and aspiration exposures. For the 626 fatalities, ingestion and inhalation were the predominant exposure routes.

The coding of specific clinical effects (signs, symptoms, and laboratory abnormalities) was implemented in 1993. Clinical effects were coded in 30.4% of cases (18.0% had one effect, 7.6% had two effects, 3.2% had three effects, 1.1% had four effects, 0.4% had five effects, and 0.2% had more than five effects). Of the 1,126,855 clinical effects coded, 78.4% were deemed related, 6.1% were considered not related, and 15.5% were coded as "unknown if related."

TABLE 7. Distribution of Reason for Exposure by Age

	<6 Years		6-12 Years		13-19 Years		>19 Years		Unknown		Total	
Reason	No.	Row %	No.	Row %	No.	Row %	No.	Row %	No.	Row %	No.	%
Unintentional	973,966	64.4	97,006	6.4	57,428	3.8	368,430	24.4	15,220	1.0	1,512,050	86.3
Intentional	1,751	0.9	6,534	3.4	54,222	28.4	123,596	64.7	4,870	2.6	190,973	10.9
Other	1,115	12.1	1,235	13.4	1,583	17.1	5,091	55.1	220	2.4	9,244	0.5
Adverse Reaction	3,469	10.2	2,214	6.5	2,566	7.6	24,982	73.7	684	2.0	33,915	1.9
Unknown	560	10.6	507	9.6	672	12.7	3,176	60.0	379	7.2	5,294	0.3
Total	980,861	56.0	107,496	6.1	116,471	6.7	525,275	30.0	21,373	1.2	1,751,476	100.0

TABLE 8. Distribution of Reason for Exposure and Age for 626 Fatalities

Reason	<6 Years	6-12 Years	13-19 Years	>19 Years	Total
Unintentional					
General	14	0	0	5	19
Environmental	7	2	2	6	17
Occupational	0	0	1	8	9
Therapeutic error	3	2	0	24	29
Misuse	0	0	1	0	1
Bite/sting	0	0	0	1	1
Food poisoning	0	0	0	0	0
Unknown	1	0	0	5	6
Total	25	4	4	49	82
Intentional					
Suicide	0	1	34	303	338
Misuse	0	0	0	21	21
Abuse	1	0	16	73	90
Unknown	0	1	3	40	44
Total	1	2	53	437	493
Other	0	0	0	0	0
Adverse Reaction	0	0	1	13	14
Unknown	1	3	3	30	37
Total	27	9	61	529	626

TABLE 9. Distribution of Route of Exposure for Human Poison Exposure Cases and 626 Fatalities

Route	All Exposure Cases		Fatal Exposure Cases	
	No.	%	No.	%
Ingestion	1,378,853	75.0	507	75.8
Dermal	138,147	7.5	4	0.6
Inhalation	120,770	6.6	77	11.5
Ocular	113,297	6.2	0	0.0
Bites and stings	64,835	3.5	1	0.1
Parenteral	5,489	0.3	38	5.7
Aspiration	4,220	0.2	17	2.5
Other	6,097	0.3	1	0.1
Unknown	5,818	0.3	24	3.6
Total	1,837,526	100.0	669	100.0

NOTE: Multiple routes of exposure were observed in many poison exposure victims. Percentage is based on the total number of exposure routes (1,837,526 for all patients, 669 for fatal cases) rather than the total number of human exposures (1,751,476) or fatalities (626).

The majority of cases reported to poison centers were managed in a non–health care facility (71.5%), usually at the site of exposure, the patient's home (Table 10). Treatment in a health care facility was rendered in 24.4% of cases and recommended in another 2.0% of patients who refused the referral. Of cases managed in a health care facility, 53.8% were treated and released without admission, 11.9% were admitted for critical care, and 7.1% were admitted for noncritical care. When treatment was provided in a health care facility, half of the patients (50.2%) were referred in by the poison center and the other half (49.8%) were already in or en route to the health care facility when the poison center was contacted. Health care facilities used included acute care hospitals (90.4%), freestanding emergency centers (2.4%), and physicians offices or clinics (7.2%).

Table 11 displays the medical outcome of the human poison exposure cases distributed by age, showing more severe outcomes in the older age groups. Table 12 compares medical outcome and reason for exposure and shows the greater frequency of serious outcome in intentional exposures. Table 13 shows the increasing duration of the clinical effects observed with more severe outcomes. Note the revised medical outcome categories as follows (those marked with an asterisk have changed): *No effect:* The patient developed no 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 mucous membranes (eg, 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 of a systemic nature than minor symptoms. Usually some form of treatment is indicated. Symptoms were not life-threatening, and the patient has no residual disability or disfigurement (eg, 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 (eg, 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. Only those deaths that were probably or undoubtedly related to the exposure are coded here. **Not followed, judged as nontoxic exposure:* No follow-up calls were made to determine the patient's outcome because the substance impli-

TABLE 10. Management Site of Human Poison Exposure Cases

Site	No.	%
Managed on-site, nonhealth care facility	1,252,084	71.5
Managed in health care facility		
Treated and released	230,290	13.1
Admitted to critical care	51,316	2.9
Admitted to noncritical care	30,484	1.7
Admitted to psychiatry	19,011	1.1
Lost to followup; left AMA	80,808	4.6
Unspecified level of care	16,124	0.9
Subtotal	428,033	24.4
Other	14,269	0.8
Refused referral	34,093	1.9
Unknown	22,997	1.3
Total	1,751,476	100.0

ABBREVIATION: AMA, against medical advice.

TABLE 11. Medical Outcome of Human Poison Exposure Cases by Patient Age

Outcome	<6 Years		6-12 Years		13-19 Years		>19 Years		Unknown		Total	
	No.	Col %	No.	Col %	No.	Col %	No.	Col %	No.	Col %	No.	%
No effect	327,599	33.3	20,150	18.7	21,302	18.3	59,205	11.3	2,015	10.4	430,271	24.6
Minor effect	120,308	12.2	26,546	24.7	35,649	30.6	158,334	30.1	3,473	18.0	344,310	19.7
Moderate effect	8,834	0.9	2,896	2.7	9,622	8.3	43,768	8.3	665	3.4	65,785	3.8
Major effect	668	0.1	171	0.2	904	0.8	6,031	1.1	62	0.3	7,836	0.4
Death	27	0.0	9	0.0	61	0.1	529	0.1	0	0.0	626	0.0
No follow-up, nontoxic	273,233	27.8	22,075	20.5	9,585	8.2	43,696	8.3	2,757	14.3	351,346	20.1
No follow-up, minimal toxicity	204,073	20.8	25,897	24.1	19,382	16.6	110,443	21.0	3,779	19.6	363,574	20.8
No follow-up, potentially toxic	31,701	3.2	6,338	5.9	16,476	14.1	75,932	14.5	5,983	31.0	136,430	7.8
Unrelated effect	16,474	1.7	3,414	3.2	3,490	3.0	27,337	5.2	583	3.0	51,298	2.9
Total	982,917	100.0	107,496	100.0	116,471	100.0	525,275	100.0	19,317	100.0	1,751,476	100.0

TABLE 12. Distribution of Medical Outcome by Reason for Exposure for Human Poison Exposure Cases

Outcome	Unintentional		Intentional		Other		Adverse Reaction		Unknown		Total	
	No.	Col %	No.	Col %	No.	Col %	No.	Col %	No.	Col %	No.	%
No effect	391,582	25.9	36,312	19.0	1,282	13.9	658	1.9	437	8.3	430,271	24.6
Minor effect	276,851	18.3	53,922	28.2	2,721	29.4	9,904	29.2	912	17.2	344,310	19.7
Moderate effect	37,854	2.5	24,003	12.6	357	3.9	3,003	8.9	568	10.7	65,785	3.8
Major effect	2,126	0.1	5,310	2.8	34	0.4	168	0.5	198	3.7	7,836	0.4
Death	82	0.0	493	0.3	0	0.0	14	0.0	37	0.7	626	0.0
No follow-up, nontoxic	344,088	22.8	4,639	2.4	1,205	13.0	1,181	3.5	233	4.4	351,346	20.1
No follow-up, minimal toxicity	335,634	22.2	15,380	8.1	1,939	21.0	9,875	29.1	746	14.1	363,574	20.8
No follow-up, potentially toxic	82,503	5.5	46,898	24.6	1,202	13.0	4,287	12.6	1,540	29.1	136,430	7.8
Unrelated effect	41,330	2.7	4,016	2.1	504	5.5	4,825	14.2	623	11.8	51,298	2.9
Total	1,512,050	100.0	190,973	100.0	9,244	100.0	33,915	100.0	5,294	100.0	1,751,476	100.0

TABLE 13. Duration of Clinical Effects by Medical Outcome

Duration of effect	Minor effect Col (%)	Moderate effect Col (%)	Major effect Col (%)
≤2 hours	36.82	5.82	2.16
>2 hours, ≤8 hours	22.13	18.61	6.71
>8 hours, ≤24 hours	15.54	26.67	23.57
>24 hours, ≤3 days	4.23	14.96	29.62
>3 days, ≤1 week	1.05	4.88	11.78
>1 week, ≤1 month	.31	1.58	4.49
>1 month	.16	.54	.94
Anticipated permanent	.02	.15	2.07
Unknown	19.76	26.80	18.66

TABLE 14. Decontamination and Therapeutic Intervention

Therapy	No. of patients	%
Decontamination only	926,187	52.9
No therapy provided	201,199	11.5
Observation only	197,576	11.3
Decontamination and other therapy	103,597	5.9
Other therapy only (no decontamination)	72,677	4.2
Unknown if therapy provided/patient refused	250,240	14.3

cated 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 used during coding to designate cases in which there was reliable and objective evidence that an exposure initially believed to have occurred actually never occurred (eg, all missing pills are later located). All cases coded as confirmed nonexposure are excluded from this report. In 1993, there were 5,575 such cases reported nationally.

Table 14 and 15 outline the use of decontamination procedures, specific antidotes, and measures to enhance elimination in the treatment of patients reported in this database. These must be interpreted as minimum frequencies because of the limitations of telephone data gathering. Ipecac syrup was administered in 3.7% of cases. In children younger than 6 years of age, ipecac syrup was most often administered outside a health care facility. This pattern was reversed in teenagers and adults. Table 16 shows a continued decrease

TABLE 15. Therapy Provided in Human Exposure Cases

Therapy	No.
Decontamination	
Dilution/irrigation	749,371
Activated charcoal, single dose	114,563
Cathartic	90,369
Ipecac syrup	65,205
Gastric lavage	60,406
Activated charcoal, multidose	17,284
Other emetic	4,718
Whole bowel irrigation	1,250
Measure to Enhance Elimination	
Alkalinization (with or without diuresis)	7,398
Hemodialysis	646
Other extracorporeal procedure	80
Hemoperfusion (charcoal or resin)	64
Specific Antidote Administration	
N-acetylcysteine (oral)	7,493
Naloxone	6,800
Flumazenil	2,520
Atropine	778
Deferoxamine	721
Antivenin	560
Hyperbaric oxygen	550
Ethanol	472
N-acetylcysteine (IV)	316
Phytonadione	291
Pyridoxine	257
Pralidoxime (2-PAM)	203
Physostigmine	189
Fab fragments	174
Dimercaprol (BAL)	113
EDTA	112
Succimer	76
Penicillamine	67
Sodium thiosulfate	67
Folate	66
Methylene blue	61
Sodium nitrite	53
Hydroxocobalamin	10
Other intervention	
ECMO	17
Transplantation	12
Intubation	5,139

TABLE 16. Decontamination Trends

Year	Human Exposures Reported	% of Exposures Involving Children <6 Years	Ipecac Administered (% of Exposures)	Activated Charcoal Administered (% of Exposures)
1983	251,012	64.0	13.4	4.0
1984	730,224	64.1	12.9	4.0
1985	900,513	63.4	15.0	4.6
1986	1,098,894	63.0	13.3	5.2
1987	1,166,940	62.3	10.1	5.2
1988	1,368,748	61.8	8.4	6.5
1989	1,581,540	61.1	7.0	6.4
1990	1,713,462	60.8	6.1	6.7
1991	1,837,939	59.9	5.2	7.0
1992	1,864,188	58.8	4.3	7.3
1993	1,751,476	56.0	3.7	7.3

TABLE 17. Substances Most Frequently Involved in Human Exposures

Substance	No.	%*
Cleaning substances	180,161	10.3
Analgesics	167,762	9.6
Cosmetics and personal care products	143,861	8.2
Cough and cold preparations	105,588	6.0
Plants	94,725	5.4
Bites/envenomations	72,637	4.1
Topicals	64,697	3.7
Pesticides (includes rodenticides)	64,298	3.7
Foreign bodies	61,640	3.5
Antimicrobials	60,435	3.5
Food products, food poisoning	59,997	3.4
Hydrocarbons	58,636	3.3
Sedatives/hypnotics/antipsychotics	54,521	3.1
Alcohols	46,594	2.7
Chemicals	44,240	2.5
Vitamins	41,547	2.4
Antidepressants	40,549	2.3

NOTE: Despite a high frequency of involvement, these substances are not necessarily the most toxic, but rather may only be the most readily accessible.
*Percentages are based on the total number of human exposures rather than the total number of substances.

in the use of ipecac-induced emesis in the treatment of poisoning.

Table 17 presents the most common substance categories listed by frequency of exposure. Table 18 lists the substance categories with the largest number of reported deaths; analgesics and antidepressants led this list. A remarkable chronological constancy of selected demographic data elements is shown in Table 19.

A breakdown of plant exposures is provided for those most commonly implicated (Table 20). The reader is cautioned to interpret this as frequency of involvement of plants in calls to poison centers with no correlation to severity of toxicity. Indeed, several of the plants on this list pose little if any ingestion hazard.

TABLE 18. Categories with Largest Numbers of Deaths

Category	No.	% of All Exposures in Category
Analgesics	172	0.103
Antidepressants	151	0.372
Stimulants and street drugs	92	0.395
Sedative/hypnotics/antipsychotics	80	0.147
Cardiovascular drugs	74	0.285
Alcohols	62	0.133
Gases and fumes	34	0.106
Chemicals	33	0.075
Asthma therapies	27	0.162
Hydrocarbons	22	0.038
Cleaning substances	21	0.012

TABLE 19. 10-Year Comparisons of Fatality Data

Year	Total Fatalities		Suicides		Pediatric Deaths (<6 years)	
	No.	%	No.	% of deaths	No.	% of deaths
1983	95	0.038	60	63.2	10	10.5
1984	293	0.040	165	56.3	21	7.2
1985	328	0.036	178	54.3	20	6.1
1986	406	0.037	223	54.9	15	3.7
1987	397	0.034	226	56.9	22	5.5
1988	545	0.040	297	54.5	28	5.1
1989	590	0.037	323	54.7	24	4.1
1990	612	0.036	350	57.2	25	4.1
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

TABLE 20. Frequency of Plant Exposures by Plant Type

Botanical Name	Common Name	Frequency
Philodendron species	philodendron	4,726
Capsicum annuum	pepper	3,912
Dieffenbachia species	dumbcane	2,837
Euphorbia pulcherrima	poinsettia	2,798
Ilex species	holly	2,651
Phytolacca americana	pokeweed, inkberry	2,231
Spathiphyllum species	peace lily	2,086
Crassula species	jade plant	1,658
Epipremnum aureum	pothos, devil's ivy	1,401
Toxicodendron/Rhus radicans	poison ivy	1,306
Brassaia actinophylla	umbrella tree	1,141
Saintpaulia ionantha	African violet	1,137
Rhododendron species	rhododendron, azalea	1,029
Taxus species	yew	969
Eucalyptus Globulus	eucalyptus	945
Pyracantha species	pyracantha	894
Chlorophytum comosum	spider plant	787
Schlumbergera bridgesii	Christmas cactus	781
Hedera helix	English ivy	765
Solanum dulcamara	climbing nightshade	754

A summary of the 626 fatal exposures is presented in Table 21. Each of these cases was abstracted and verified by the reporting center, with only those exposures deemed "probably" or "undoubtedly" responsible for the fatality included in this compendium. Confirmation of the cause of death by a postmortem report was obtained in 28% of cases. The highest blood level of implicated substances is provided where available to the reporting poison center. Prehospital cardiac and/or respiratory arrests occurred in 35% of all fatalities, and these are indicated in Table 22.

Tables 22A and 22B provide comprehensive demographic data on patient age, reason for exposure, medical outcome, and use of a health care facility for all 1,751,476 exposures, presented by category. Table 22A focuses on nonpharmaceuticals; Table 22B presents drugs. Of the 1,868,836 substances logged in Tables 22A and 22B, 57.6% were nonpharmaceuticals and 42.4% were pharmaceuticals. The reason for the exposure was intentional for 26.2% of pharmaceutical substances implicated compared with only 4.1% of nonpharmaceutical substances. Correspondingly, treatment in a health care facility was provided in a higher percentage of exposure to pharmaceutical substances (37.2%) compared with nonpharmaceutical substances. Correspondingly, treatment in a health care facility was provided in a higher percentage of exposures to pharmaceutical substances (37.2%) compared with nonpharmaceutical substances (19.1%). Pharmaceutical exposures also had more severe outcomes. Of substances implicated in fatal cases, 76.5% were pharmaceuticals, compared with only 42.4% in nonfatal cases. Similarly, 76.5% of substances implicated in major outcomes were pharmaceuticals.

In closing, we gratefully acknowledge the extensive contributions of each participating poison center and the assistance of the many physicians and nurses who provided comprehensive data to the poison centers for inclusion in this database.

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
Adhesives/glues							
Alcohols							
1[P]	17 yr	Ethanol	A	Ingestion	Int unknown	400 mg/dL	
2	30 yr	Ethanol	A/C	Ingestion	Int abuse	186 mg/dL	
3	36 yr	Ethanol	C	Ingestion	Int abuse		
4	45 yr	Ethanol	C	Ingestion	Int abuse		
5	71 yr	Ethanol (rubbing alcohol)	A/C	Ingestion	Int suicide		
6	36 yr	Ethanol acetaminophen	C	Ingestion	Int abuse	84 μg/mL	>24 h
7	69 yr	Ethanol acetaminophen	C	Ingestion	Int unknown		
8	46 yr	Ethanol acetaminophen aspirin	A/C	Ingestion	Int suicide	99 μg/mL	
9[P]	22 yr	Ethanol air freshener propellant	U	Ing/Inhal	Int abuse		
10	46 yr	Ethanol chlorpromazine	U	Ingestion	Int abuse		
11	31 yr	Ethanol cocaine	A	Ingestion	Int abuse	403 mg/dL	
12	30 yr	Ethanol propranolol nifedipine	A/C	Ingestion	Int suicide		
13	15 yr	Methanol	A	Ingestion	Int abuse	99 mg/dL	2 d
14	38 yr	Methanol	A	Ingestion	Int abuse		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
15	44 yr	Methanol	A	Ingestion	Int suicide	129 mg/dL	
16	56 yr	Methanol	A	Ingestion	Int suicide		
17	75 yr	Methanol	U	Ingestion	Int abuse	314 mg/dL	
18	>19 yr	Methanol	A	Ingestion	Int suicide	300 mg/dL	
19	44 yr	Methanol isopropanol	A	Ingestion	Int abuse		
20[P]	38 yr	Methanol lead	A	Ingestion	Int suicide	170 mg/dL 70 µg/dL	
See also cases 24, 30, 52, 108, 109, 110, 124, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 207, 218, 220, 245, 246, 311, 312, 313, 314, 323, 355, 385, 395, 408, 443, 459, 478, 495, 503, 515, 520, 521, 524, 527, 549, 563, 589, 592, 596, 617 (ethanol); 19 (isopropanol).							
Arts/crafts/office supplies							
21[P]	16 yr	Typewriter correction fluid	A/C	Inhalation	Int abuse		
Automotive products							
22[P]	40 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	335 mg/dL§	
23	50 yr	Antifreeze (ethylene glycol) acetaminophen	U	Ingestion	Int suicide	13 mg/dL 100 µg/mL	
24[P]	48 yr	Gasoline additive (methanol) ethanol	A	Ingestion	Int suicide	282 mg/dL 12 mg/dL	2 h
25	20s yr	Gasoline antifreeze (methanol)	A	Ingestion	Int suicide	170 mg/dL	10 h
26	29 yr	Windshield washer fluid (methanol)	A	Ingestion	Int abuse	347 mg/dL	
27	45 yr	Windshield washer fluid (methanol)	A	Ingestion	Int suicide		
28	31 yr	Windshield washer fluid (methanol) glass cleaner	A	Ingestion	Int suicide	129 mg/dL	
Batteries							
29	58 yr	Sulfuric acid (from auto battery)	A	Ingestion	Int suicide		
Bites and envenomations							
30[P]	40 yr	Hymenoptera ethanol	A	Bite/sting/Ing	Bite/sting	320 mg/dL	
Chemicals							
31	67 yr	Alum	A	Other	Ther error		
32[P]	26 yr	Ammonia, anhydrous	A	Inhalation	Occ		
33[P]	31 yr	Ammonia	A	Derm/Inhal	Occ		
34[P]	37 yr	Ammonia, anhydrous	A	Inhalation	Occ		
35	22 mo	Ammonium dichromate	A	Ingestion	Unint gen	RBC chromium 7,795 µg/L	
36	14 yr	Bromide	C	Ingestion	Adv rxn		
37	38 yr	Bromoethylamine hydrobromide thallous acetate thimerosal	A	Ingestion	Int suicide		
38[i,P]	15 mo	Cyanide	U	Unknown	Unint unk	0.81 µg/mL§	
39[P]	4 yr	Cyanide	A	Ingestion	Unint gen	8 µg/mL	<1 h
40[P]	31 yr	Cyanide	A	Ingestion	Int suicide	13.9 µg/mL	
41[P]	41 yr	Cyanide, sodium	A	Unknown	Int suicide	2.85 µg/mL§	
42[P]	52 yr	Cyanide	A	Ingestion	Int suicide	38.6 µg/mL§	
43	24 yr	Ethylene glycol	A	Ingestion	Int suicide	11 mg/dL	
44	24 yr	Ethylene glycol	A	Ingestion	Int suicide	144 mg/dL	
45	25 yr	Ethylene glycol	A	Ingestion	Int abuse	115 mg/dL	
46	26 yr	Ethylene glycol	A	Ingestion	Int abuse	300 mg/dL§	
47[P]	39 yr	Ethylene glycol	A	Ingestion	Int abuse	10 mg/dL	
48	59 yr	Ethylene glycol	A	Ingestion	Unknown	23 mg/dL	
49	59 yr	Ethylene glycol	A	Ingestion	Int suicide	211 mg/dL	
50	69 yr	Ethylene glycol	A	Ingestion	Int unknown	58 mg/dL	
51	39 yr	Ethylene glycol diphenhydramine	A	Ingestion	Int unknown	555 mg/dL	
52[P]	46 yr	Ethylene glycol ethanol	A	Ingestion	Int suicide	162 mg/dL	
53	87 yr	Nitric acid	A	Ingestion	Int suicide		
54	32 yr	Nitric acid potassium ferrocyanide	A	Ingestion	Int suicide		
55	47 yr	N,N-dimethyl aniline long-acting anticoagulant rodenticide	A	Ingestion	Int suicide	methemoglobin 75%	20 h
56	16 yr	Potassium hydroxide lithium hydroxide	A	Aspir/Ing	Unint misuse		
57	26 yr	Sodium azide	A	Ingestion	Int suicide		
58[P]	27 yr	Strychnine theophylline flunixin	A	Ingestion	Int suicide	5 mg/L§ 6 µg/mL§	
59	72 yr	Sulfuric acid	A	Ingestion	Int suicide		
See also cases 112 (cyanide); 192 (ethylene glycol); and 54 (potassium ferrocyanide).							
Cleaning substances							
60	2 yr	Bleach (sodium hypochlorite, 5.4%)	A	Inhalation	Env		
61	66 yr	Bleach (sodium hypochlorite, 5-10%; sodium carbonate; sodium chloride)	A	Ingestion	Int suicide		
62	65 yr	Cleaning solution (acid)	A	Ingestion	Int suicide		
63	93 yr	Deodorizing cleaner (cationic)	A	Aspir/Ing	Unint gen		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
64	14 yr	Drain opener (sodium hydroxide crystals)	A	Ingestion	Int suicide	
65	26 yr	Drain opener (sulfuric acid)	A	Ingestion	Int suicide	
66[P]	59 yr	Drain opener (hydrochloric acid)	A	Ingestion	Int suicide	
67	70 yr	Drain opener (94% sulfuric acid)	A	Ingestion	Int suicide	
68	48 yr	Drain opener (sodium hydroxide) drain opener (potassium hydroxide) ant and roach killer (unspecified)	A	Ingestion	Int suicide	
69	80 yr	Laundry detergent (liquid)	A	Aspir/Ing	Int suicide	
70	61 yr	Oven cleaner (alkali)	A	Ingestion	Int suicide	
71	80 yr	Pine oil disinfectant/cleaner	A	Aspir/Ing	Unint gen	
72	40 yr	Plastic/leather cleaner (butyl cellosolve/propane/isobutane) cocaine	A/C	Inhalation	Int abuse	
73	83 yr	Rust remover (6-8% hydrofluoric acid) acetaminophen/hydrocodone acetaminophen/diphenhydramine	A	Ingestion	Int suicide	
74	48 yr	Toilet bowl cleaner (HCl)	A	Ingestion	Int unknown	
75	68 yr	Toilet bowl cleaner (HCl)	A	Ingestion	Int suicide	
76	75 yr	Toilet bowl cleaner	A	Ingestion	Int suicide	
77	79 yr	Toilet bowl cleaner (HCl)	A	Ingestion	Int suicide	
78[P]	16 yr	VCR head cleaner	A	Inhalation	Int abuse	
See also cases 28 (glass cleaner); 56 (lithium hydroxide); 68 (potassium hydroxide); and 248 (sodium hypochlorite household bleach).						
Cosmetics and personal care products						
79	75 yr	Liquid soap	A	Aspir/Ing	Unint gen	
See also cases 203 (mouthwash); and 202 (nail polish remover).						
Deodorizers						
See also case 9 (air freshener propellant).						
Food products and food poisoning						
See also case 358 (mint extract, 90% ethanol).						
Foreign bodies, toys and miscellaneous						
See also case 143 (activated charcoal).						
Fumes, gases and vapors						
80[P]	4 mo	Carbon monoxide/smoke	A	Inhalation	Env	52%
81	2 yr	Carbon monoxide	A	Inhalation	Env	
82[P]	2 yr	Carbon monoxide	A	Inhalation	Env	55%
83	3 yr	Carbon monoxide	A	Inhalation	Env	
84	4 yr	Carbon monoxide	A	Inhalation	Env	
85	4 yr	Carbon monoxide/smoke	A	Inhalation	Env	15%
86[P]	8 yr	Carbon monoxide/smoke	A	Inhalation	Env	57%
87[P]	10 yr	Carbon monoxide	A	Inhalation	Env	
88[P]	13 yr	Carbon monoxide	A	Inhalation	Env	
89[P]	16 yr	Carbon monoxide	A	Inhalation	Env	62%
90[P]	21 yr	Carbon monoxide	A	Inhalation	Int suicide	73%
91	22 yr	Carbon monoxide	A	Inhalation	Int suicide	19%
92[P]	23 yr	Carbon monoxide	A	Inhalation	Int suicide	48%
93[P]	25 yr	Carbon monoxide	A	Inhalation	Int suicide	77%
94[P]	29 yr	Carbon monoxide	A	Inhalation	Env	40%
95	32 yr	Carbon monoxide	A	Inhalation	Int suicide	67%
96[P]	32 yr	Carbon monoxide	A	Inhalation	Int suicide	
97[P]	37 yr	Carbon monoxide	C	Inhalation	Env	
98[P]	40s yr	Carbon monoxide	A	Inhalation	Int suicide	
99[I,P]	41 yr	Carbon monoxide	U	Inhalation	Int suicide	81%
100[P]	42 yr	Carbon monoxide	A	Inhalation	Occ	44%
101[P]	42 yr	Carbon monoxide	A	Inhalation	Int suicide	49%
102[P]	44 yr	Carbon monoxide	A	Inhalation	Int suicide	47%
103[P]	44 yr	Carbon monoxide	A	Inhalation	Env	35%
104[P]	44 yr	Carbon monoxide	A	Inhalation	Env	44%
105[P]	46 yr	Carbon monoxide	A	Inhalation	Int suicide	60%
106[P]	>19 yr	Carbon monoxide	A	Inhalation	Int suicide	66%§
107[P]	17 yr	Carbon monoxide cocaine diazepam	A	Inhalation	Int suicide	98%§ .14 μg/mL§
108	35 yr	Carbon monoxide/smoke ethanol	A	Ing/Inhal	Env	27% 464 mg/dL
109[P]	36 yr	Carbon monoxide ethanol	A	Ing/Inhal	Int suicide	65%§ 93 mg/dL
110	57 yr	Carbon monoxide/smoke ethanol	A	Ing/Inhal	Env	45%
111[P]	25 yr	Hydrogen sulfide	A	Inhalation	Occ	
112[P]	26 yr	Hydrogen sulfide cyanide methane	A	Inhalation	Occ	
See also case 112 (methane).						

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
Heavy metals							
113	26 yr	Arsenic trioxide	A	Ingestion	Int suicide		
114	25 yr	Mercuric chloride	A	Ingestion	Int suicide		
115	35 yr	Mercury (elemental)	A	Inhalation	Int suicide	438 µg/L	3 d
See also cases 20 (lead); 37 (thallous acetate); and 37 (thimerosal).							
Hydrocarbons							
116[P]	14 yr	Butane	A	Inhalation	Int abuse		
117[P]	14 yr	Butane	A	Inhalation	Int abuse		
118[P]	16 yr	Butane	A	Inhalation	Int abuse		
119[P]	16 yr	Butane (lighter)	A	Inhalation	Int abuse		
120[P]	17 yr	Butane	A	Inhalation	Int abuse		
121[P]	17 yr	Butane	A	Inhalation	Int abuse		
122[P]	19 yr	Clorofluorocarbon	A	Inhalation	Int abuse		
123[P]	19 yr	Clorofluorocarbon propellant	A/C	Inhalation	Int abuse		
124[P]	21 yr	Clorofluorocarbon ethanol	A/C	Ing/Inhal	Int abuse	120 mg/dL	
125	9 yr	Cooking oil spray	U	Aspir/Inhal	Unknown		
126[P]	15 mo	Gasoline	A	Aspir/Ing	Unint gen		
127[P]	18 mo	Gasoline	A	Aspir/Ing	Unint gen		
128	62 yr	Grease (farm equipment) permethrin	A	Aspir/Ing	Unint gen		
129	69 yr	Mineral spirits	A	Aspir/Ing	Unint gen		
130	40 yr	Tar/asphalt	A	Dermal	Occ		
131[P]	14 yr	Trichloroethane	A	Inhalation	Int abuse		
132[P]	26 yr	Trichloroethane	A	Inhalation	Occ		
133[P]	39 yr	Trichloroethylene trichloroethane	C	Inhalation	Int abuse		
134	15 mo	Unknown hydrocarbon	A	Aspir/Ing	Unint gen		
135[P]	19 yr	Xylene polyisobutylene amine	A	Derm/Inhal	Occ		
See also cases 135 (polyisobutylene amine); and 133 (trichloroethane).							
Insecticides							
136	74 yr	Boric acid tablets	A	Ingestion	Int suicide		
137[P]	44 yr	Carbaryl lorazepam	A	Ingestion	Int suicide		
138	73 yr	Chlorpyrifos (12%)	A	Aspir/Derm/Ing	Int suicide		
139	24 yr	Lindane lotion	A	Ingestion	Ther error		
140	47 yr	Malathion	A	Ingestion	Int suicide	pseudocholinesterase 1.1 U/mL	
141	74 yr	Malathion chlordane	A	Ingestion	Int suicide	RBC cholinesterase depression 99%	
142	28 yr	Sodium fluoride insecticide	A	Ingestion	Int suicide		
See also cases 141 (chlordane); 128 (permethrin); and 68 (unspecified ant and roach killer).							
Mushrooms							
143	34 yr	Mushroom (unidentified) activated charcoal	A	Aspir/Ing	Int misuse		
Paints and stripping agents							
144	17 yr	spray paint (toluene)	A/C	Inhalation	Int abuse		
145	3 yr	spray paint (toluene)	C	Inhalation	Int abuse		
146	34 yr	wood stripper (toluene, isopropanol, naphtha)	C	Ing/Inhal	Int abuse		
Polishes and Waxes							
See also case 247 (furniture polish).							
Rodenticides							
147	15 yr	Zinc phosphide	A	Ingestion	Int suicide		
See also case 55 (long-acting anticoagulant rodenticide).							
Analgesics							
148	7 yr	Acetaminophen	A	Ingestion	Unknown	98 µg/mL	>22 h
149	12 yr	Acetaminophen	C	Ingestion	Ther error	290 µg/mL	
150	14 yr	Acetaminophen	A	Ingestion	Int suicide	86 µg/mL	20 h
151	20 yr	Acetaminophen	A	Ingestion	Int suicide		
152	21 yr	Acetaminophen	A	Ingestion	Int suicide	27 µg/mL	48 h
153	24 yr	Acetaminophen	C	Ingestion	Int misuse	191 µg/mL	
154	26 yr	Acetaminophen	A	Ingestion	Int suicide		
155	30 yr	Acetaminophen	A	Ingestion	Int suicide	118 µg/mL	22 h
156	34 yr	Acetaminophen	U	Ingestion	Int unknown	63 µg/mL	
157	36 yr	Acetaminophen	U	Ingestion	Int suicide	44 µg/mL	36-48 h
158	36 yr	Acetaminophen	A	Ingestion	Int suicide	150 µg/mL	26 h
159	38 yr	Acetaminophen	A	Ingestion	Int suicide	101 µg/mL	21 h
160	39 yr	Acetaminophen	A/C	Ingestion	Ther error		
161	44 yr	Acetaminophen	C	Ingestion	Int misuse	115 µg/mL	24 h
162	45 yr	Acetaminophen	A	Ingestion	Int suicide	30 µg/mL	37 h
163	46 yr	Acetaminophen	C	Ingestion	Int misuse	34 µg/mL	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
164	47 yr	Acetaminophen	C	Ingestion	Ther error		
165	50 yr	Acetaminophen	A	Ingestion	Int suicide		
166	55 yr	Acetaminophen	A	Ingestion	Int suicide	166 μg/mL	
167	57 yr	Acetaminophen	A	Ingestion	Int unknown		
168	68 yr	Acetaminophen	C	Ingestion	Ther error	170 μg/mL	
169	70 yr	Acetaminophen	U	Ingestion	Int unknown		
170	74 yr	Acetaminophen	U	Ingestion	Int misuse		
171	74 yr	Acetaminophen	A	Ingestion	Int unknown	236 μg/mL	17 h
172	80 yr	Acetaminophen	C	Ingestion	Unknown		
173	80 yr	Acetaminophen	C	Ingestion	Int misuse	129 μg/mL	
174	>19 yr	Acetaminophen	A	Ingestion	Int unknown	99 μg/mL	
175	32 yr	Acetaminophen acetaminophen/salicylamide/ phenyltoloxamine ketorolac	A	Ingestion	Int suicide	74 μg/mL	2 d
176	22 yr	Acetaminophen alprazolam fluoxetine	A	Ingestion	Int suicide	74 μg/mL	
177	80 yr	Acetaminophen aspirin	C	Ingestion	Ther error	6 μg/mL 19 mg/dL	
178	35 yr	Acetaminophen carbamazepine phenytoin	A	Ingestion	Int suicide	18 μg/mL	
179	27 yr	Acetaminophen cocaine ethanol	A/C	Ingestion	Int misuse	32 μg/mL	
180	21 yr	Acetaminophen ethanol	A	Ingestion	Int suicide	127 μg/mL	4 h
181	31 yr	Acetaminophen ethanol	C	Ingestion	Int unknown	12 μg/mL	
182	32 yr	Acetaminophen ethanol	A	Ingestion	Int suicide	89 μg/mL	30 h
183	32 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	16 μg/mL	
184	33 yr	Acetaminophen ethanol	C	Ingestion	Int suicide		
185	33 yr	Acetaminophen ethanol	U	Ingestion	Unknown	48 μg/mL 150 mg/dL	
186	43 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	37 μg/mL	
187	54 yr	Acetaminophen ethanol	C	Ingestion	Ther error	54 μg/mL	
188	54 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	14 μg/mL	>36 h
189	56 yr	Acetaminophen ethanol	C	Ingestion	Unknown	80 μg/mL	
190	67 yr	Acetaminophen ethanol	A/C	Ingestion	Ther error	55 μg/mL	
191	43 yr	Acetaminophen ethanol ibuprofen	C	Ingestion	Int misuse		
192	63 yr	Acetaminophen ethylene glycol	U	Ingestion	Unknown	67 μg/mL 9 mg/dL	
193	25 yr	Acetaminophen ibuprofen	A	Ingestion	Int suicide	18 μg/mL	38-40 h
194[P]	62 yr	Acetaminophen prednisone acetaminophen/hydrocodone	U	Ingestion	Unknown	762 μg/mL	
195	60 yr	Acetaminophen salicylate	C	Ingestion	Int misuse	149 μg/mL 84 mg/dL	
196	60 yr	Acetaminophen/codeine acetaminophen/propoxyphene	A	Ingestion	Int suicide	382 μg/mL	
197	22 yr	Acetaminophen/diphenhydramine	A	Ingestion	Int suicide	102 μg/mL[‖]	25 h
198[P]	24 yr	Acetaminophen/diphenhyramine	A	Ingestion	Int suicide	369 μg/mL[‖]	3 h
199	26 yr	Acetaminophen/diphenhydramine	U	Ingestion	Unknown		
200[P]	35 yr	Acetaminophen/diphenhydramine	A	Ingestion	Int suicide		
201	39 yr	Acetaminophen/hydrocodone	U	Ingestion	Int unknown	43 μg/mL[‖]	
202	43 yr	Acetaminophen/hydrocodone diphenoxylate/atropine nail polish remover	A/C	Ingestion	Int suicide	60 μg/mL[‖]	
203	27 yr	Acetaminophen/hydrocodone mouthwash meperidine	C	Ingestion	Int misuse	43 μg/mL	
204	48 yr	Acetaminophen/oxycodone acetaminophen/codeine	A/C	Ingestion	Int unknown		
205	73 yr	Acetaminophen/oxycodone	C	Ingestion	Int misuse	41 μg/mL[‖]	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
206	36 yr	Acetaminophen/oxycodone carisoprodol	U	Ingestion	Int abuse		
207[P]	30 yr	Acetaminophen/oxycodone ethanol	A	Ingestion	Int suicide		
208	27 yr	Acetaminophen/propoxyphene	A	Ingestion	Int suicide	72 μg/mL[‖]	>24 h
209[P]	29 yr	Acetaminophen/propoxyphene	A	Ingestion	Int unknown		
210[P]	59 yr	Acetaminophen/propoxyphene	U	Ingestion	Int suicide	191[‖] μg/mL§ propoxyphene .9 μg/mL§	
211	87 yr	Acetaminophen/propoxyphene	U	Ingestion	Int unknown	>200 μg/mL[‖]	
212	82 yr	Acetaminophen/propoxyphene acetaminophen/codeine lorazepam	A	Ingestion	Int suicide		
213[P]	35 yr	Acetaminophen/propoxyphene alprazolam diazepam	A/C	Ingestion	Int misuse		
214[P]	53 yr	Acetaminophen/propoxyphene amitriptyline diazepam	A	Ingestion	Int suicide	69 μg/mL[‖]	6 h
215	92 yr	Acetaminophen/propoxyphene aspirin/butalbital/caffeine methyldopa	A/C	Ingestion	Int suicide		
216[P]	80 yr	Acetaminophen/propoxyphene buspirone ibuprofen	A	Ingestion	Unknown		
217[P]	31 yr	Acetaminophen/propoxyphene carisoprodol	U	Ingestion	Unint unk		
218	45 yr	Acetaminophen/propoxyphene diazepam ethanol	U	Ingestion	Int suicide		
219	69 yr	Acetaminophen/propoxyphene digoxin	A/C	Ingestion	Int unknown	195 μg/mL[‖] 2.5 ng/mL	
220	39 yr	Acetaminophen/propoxyphene ethanol carisoprodol	A	Ingestion	Int suicide		
221[P]	17 yr	Acetaminophen/propoxyphene pentazocine amitriptyline	A	Ingestion	Int suicide	199 μg/mL[‖] 194 ng/mL nortriptyline 149 ng/mL	
222	15 yr	Aspirin	A	Ingestion	Int suicide	107 mg/dL	5 h
223	23 yr	Aspirin	A	Ingestion	Int suicide	120 mg/dL	
224	29 yr	Aspirin	A	Ingestion	Int suicide	134 mg/dL	
225	30 yr	Aspirin	C	Ingestion	Int abuse	67 mg/dL	
226	32 yr	Aspirin	A	Ingestion	Int suicide	98 mg/dL	6 h
227	33 yr	Aspirin	A	Ingestion	Int suicide	96 mg/dL	2.5 h
228	40 yr	Aspirin	A	Ingestion	Int suicide	60 mg/dL	
229	41 yr	Aspirin	A	Ingestion	Int suicide	298 mg/dL§	
230	42 yr	Aspirin	A	Ingestion	Int suicide	131 mg/dL	
231	46 yr	Aspirin	A	Ingestion	Unknown	100 mg/dL	
232[P]	47 yr	Aspirin	C	Ingestion	Int misuse	76 mg/dL§	
233	48 yr	Aspirin	C	Ingestion	Int misuse	59 mg/dL	
234	49 yr	Aspirin	A	Ingestion	Int suicide		
235	59 yr	Aspirin	A/C	Ingestion	Int suicide	73 mg/dL	
236	59 yr	Aspirin	A	Ingestion	Int unknown	117 mg/dL	10 h
237	65 yr	Aspirin	C	Ingestion	Unint unk	52 mg/dL	
238	67 yr	Aspirin	U	Ingestion	Int suicide	78 mg/dL	6 h
239	72 yr	Aspirin	U	Ingestion	Int unknown	75 mg/dL	>7 h
240	73 yr	Aspirin	A/C	Ingestion	Int suicide	107 mg/dL	46 h
241	77 yr	Aspirin	C	Ingestion	Ther error	79 mg/dL	
242	64 yr	Aspirin acetaminophen	U	Ingestion	Int unknown	46 mg/dL 155 μg/mL	
243	56 yr	Aspirin captopril estrogen, conjugated	A	Ingestion	Int suicide	50 mg/dL	1 d
244	>19 yr	Aspirin diphenhydramine phenothiazine	A	Ingestion	Int suicide	90 mg/dL	
245	44 yr	Aspirin ethanol	A	Ingestion	Int suicide	85 mg/dL	>11 h
246	71 yr	Aspirin ethanol	A	Ingestion	Int suicide	57 mg/dL	3 d
247	45 yr	Aspirin furniture polish	A	Ingestion	Int suicide	97 mg/dL	
248	48 yr	Aspirin sodium hypochlorite household bleach	A	Ingestion	Int suicide	90 mg/dL	
249[P]	47 yr	Butorphanol	A/C	Inhalation	Adv rxn		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
250[P]	46 yr	Codeine	A	Ingestion	Int suicide	9.5 µg/mL§	
		cyclobenzaprine				593 ng/mL§	
		acetaminophen				121 µg/mL§	
251[P]	22 yr	Codeine	U	Ing/Inh/Paren	Int abuse	170 µg/mL	
		heroin					
252	31 yr	Colchicine	A	Ingestion	Int suicide		
		glyburide					
253	19 yr	Colchicine	A	Ingestion	Int suicide		
		spironolactone					
		heroin					
254[P]	38 yr	Hydrocodone	U	Ingestion	Unknown	1.7 µg/mL§	
255[P]	50 yr	Ibuprofen	A	Ingestion	Int suicide		
		phenytoin					
		bumetanide					
256[P]	34 yr	Meperidine	A	Ingestion	Unknown	4.9 µg/mL§	
						normeperidine 0.5 µg/mL§	
		quinine					
257[P]	41 yr	Methadone	C	Ingestion	Int unknown	28 µg/dL	
		amitriptyline				170 ng/mL	
						nortriptyline 370 ng/mL	
		doxepine				140 ng/mL	
258[P]	41 yr	Morphine	A	Ingestion	Int suicide	11 µg/mL	
259	16 yr	Morphine	A	Ingestion	Int suicide	33 µg/L§	
		codeine				2.6 µg/mL§	
		butabarbital				19 µg/mL§	
260[P]	30 yr	Morphine	A	Ingestion	Int unknown	710 µg/mL	>24 h
		phenobarbital				2 µg/mL	>24 h
261[P]	37 yr	Opiates	A	Parenteral	Int abuse		
262	39 yr	Opiates	U	Unknown	Unknown		
263[P]	55 yr	Opiates	A	Ingestion	Int suicide		
264	41 yr	Opiates	A	Ingestion	Int abuse		
		benzodiazepine					
265[P]	32 yr	Opiates	U	Unknown	Int abuse		
		cocaine					
		benzodiazepines					
266[P]	40 yr	Opiates	A/C	Parenteral	Int abuse		
		cocaine					
267	9 yr	Phenylbutazone	A	Ingestion	Int unknown	670 µg/mL	
						oxyphenbutazone 27 µg/ml	
268	18 yr	Piroxicam	U	Ingestion	Unknown		
269[P]	9 yr	Propoxyphene	A	Ingestion	Int suicide		
270[P]	48 yr	Propoxyphene	A	Ingestion	Int suicide		
271[P]	37 yr	Propoxyphene	A	Ingestion	Int suicide	3.96 µg/mL§	
						norpropoxyphene 14.57 µg/mL§	
		diazepam				0.2 µg/mL§	
						317 ng/mL§	
		acetaminophen				72 µg/mL§	6 h
272[P]	49 yr	Propoxyphene	A	Ingestion	Int suicide	9.4 µg/mL§	
						norpropoxyphene 35.0 µg/mL§	
		hydroxyzine				0.3 µg/mL§	
273[P]	17 yr	Propoxyphene	A	Ingestion	Unknown		
		temazepam					
274[P]	20 yr	Propoxyphene	A	Ingestion	Int suicide		
		thiothixene					
		propranolol					
275	76 yr	Salicylate	U	Ingestion	Unknown	81 mg/dL	
276	43 yr	Salicylate	A	Ingestion	Int suicide	119 mg/dL	
		codeine					
		diphenhydramine					

See also cases 6, 7, 8, 23, 242, 250, 271, 283, 306, 458, 491, 492, 506, 625 (acetaminophen); 204, 212 (acetaminophen/codeine); 73, 493 (acetaminophen/diphenhydramine); 73, 194, 444, 523 (acetaminophen/hydrocodone); 196, 328, 468, 529 (acetaminophen/propoxyphene); 8, 177, 380 (aspirin); 215 (aspirin/butalbital/caffeine); 259, 276, 309, 370, 464, 541 (codeine); 409 (colchicine); 58 (flunixin); 374 (hydrocodone); 191, 193, 216, 315 (ibuprofen); 455, 496 (indomethacin); 175 (ketorolac); 203 (meperidine); 598 (meperidine/promethazine); 599, 600 (methadone); 439, 546 (morphine); 386, 562, 601, 606 (opiates); 221 (pentazocine); 321, 528, 544, 603, 604 (propoxyphene); and 195, 309, 322, 522 (salicylates).

Anesthetics

277	65 yr	Lidocaine	A	Parenteral	Ther error		
278	16 yr	Nitrous oxide	A	Inhalation	Int abuse		
279[P]	20 yr	Nitrous oxide	A	Inhalation	Int abuse		
280[P]	31 yr	Nitrous oxide	A	Inhalation	Int abuse		

Anticholinergic drugs

281	38 yr	Amantadine	U	Ingestion	Int suicide		
		clonazepam					

See also cases 559 (amantadine); and 285, 316 (benztropine).

Anticoagulants

See also case 606 (warfarin).

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
Anticonvulsants						
282[P]	15 yr	Carbamazepine	A/C	Ingestion	Int unknown	58 μg/mL
283	24 yr	Carbamazepine	A	Ingestion	Int suicide	50 μg/mL
		acetaminophen				45 μg/mL
		metoclopramide				
284	39 yr	Carbamazepine	A	Ingestion	Int suicide	54 μg/mL
		alprazolam				
285[P]	57 yr	Carbamazepine	A/C	Ingestion	Int suicide	
		benztropine				
		clonazepam				
286	20s yr	Phenytoin	A/C	Ingestion	Int suicide	17 μg/mL
		divalporex sodium				
		cocaine				
287	55 yr	Valproic acid	A	Ingestion	Int suicide	
See also cases 178, 388, 552 (carbamazepine); 286 (divalporex sodium); 178, 255, 315, 498, 523, 552 (phenytoin); and 374 (valproic acid).						
Antidepressants						
288	12 yr	Amitriptyline	C	Ingestion	Ther error	
289	16 yr	Amitriptyline	A	Ingestion	Int suicide	
290	17 yr	Amitriptyline	A	Ingestion	Int suicide	
291[P]	26 yr	Amitriptyline	A	Ingestion	Int suicide	
292[P]	28 yr	Amitriptyline	A	Ingestion	Int suicide	
293	30 yr	Amitriptyline	A	Ingestion	Int suicide	
294	30 yr	Amitriptyline	A	Ingestion	Int suicide	453 ng/mL
						nortriptyline 114 ng/mL
295	32 yr	Amitriptyline	A	Ingestion	Int suicide	
296[P]	39 yr	Amitriptyline	A/C	Ingestion	Int suicide	
297	41 yr	Amitriptyline	A	Ingestion	Int suicide	
298	45 yr	Amitriptyline	A	Ingestion	Int suicide	
299[P]	45 yr	Amitriptyline	A	Ingestion	Int suicide	
300[P]	48 yr	Amitriptyline	A	Ingestion	Int suicide	
301[P]	49 yr	Amitriptyline	A	Ingestion	Unknown	
302	70 yr	Amitriptyline	A	Ingestion	Unknown	
303	>19 yr	Amitriptyline	A	Ingestion	Int suicide	
304[P]	>19 yr	Amitriptyline	U	Ingestion	Int suicide	
305	>19 yr	Amitriptyline	A	Ingestion	Int suicide	
306[P]	23 yr	Amitriptyline	A	Ingestion	Int suicide	3,200 ng/mL
						nortriptyline 1,000 ng/mL
		acetaminophen				140 μg/mL
307	67 yr	Amitriptyline	A	Ingestion	Int suicide	2,400 ng/mL
		amitriptyline/perphenazine				nortriptyline 200 ng/mL
		lorazepam				
308	36 yr	Amitriptyline	A/C	Ingestion	Int suicide	
		chlordiazepoxide				
		alprazolam				
309[P]	29 yr	Amitriptyline	A	Ingestion	Int suicide	8,800 ng/mL§
						nortriptyline 1,900 ng/mL§
		codeine				5.1 μg/mL§
		salicylate				8 mg/dL§
310[P]	42 yr	Amitriptyline	A	Ingestion	Int suicide	1,100 ng/mL§
						nortriptyline 750 ng/mL§
		diphenhydramine				.78 μg/mL§
		thioridazine				
311	19 yr	Amitriptyline	A	Ingestion	Int suicide	10,700 ng/mL§
						nortriptyline 1,100 ng/mL§
		ethanol				140 mg/dL
312[P]	35 yr	Amitriptyline	A	Ingestion	Int suicide	
		ethanol				202 mg/dL
313	37 yr	Amitriptyline	U	Ingestion	Int suicide	4,709 ng/mL
						nortriptyline 180 ng/mL
		ethanol				222 mg/dL
314	>19 yr	Amitriptyline	A	Ingestion	Int suicide	
		ethanol				
315	45 yr	Amitriptyline	U	Ingestion	Int unknown	
		ibuprofen				
		phenytoin				15.6 μg/mL
316	28 yr	Amitriptyline	A/C	Ingestion	Int suicide	
		loxapine				
		benztropine				
317	14 yr	Amitriptyline	A	Ingestion	Int suicide	673 ng/mL
		methamphetamine				
		metoclopramide				
318[P]	61 yr	Amitriptyline	A	Ingestion	Int suicide	1,020 ng/mL
						nortriptyline 614 ng/mL
		perphenazine				
319[P]	55 yr	Amitriptyline	U	Ingestion	Int suicide	
		perphenazine				
		albuterol				

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
320[P]	45 yr	Amitriptyline perphenazine lithium	A	Ingestion	Int suicide		
321	30 yr	Amitriptyline propoxyphene lithium	A/C	Ingestion	Int suicide		
322	30 yr	Amitriptyline salicylate phenobarbital	U	Ingestion	Int suicide	 3.3 mg/dL 1.2 µg/mL	
323[P]	23 yr	Amitriptyline terfenadine ethanol	A	Ingestion	Int suicide		
324	23 yr	Amitriptyline/perphenazine	A/C	Ingestion	Int suicide		
325	46 yr	Amitriptyline/perphenazine	A	Ingestion	Int suicide		
326	48 yr	Amitriptyline/perphenazine	A	Ingestion	Int suicide		
327	70 yr	Amitriptyline/perphenazine	A	Ingestion	Int suicide		
328[P]	37 yr	Amitriptyline/perphenazine acetaminophen/propoxyphene	A	Ingestion	Int suicide		
329	18 yr	Amitriptyline/perphenazine diphenhydramine	A	Ingestion	Int suicide		
330	72 yr	Amitriptyline/perphenazine fluoxetine	A	Ingestion	Int suicide	1,239 ng/mL	
331	17 mo	Amoxapine	A	Ingestion	Unint gen		
332[P]	68 yr	Amoxapine clomipramine	A	Ingestion	Int unknown		
333	41 yr	Amoxapine clonazepam	A/C	Ingestion	Int suicide	3,004 ng/mL	
334	65 yr	Amoxapine fluphenazine enalapril	A/C	Ingestion	Int suicide		
335[P]	34 yr	Amoxapine thiothixene buspirone	A/C	Ingestion	Int suicide		
336	47 yr	Amoxapine trazodone chlorazepate	A/C	Ingestion	Int suicide		
337[P]	20 mo	Desipramine	A	Ingestion	Unint gen		
338[P]	2 yr	Desipramine	A	Ingestion	Unint gen	8,000 ng/mL§	
339	13 yr	Desipramine	A	Ingestion	Int suicide		
340	13 yr	Desipramine	A/C	Ingestion	Int suicide	1,192 ng/mL	
341	13 yr	Desipramine	A	Ingestion	Int suicide		
342	14 yr	Desipramine	A	Ingestion	Int suicide	3,180 ng/mL§	
343[P]	15 yr	Desipramine	A/C	Ingestion	Int suicide	1,147 ng/mL	
344	15 yr	Desipramine	A	Ingestion	Int suicide		
345[P]	15 yr	Desipramine	A	Ingestion	Int suicide		
346[P]	16 yr	Desipramine	A	Ingestion	Int suicide		
347	18 yr	Desipramine	A	Ingestion	Int unknown	672 ng/mL	36 hr
348	18 yr	Desipramine	A	Ingestion	Int suicide	2,150 ng/mL	
349	26 yr	Desipramine	A	Ingestion	Int suicide		
350[P]	29 yr	Desipramine	A	Ingestion	Int suicide		
351	30 yr	Desipramine	A/C	Ingestion	Int suicide		
352	48 yr	Desipramine	A/C	Ingestion	Int suicide		
353	60 yr	Desipramine	A	Ingestion	Int suicide		
354	19 yr	Desipramine amitriptyline fluoxetine	A	Ingestion	Int suicide	2,968 ng/mL 1,970 ng/mL	
355	61 yr	Desipramine ethanol	A	Ingestion	Int suicide		
356	32 yr	Desipramine fluoxetine	A	Ingestion	Int suicide	2,340 ng/mL 71 ng/mL	
357	38 yr	Desipramine lorazepam	A	Ingestion	Int suicide		
358	35 yr	Desipramine mint extract (90% ethanol)	A	Ingestion	Int suicide		
359	37 yr	Desipramine nifedipine	A	Ingestion	Int suicide	2,098 ng/mL	
360	57 yr	Desipramine nortriptyline	A	Ingestion	Int suicide		
361	>19 yr	Desipramine propranolol haloperidol	U	Ingestion	Int suicide		
362	49 yr	Desipramine trazodone chlorpromazine	A/C	Ingestion	Int suicide		
363[P]	17 yr	Doxepin	A	Ingestion	Int suicide		
364	18 yr	Doxepin	A	Ingestion	Int suicide		
365[P]	34 yr	Doxepin	A	Ingestion	Int suicide		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
366[P]	36 yr	Doxepin	A	Ingestion	Int suicide	>1,000 ng/mL
367[P]	41 yr	Doxepin	A	Ingestion	Int suicide	
368[P]	53 yr	Doxepin	A	Ingestion	Int suicide	1,300 ng/mL§ nordoxepin 200 ng/mL§
369[P]	>19 yr	Doxepin	U	Ingestion	Int suicide	
370[P]	15 yr	Doxepin codeine alprazolam	A	Ingestion	Int suicide	3,010 ng/mL§ 3.0 μg/mL§ 110 ng/mL§
371	47 yr	Doxepin haloperidol	A/C	Ingestion	Int suicide	
372[P]	28 yr	Doxepin trifluoperazine	U	Ingestion	Int suicide	
373[P]	37 yr	Fluoxetine nortriptyline doxylamine	U	Ingestion	Int suicide	4,000 ng/mL 4,200 ng/mL
374[P]	50 yr	Fluoxetine valproic acid hydrocodone	U	Ingestion	Int suicide	9.0 μg/mL
375[P]	22 yr	Imipramine	A	Ingestion	Int suicide	
376[P]	27 yr	Imipramine	A	Ingestion	Int suicide	6,300 ng/mL desipramine 480 ng/mL
377	28 yr	Imipramine	A	Ingestion	Int suicide	
378[P]	41 yr	Imipramine	A	Ingestion	Int suicide	
379	50 yr	Imipramine	A	Ingestion	Int suicide	
380	41 yr	Imipramine aspirin trifluoperazine	A	Ingestion	Int suicide	1,000 ng/mL 55 mg/dL
381	40 yr	Imipramine carisoprodol	A	Ingestion	Int suicide	
382	19 yr	Imipramine clonazepam	A/C	Ingestion	Int suicide	3,695 ng/mL
383	32 yr	Imipramine cocaine	A	Ingestion	Int suicide	
384	47 yr	Imipramine cocaine	A	Ingestion	Int suicide	
385[P]	38 yr	Imipramine ethanol	A	Ingestion	Int suicide	
386	32 yr	Imipramine opiate	A	Ingestion	Int unknown	
387	30 yr	Lithium amitriptyline nortriptyline	A	Ingestion	Int suicide	6.5 mEq/L 630 ng/mL 450 ng/mL
388	60 yr	Lithium imipramine carbamazepine	A/C	Ingestion	Int suicide	4.86 mEq/L 100 ng/mL 13.3 μg/mL§
389	32 yr	Loxapine clomipramine	A	Ingestion	Int suicide	
390	37 yr	Nortriptyline	A/C	Ingestion	Int suicide	
391	37 yr	Nortriptyline	U	Unknown	Unknown	
392	41 yr	Nortriptyline	U	Unknown	Int suicide	
393[P]	65 yr	Nortriptyline	A	Ingestion	Int suicide	5,000 ng/mL
394	63 yr	Nortriptyline chloropromazine	A	Ingestion	Int suicide	954 ng/mL
395[P]	44 yr	Nortriptyline cocaine ethanol	A	Ingestion	Int unknown	1,046 ng/mL§ .55 μg/mL§
396	44 yr	Nortriptyline diltiazem (long acting) lorazepam	A/C	Ingestion	Int suicide	
397	21 yr	Nortriptyline fluphenazine bupropion	A	Ingestion	Int suicide	962 ng/mL
398	18 yr	Nortriptyline omeprazole cimetidine	A	Ingestion	Unknown	
399	16 yr	Nortriptyline perphenazine	A	Ingestion	Int suicide	
400[P]	31 yr	Nortriptyline temazepam ranitidine	A	Ingestion	Int suicide	
401	29 yr	Nortriptyline trazodone clonazepam	A/C	Ingestion	Int suicide	
402	43 yr	Sertraline thioridazine triazolam	A	Ingestion	Int suicide	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
403[P]	44 yr	Tranylcypromine	A/C	Ingestion	Int suicide	.44 mg/L§	
404[P]	14 yr	Trazodone	A	Ingestion	Int suicide		
405[P]	26 yr	Tricyclic antidepressant	A	Ingestion	Int suicide		
406	50 yr	Tricyclic antidepressant	U	Ingestion	Int unknown	>600 ng/mL	
407[P]	47 yr	Tricyclic antidepressant amphetamine	A	Ingestion	Int suicide		
408	39 yr	Tricyclic antidepressant ethanol	U	Ingestion	Int suicide	1,842 ng/mL 132 mg/dL	
See also cases 214, 221, 257, 354, 387, 455, 477, 503, 589 (amitriptyline); 307 (amitriptyline/perphenazine); 397, 449 (bupropion); 332, 389 (clomipramine); 257, 494 (doxepin); 176, 330, 354, 356, 469 (fluoxetine); 388 (imipramine); 320, 321, 464 (lithium); 316 (loxapine); 360, 373, 387, 525, 541 (nortriptyline); 547, 593 (phenelzine); 556 (tranylcypromine); 336, 362, 401, 525, 538 (trazodone); 522, 555 (sertraline); 528, 601, 619 (unspecified cyclic antidepressants).							
Antihistamines							
409	21 yr	Astemizole colchicine cocaine	A	Ingestion	Int suicide		
410[P]	40 yr	Diphenhydramine (OTC) sleep aid	A	Ingestion	Int suicide		
411[P]	44 yr	Diphenhydramine (OTC)	A	Ingestion	Int suicide	4.99 µg/mL	
412[P]	46 yr	Diphenhydramine	A	Ingestion	Int suicide		
413	30 yr	Diphenhydramine benzodiazepines	A	Ingestion	Int suicide		
See also cases 398, 535 (cimetidine); 400, 496 (ranitidine); 51, 244, 276, 310, 329, 500, 550, 553 (diphenhydramine); 373 (doxylamine); 272, 458, 494 (hydroxyzine); and 323 (terfenadine).							
Antimicrobials							
414[P]	28 yr	Isoniazid	A/C	Ingestion	Int suicide	14 µg/mL	
415[P]	35 yr	Isoniazid	A	Ingestion	Int suicide	56 µg/mL	>20 h
See also cases 555 (azidothymidine); 471 (cephalexin); 438 (ciprofloxin); and 441 (trimethoprim/sulfamethoxazole).							
Antineoplastics							
416	58 yr	Paclitaxel	A	Parenteral	Adv rxn		
Asthma therapies							
417	15 yr	Theophylline (long-acting)	A/C	Ingestion	Int suicide	118 µg/mL	
418[P]	18 yr	Theophylline (long-acting)	A	Ingestion	Int suicide	105 µg/mL	1 d
419[P]	20 yr	Theophylline	U	Ingestion	Unknown		
420	21 yr	Theophylline	A	Ingestion	Int unknown	70 µg/mL	
421	52 yr	Theophylline (long-acting)	C	Ingestion	Int unknown	98 µg/mL	
422	58 yr	Theophylline	A/C	Parenteral	Ther error	39 µg/mL	
423[P]	60 yr	Theophylline	C	Ingestion	Ther error	52 µg/mL	
424	60 yr	Theophylline	A/C	Ingestion	Unint unknown	60 µg/dL	
425	64 yr	Theophylline	A/C	Ingestion	Ther error	77 µg/mL	
426	67 yr	Theophylline	A/C	Ingestion	Unint unknown	40 µg/mL	
427	70s yr	Theophylline	C	Ingestion	Unknown	55 µg/mL	
428	71 yr	Theophylline (long-acting)	C	Ingestion	Ther error	33 µg/mL	
429	74 yr	Theophylline	C	Ingestion	Ther error	30 µg/mL	
430	75 yr	Theophylline	C	Ingestion	Ther error	47 µg/mL	
431	79 yr	Theophylline	C	Ingestion	Unint unknown	36 µg/mL	
432	80 yr	Theophylline	C	Ingestion	Ther error	35 µg/mL	
433	82 yr	Theophylline	C	Ingestion	Unknown	66 µg/mL	
434[P]	83 yr	Theophylline (long-acting)	C	Ingestion	Unknown	58 µg/mL	
435	84 yr	Theophylline	C	Ingestion	Unknown	33 µg/mL	
436	90 yr	Theophylline (long-acting)	C	Ingestion	Adv rxn	55 µg/mL	
437	91 yr	Theophylline	C	Ingestion	Unknown	49 µg/mL	
438	73 yr	Theophylline ciprofloxin	C	Ingestion	Ther error	52 µg/mL	
439	37 yr	Theophylline clonazepam morphine	A/C	Ingestion	Int suicide	50 µg/mL 99 ng/mL§ .56 µg/mL§	
440	43 yr	Theophylline quinine thyroxine	A/C	Ingestion	Int suicide	123 µg/mL	
441	48 yr	Theophylline timethoprim/sulfamethoxazole	A	Ingestion	Int suicide		
See also cases 319 (albuterol); and 58, 451 (theophylline).							
Cardiovascular drugs							
442[P]	26 yr	Atenolol	A	Ingestion	Int suicide		
443	57 yr	Atenolol temazepam ethanol	A/C	Ingestion	Int suicide		
444[P]	50 yr	Clonidine nifedipine acetaminophen/hydrocodone	A/C	Ingestion	Int suicide		
445	74 yr	Digoxin	A/C	Ingestion	Int suicide	11.8 ng/mL	
446	90 yr	Digoxin	C	Ingestion	Adv rxn	6.1 ng/mL	
447	92 yr	Digoxin	A	Ingestion	Int suicide	9.8 ng/mL	1 h
448	66 yr	Digoxin alprazolam	A	Ingestion	Int suicide	>4.0 ng/mL	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
449	84 yr	Digoxin	A	Ingestion	Int suicide	11.4 ng/mL	
		bupropion					
450	80 yr	Digoxin	A/C	Ingestion	Int suicide		
		furosemide					
451	67 yr	Digoxin	C	Ing/Paren	Adv rxn	5 ng/mL	
		theophylline				34 μg/mL	
452	21 yr	Diltiazem	A	Ingestion	Int suicide		
453	39 yr	Diltiazem	A	Ingestion	Int suicide	6.4 μg/mL	
454	41 yr	Diltiazem (sustained release)	A	Ingestion	Int suicide		
455	73 yr	Diltiazem	A/C	Ingestion	Int suicide		
		amitriptyline					
		indomethacin					
456	38 yr	Diltiazem	A	Ing/Inhal	Int suicide	6.7 μg/mL§	
		cocaine (crack)					
457	76 yr	Diltiazem	A/C	Ingestion	Int suicide		
		digoxin					
		nifedipine					
458	34 yr	Diltiazem	A/C	Ingestion	Int suicide		
		hydroxyzine					
		acetaminophen				12 μg/mL	
459	37 yr	Diltiazem	A	Ingestion	Int suicide		
		metoprolol					
		ethanol					
460[P]	24 yr	Diltiazem (sustained release)	A	Ingestion	Int suicide	38 μg/mL	
		unknown diuretic					
461	38 yr	Disopyramide	A	Ingestion	Unknown		
462	90s yr	Disopyramide	C	Ingestion	Ther error		
463[P]	9 mo	Flecainide	A/C	Ingestion	Unint gen	21.3 μg/mL§	
464	41 yr	Flecainide	A	Ingestion	Int suicide		
		lithium				4.0 mEq/L	12-16 h
		codeine					
465	42 yr	Metoprolol	A	Ingestion	Int suicide	>10 mg/dL	
466	51 yr	Metoprolol	A	Ingestion	Int suicide		
		verapamil					
467	3 yr	Nifedipine (sustained release)	A	Ingestion	Ther error		
468	40 yr	Nifedipine	A/C	Ingestion	Int suicide		
		acetaminophen/propoxyphene				1.5 μg/mL‖	1 d
469	82 yr	Nifedipine	A/C	Ingestion	Int suicide		
		atenolol					
		fluoxetine				1,300 ng/mL§	
470[P]	58 yr	Nifedipine (sustained release)	A/C	Ingestion	Int suicide		
		nitroglycerin					
471	14 yr	Pindolol	A	Ingestion	Int suicide		
		cephalexin					
472	80 yr	Procainamide	C	Parenteral	Ther error	21.6 μg/mL	
						N-acetylprocainamide 17.1 μg/mL	
473	53 yr	Procainamide	C	Parenteral	Ther error	19.0 μg/mL	
						N-acetylprocainamide 59.6 μg/mL	
		digoxin				3.3 ng/mL	
474[P]	37 yr	Propranolol	A	Ingestion	Int suicide		
475[P]	60 yr	Propranolol	A	Ingestion	Int suicide		
476[P]	>19 yr	Propranolol	A	Ingestion	Int suicide		
477	40 yr	Propranolol	U	Ingestion	Int suicide		
		amitriptyline					
478[P]	25 yr	Propranolol	A	Ingestion	Int suicide		
		ethanol				258 mg/dL	
479	36 yr	Propranolol	A	Ingestion	Int suicide		
		verapamil					
		lisinopril					
480	72 yr	Quinidine	A	Parenteral	Ther error		
481[P]	75 yr	Quinidine	C	Ingestion	Unknown		
482	39 yr	Quinidine	A	Ingestion	Int suicide	16.3 μg/mL§	
		verapamil				1.3 μg/mL§	
483	33 yr	Verapamil (sustained release)	A/C	Ingestion	Int suicide		
484	35 yr	Verapamil	A	Ingestion	Int suicide		
485[P]	35 yr	Verapamil	A	Ingestion	Int suicide		
486	49 yr	Verapamil (sustained release)	A/C	Ingestion	Ther error		
487	49 yr	Verapamil (sustained release)	A	Ingestion	Int suicide		
488[P]	60 yr	Verapamil	A/C	Ingestion	Unknown		
489	62 yr	Verapamil (sustained release)	A/C	Ingestion	Int suicide		
490	75 yr	Verapamil (sustained release)	A	Ingestion	Int suicide		
491	20 yr	Verapamil	A	Ingestion	Int suicide		
		acetaminophen					
492[P]	37 yr	Verapamil (sustained release)	A/C	Ingestion	Int suicide		
		acetaminophen					

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
493	40 yr	Verapamil buspirone acetaminophen/diphenhydramine	U	Ingestion	Int suicide		
494	30 yr	Verapamil doxepin hydroxyzine	A	Ingestion	Int suicide		
495	76 yr	Verapamil (sustained release) ethanol	A/C	Ingestion	Unknown		
496	33 yr	Verapamil indomethacin ranitidine	A	Ingestion	Int suicide		
497[P]	20 yr	Verapamil (sustained release) nadolol	A	Ingestion	Int suicide		
498	64 yr	Verapamil phenytoin	A/C	Ingestion	Int suicide	 17 µg/mL	
See also cases 469, 535 (atenolol); 243 (captopril); 219, 457, 473 (digoxin); 396 (diltiazem); 334 (enalapril); 479 (lisinopril); 215 (methyldopa); 459 (metoprolol); 497 (nadolol); 12, 359, 444, 457 (nifedipine); 470 (nitroglycerin); 12, 274, 361 (propranolol); and 466, 479, 482 (verapamil).							
Cough and cold preparations							
499	39 yr	Acetaminophen/ethanol/doxylamine/ pseudoephedrine/dextromethorphan	C	Ingestion	Int abuse		
500[P]	53 yr	Acetaminophen/ethanol/doxylamine/ pseudoephedrine/dextromethorphan diphenhydramine thioridazine	A	Ingestion	Int suicide	doxylamine 1.7 µg/mL§ dextromethorphan 6.4 µg/mL§ 484[‖] µg/mL§ 0.7 µg/mL§ 2.5 µg/mL§	
501[P]	12 mo	Benzonatate	A	Ingestion	Unint gen		
502[P]	8 yr	Cough/cold medications containing: dextromethorphan, phenylpropanolamine, pseudoephedrine, doxylamine, acetaminophen	A	Ingestion	Unknown		
503[I,P]	43 yr	Hydrocodone/chlorpheniramine/ phenylephrine/acetaminophen/caffeine amitriptyline ethanol	A	Ingestion	Int suicide		
See also case 175 (acetaminophen/salicylamide/phenyltoloxamine).							
Diagnostic agents							
504	49 yr	Contrast media (diatrizoate sodium, diatrizoate meglumine)	A	Aspir/Ing	Adv rxn		
Diuretics							
See also cases 255 (bumetanide); 450 (furosemide); 253 (spironolactone); and 460 (unknown diuretic).							
Electrolytes and minerals							
505	20 mo	Ferrous sulfate	A	Ingestion	Unint gen	1,080 µg/dL	
506	15 yr	Ferrous sulfate acetaminophen	A	Ingestion	Int suicide	1,924 µg/dL 67 µg/mL	9 h 9 h
507	11 mo	Iron (prenatal supplement)	A	Ingestion	Unint gen	30,500 µg/dl	6 h
508	14 yr	Iron	A	Ingestion	Int suicide	476 µg/dL	4 h
509	68 yr	Sodium chloride solution	A	Parenteral	Ther error		
Gastrointestinal preparations							
510	30 yr	diphenoxylate/atropine	A	Ingestion	Int suicide		
511	23 yr	polyethylene glycol electrolyte lavage solution	A	Aspir/Ing	Adv rxn		
512	79 yr	polyethylene glycol electrolyte lavage solution	A	Aspir/Ing	Adv rxn		
513	5 mo	sucralfate	A	Parenteral	Ther error		
See also cases 202 (diphenoxylate/atropine); 283, 317 (metoclopramide); and 398 (omeprazole).							
Hormones and Hormone Antagonists							
514	37 yr	Insulin	A	Parenteral	Int suicide		
515[P]	33 yr	Insulin ethanol	A	Ing/Paren	Int suicide	82 µU/mL	
516	27 yr	Prednisone corticosteroids	C	Ingestion	Int misuse		
See also cases 516 (corticosteroid); 243 (estrogen, conjugated); 252 (glyburide); 551 (insulin); 194 (prednisone); and 440 (thyroxine).							
Miscellaneous drugs							
517	21 mo	Arginine	A	Parenteral	Unknown		
See also cases 533 (hydroxyurea); and 256, 440 (quinine).							
Muscle relaxants							
518[P]	31 yr	Baclofen	A	Ingestion	Int suicide		
519	48 yr	Carisoprodol	U	Ingestion	Int unknown		
520[P]	28 yr	Carisoprodol ethanol	A	Ingestion	Int suicide		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
521[P]	43 yr	Carisoprodol	A	Ingestion	Int suicide	44 μg/mL	
		ethanol				meprobamate 47 μg/mL	
522	47 yr	Carisoprodol	A	Ingestion	Int misuse		
		salicylate				19 mg/dL	
		sertraline					
523	22 yr	Cyclobenzaprine	A	Ingestion	Int suicide		
		acetaminophen/hydrocodone				<10 μg/mL[ll]	
		phenytoin				<2 μg/mL	
See also cases 537 (baclofen); 206, 217, 220, 381, 553 (carisoprodol); and 250, 531 (cyclobenzaprine).							
Sedatives/hypnotics/antipsychotics							
524	>19 yr	Alprazolam	A/C	Ingestion	Int suicide		
		ethanol				230 mg/dL§	
525	72 yr	Alprazolam	A	Ingestion	Int suicide	117 ng/mL	
		trazodone				4,195 ng/mL	
		nortriptyline				198 ng/mL	
526	90 yr	Barbiturates	U	Unknown	Unknown		
527[P]	35 yr	Barbiturates	A	Ingestion	Int unknown		
		ethanol					
528[P]	58 yr	Benzodiazepines	A/C	Ingestion	Int unknown	1,000 ng/mL	
		propoxyphene					
		tricyclic antidepressant				70 ng/mL	
529	46 yr	Butalbital/aspirin	A	Ingestion	Int suicide	aspirin 29 mg/dL	
						butalbital 20 μg/mL	
		acetaminophen/propoxyphene					
530	89 yr	Butalbital	A	Ingestion	Int suicide		
		lorazepam					
		haloperidol					
531	42	Chlordiazepoxide	A	Ingestion	Int suicide		
		cyclobenzaprine					
532[P]	5 yr	Chloral hydrate	A	Ingestion	Ther error		
533	81 yr	Chloral hydrate	A	Ingestion	Int suicide		
		hydroxyurea					
534[P]	31 yr	Chlorpromazine	A	Ingestion	Int suicide		
535	43 yr	Chlorpromazine	A	Ingestion	Int suicide		
		atenolol					
		cimetidine					
536[P]	37 yr	Chlorpromazine	U	Ingestion	Int suicide		
		buspirone					
537	31 yr	Clonazepam	A/C	Ingestion	Int suicide		
		baclofen					
538[P]	19 mo	Clonazepam	A	Ingestion	Unint gen		
		trazodone					
539	68 yr	Droperidol	C	Ingestion	Adv rxn		
540[P]	46 yr	Ethchlorvinyl	A	Ingestion	Int suicide		
541[P]	62 yr	Ethchlorvynol	A	Ingestion	Int suicide		
		nortriptyline					
		codeine					
542	33 yr	Haloperidol	C	Ingestion	Adv rxn		
543	73 yr	Haloperidol	A/C	Ingestion	Adv rxn		
544[P]	40s yr	Lorazepam	A	Ingestion	Int suicide	330 ng/mL§	
		propoxyphene				2 μg/mL§	
545[P]	26 yr	Meprobamate	U	Ingestion	Unknown		
546	31 yr	Meprobamate	U	Ingestion	Int unknown		
		diazepam					
		morphine					
547[P]	44 yr	Meprobamate	U	Unknown	Int suicide		
		phenelzine					
548[P]	51 yr	Meprobamate	A	Ingestion	Int unknown		
		phenobarbital				28.7 μg/mL	
549[P]	49 yr	Pentobarbital	A	Ingestion	Int abuse	19 μg/mL	
		ethanol				184 mg/dL	
		cocaine					
550[P]	40 yr	Perphenazine	A	Ingestion	Int suicide		
		temazepam					
		diphenhydramine					
551	61 yr	Phenobarbital	A/C	Ing/Paren	Int suicide	148 μg/mL	3 d
		insulin					
552[P]	39 yr	Phenobarbital	A	Ingestion	Int suicide	80 μg/mL	
		phenytoin				33 μg/mL	
		carbamazepine				12 μg/mL	
553	38 yr	Prochlorperazine	A	Ingestion	Int suicide		
		diphenhydramine					
		carisoprodol					
554	57 yr	Thioridazine	A	Ingestion	Adv rxn		

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TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
555[I,P]	>19 yr	Thioridazine sertraline azidothymidine	U	Ingestion	Unknown	11 μg/mL 0.9 μg/mL	
556	>19 yr	Thioridazine tranylcypromine	A/C	Ingestion	Int suicide		
557	96 yr	Temazepam	A	Ingestion	Int suicide		
558	85 yr	Temazepam barbiturate	A	Ingestion	Int suicide		
559	33 yr	Trifluoperazine amantadine	A/C	Ingestion	Int suicide		
See also cases 176, 213, 284, 308, 370, 448, 588 (alprazolam); 558, 615 (barbiturate); 264, 265, 413, 591, 597, 600 (benzodiazepines); 216, 335, 493, 536 (buspirone); 259 (butabarbital); 281, 285, 333, 382, 401, 439 (clonazepam); 336 (clorazepate); 308, 616, 624 (chlordiazepoxide); 10, 362, 394 (chlorpromazine); 107, 213, 214, 218, 271, 546, 598, 604 (diazepam); 334, 397 (fluphenazine); 593 (flurazepam); 361, 371, 530 (haloperidol); 137, 212, 307, 357, 396, 530 (lorazepam); 318, 319, 320, 399 (perphenazine); 260, 322, 548 (phenobarbital); 244 (phenothiazine); 605 (secobarbital); 273, 400, 443, 550, 618 (temazepam); 310, 402, 500 (thioridazine); 274, 335 (thiothixene); 402 (triazolam); and 372, 380 (trifluoperazine).							
Stimulants and street drugs							
560	18 yr	Amphetamine	A	Unknown	Int abuse		
561[P]	50 yr	Amphetamine	A	Ingestion	Int suicide	>1,000 ng/mL	
562[P]	22 yr	Amphetamine cocaine opioids	A	Ingestion	Int abuse		
563[P]	28 yr	Caffeine ethanol	A	Ingestion	Int unknown		
564	1 d	Cocaine	C	Parenteral	Int abuse		
565[P]	21 yr	Cocaine	A	Inhalation	Int abuse	2.1 μg/mL	
566[P]	21 yr	Cocaine	U	Unknown	Int abuse		
567[P]	23 yr	Cocaine	A	Inhalation	Int abuse		
568	24 yr	Cocaine	A/C	Parenteral	Int abuse		
569[P]	24 yr	Cocaine	A	Parenteral	Int abuse		
570	25 yr	Cocaine	A	Unknown	Int abuse		
571[P]	27 yr	Cocaine	A/C	Unknown	Int abuse		
572	27 yr	Cocaine	A	Inhalation	Int unknown	5 μg/mL	
573	28 yr	Cocaine (crack)	A	Inhalation	Int abuse		
574	30 yr	Cocaine (crack)	U	Inhalation	Int abuse		
575[P]	30 yr	Cocaine	U	Unknown	Unknown		
576	30 yr	Cocaine (crack)	A	Ingestion	Int abuse		
577	30 yr	Cocaine	A	Parenteral	Int abuse		
578	32 yr	Cocaine	A	Ing/Paren	Int unknown		
579[P]	34 yr	Cocaine	A/C	Unknown	Int abuse		
580	35 yr	Cocaine	A	Unknown	Int abuse		
581	36 yr	Cocaine (crack)	A/C	Inhalation	Int abuse		
582	36 yr	Cocaine	U	Unknown	Int abuse		
583[P]	36 yr	Cocaine (crack)	A	Inhalation	Int abuse		
584	43 yr	Cocaine	A/C	Parenteral	Int abuse		
585	45 yr	Cocaine (packets)	U	Ingestion	Int misuse		
586[P]	45 yr	Cocaine	C	Unknown	Int abuse		
587[P]	55 yr	Cocaine	A	Ingestion	Int misuse		
588	39 yr	Cocaine alprazolam	A	Ingestion	Int unknown		
589	37 yr	Cocaine amitriptyline ethanol	A/C	Unknown	Int abuse	50 μg/mL 128 mg/dL	3-6 h 3-6 h
590	33 yr	Cocaine amphetamine	A/C	Ingestion	Int abuse		
591[P]	29 yr	Cocaine benzodiazepine (unspecified)	A	Ingestion	Int unknown	3,000 ng/mL	
592	27 yr	Cocaine ethanol	A/C	Ing/unknown	Int unknown	195 mg/dL	
593	36 yr	Cocaine flurazepam phenelzine	A	Ingestion	Int abuse	.10 μg/mL§ benzoylecgonine 7.88 μg/mL§ ecgonine methyl ester 2.51 μg/mL§ desalkyl flurazepam 120 ng/mL§	
594[P]	30 yr	Cocaine heroin	A/C	Inhalation	Int abuse		
595	33 yr	Cocaine heroin	U	Parenteral	Int abuse		
596[P]	32 yr	Cocaine heroin ethanol	A/C	Ing/Paren	Int suicide	130 mg/dL	
597[P]	38 yr	Cocaine marijuana benzodiazepines	A	Ing/Paren	Int abuse		
598[P]	35 yr	Cocaine meperidine/promethazine diazepam	A	Ingestion	Int suicide		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1993 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
599[P]	35 yr	Cocaine methadone	A	Unknown	Int abuse		
600[P]	48 yr	Cocaine methadone benzodiazepines	A/C	Parenteral	Int abuse		
601	34 yr	Cocaine opiates tricyclic antidepressant	U	Ing/Paren	Int unknown		
602	39 yr	Cocaine phencyclidine	U	Unknown	Int abuse	benzoylecgonine 0.3 μg/mL§ phencyclidine 0.3 μg/mL§	
603[P]	34 yr	Cocaine propoxyphene	A	Unknown	Int abuse		
604[P]	26 yr	Cocaine propoxyphene diazepam	A/C	Ing/Inhal	Int suicide	1.6 μg/mL .46 μg/mL desmethyldiazepam .19 μg/mL	
605	27 yr	Cocaine Secobarbital	A	Ing/Inhal	Int suicide		
606	25 yr	Cocaine warfarin opiates	A	Inhal/Paren	Int abuse		
607[P]	30 yr	Heroin	A	Parenteral	Int abuse		
607[P]	30 yr	Heroin	A	Unknown	Int abuse		
609	34 yr	Heroin	U	Parenteral	Int abuse		
610[P]	36 yr	Heroin	A/C	Parenteral	Int abuse		
611[P]	37 yr	Heroin	A	Parenteral	Int unknown		
612	53 yr	Heroin	C	Parenteral	Int abuse		
613	>19 yr	Heroin	A	Aspiration	Int abuse		
614	25 yr	Heroin cocaine	A	Inhalation	Int abuse		
615[P]	>19 yr	Heroin cocaine barbiturates	A	Ing/Paren	Int abuse		
616[P]	47 yr	Heroin cocaine chlordiazepoxide	A/C	Ing/Paren	Int abuse		
617[P]	42 yr	Heroin ethanol	A	Parenteral	Int abuse	morphine .35 μg/mL§ 110 mg/dL§	
618[P]	30 yr	Heroin phencyclidine temazepam	A/C	Ingestion	Int abuse		
619[P]	43 yr	Heroin unknown cyclic antidepressant	A	Ing/Paren	Int abuse		
620[P]	30 yr	Methamphetamine cocaine	A	Parenteral	Int abuse		
621	17 yr	Methamphetamine heroin	U	Unknown	Int abuse		
622	53 yr	Methylenedioxyamphetamine	A	Ingestion	Int suicide		
623	49 yr	Pemoline	A/C	Ingestion	Int suicide		
624[P]	37 yr	Phencyclidine amphetamine chlordiazepoxide	A	Ingestion	Int suicide		
See also cases 407, 590, 624 (amphetamine); 11, 72, 107, 179, 265, 266, 286, 383, 384, 395, 409, 456, 549, 562, 614, 615, 616, 620 (cocaine); 251, 253, 594, 595, 596, 621 (heroin); 597 (marijuana); 317 (methamphetamine); and 602, 618 (phencyclidine).							
Vitamins							
625	62 yr	Nicotinic acid (slow release) acetaminophen	C	Ingestion	Adv rxn	40 μg/mL	36 h
626	23 mo	Prenatal vitamins with iron	A	Ingestion	Unint gen	251 μg/dL	

ABBREVIATIONS: A, acute exposure; C, chronic exposure, A/C, acute on chronic; U, unknown.
[i] Reported to poison center indirectly (by coroner, medical examiner, or from other source) after the fatality occurred.
[P] Prehospital (cardiac and/or respiratory) arrest.
§ Level obtained postmortem.
‖ Acetaminophen level.
¶ Salicylate level.
# Level includes metabolite and parent compound.

TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Adhesives/glues														
Cyanoacrylates	10,647	3,619	1,921	3,276	10,458	149	18	19	2,343	1,395	2,499	523	7	0
Epoxy	695	297	50	264	677	8	2	7	241	163	175	62	6	0
Toluene/xylene	2,070	1,455	315	210	1,988	73	3	4	276	599	457	35	4	0
Nontoxic	1,482	1,040	277	96	1,419	44	5	13	88	208	123	4	1	0
Unknown	7,141	3,475	966	1,741	6,855	131	38	110	1,081	1,744	1,224	169	8	0
Category total	22,035	9,886	3,559	5,587	21,397	405	66	153	4,029	4,109	4,478	793	26	0
Alcohols														
Ethanol (beverage)	21,347	1,394	2,827	14,403	3,425	17,286	151	312	15,584	2,491	6,880	2,874	543	52
Ethanol (other)	5,856	1,559	687	2,864	2,548	3,188	22	55	3,022	1,081	1,538	545	97	0
Higher alcohols	145	49	19	55	131	12	0	1	67	28	40	8	2	0
Isopropanol	7,774	5,275	631	1,431	6,961	742	25	4	1,780	2,815	1,404	216	37	1
Methanol	813	234	115	334	700	98	4	4	456	255	190	51	16	8
Rubbing alcohol														
Ethanol, with methyl salicylate	36	25	2	7	30	4	1	0	11	15	8	1	1	0
Ethanol, without methyl salicylate	262	208	20	27	245	15	0	0	43	113	40	4	0	1
Isopropanol, with methyl salicylate	229	165	15	44	206	22	1	0	66	93	48	5	1	0
Isopropanol, without methyl salicylate	9,011	6,806	676	1,210	8,200	752	30	4	1,677	3,455	1,505	148	24	0
Unknown rubbing alcohol	248	163	32	36	211	28	6	1	65	63	34	6	0	0
Other alcohol	68	35	8	18	56	6	1	4	24	20	16	2	0	0
Unknown alcohol	805	146	108	465	313	469	3	10	523	143	156	97	21	0
*Category total	46,594	16,059	5,140	20,894	23,026	22,622	244	395	23,318	10,572	11,859	3,957	742	62
Arts/crafts/office supplies														
Artist paints, non-watercolor	846	625	96	93	830	14	1	1	59	226	80	6	1	0
Chalk	1,721	1,567	93	44	1,693	21	4	2	40	296	59	2	0	0
Clay	1,389	1,218	81	67	1,375	12	1	1	55	218	70	6	0	0
Crayon	1,952	1,758	104	66	1,935	15	2	0	43	262	40	0	1	0
Glazes	260	100	43	99	253	4	2	1	55	73	22	7	0	0
Office supplies: miscellaneous	245	104	20	79	244	0	0	1	40	56	49	5	0	0
Pencil	2,919	1,505	1,048	233	2,836	36	40	2	222	278	325	12	0	0
Pens/ink	12,456	9,667	2,104	442	12,190	222	19	21	391	2,497	412	29	2	0
Typewriter correction fluid	1,761	1,119	407	171	1,590	150	12	3	219	578	256	14	1	1
Water color	2,465	1,989	262	149	2,419	34	1	10	76	476	114	10	1	0
Other	4,828	3,751	451	396	4,715	75	19	14	243	760	244	48	0	0
Unknown	361	269	53	25	350	10	1	0	29	55	26	1	0	0
*Category total	31,203	23,672	4,762	1,854	30,430	593	102	56	1,472	5,775	1,697	140	6	1
Auto/aircraft/boat products														
Ethylene glycol	3,572	694	473	1,753	3,328	214	17	1	1,336	836	923	209	66	2
Glycols: other	1,446	493	142	587	1,398	39	6	1	487	351	508	68	9	0
Glycol and methanol	73	18	12	34	68	5	0	0	23	16	27	5	2	0
Hydrocarbons	3,136	1,319	411	992	3,038	72	16	3	848	747	1,245	154	6	0
Methanol	1,203	409	162	449	1,125	69	4	1	564	417	329	46	12	5
Nontoxic	83	65	6	7	78	4	1	0	16	24	9	1	0	0
Other	1,581	541	187	597	1,525	48	1	5	594	271	636	113	8	0
Unknown	274	76	35	125	256	15	2	1	117	42	108	20	1	0
*Category total	11,368	3,615	1,428	4,544	10,816	466	47	12	3,985	2,704	3,785	616	104	7
Batteries														
Automotive batteries	1,643	188	229	822	1,620	18	3	0	560	161	731	162	3	1
Disc batteries														
Alkaline (MnO_2)	96	77	11	4	95	1	0	0	66	73	2	0	1	0
Lithium	44	17	3	12	43	1	0	0	26	12	8	1	3	0
Mercuric oxide	39	19	1	18	38	1	0	0	31	26	3	0	0	0
Nickel cadmium	4	0	0	0	3	0	0	0	1	2	0	0	0	0
Silver oxide	58	45	6	4	56	1	0	0	41	36	6	2	0	0
Zinc-air	94	48	9	30	92	2	0	0	71	76	0	1	1	0
Other	16	10	6	0	16	0	0	0	13	9	2	1	0	0
Unknown	1,719	1,317	276	98	1,684	25	2	0	1,215	942	74	19	5	0
Dry cell batteries	3,580	2,064	804	471	3,421	139	6	2	560	913	976	138	3	0
Other batteries	101	54	23	12	98	2	0	1	20	26	26	5	1	0
Unknown batteries	58	24	12	13	56	2	0	0	16	8	20	3	0	0
*Category total	7,452	3,863	1,380	1,484	7,222	192	11	3	2,620	2,284	1,848	332	17	1
Bites and envenomations														
Coelenterate	65	17	14	23	65	0	0	0	27	3	20	1	0	0
Fish	1,164	35	217	724	1,102	6	0	56	409	13	449	124	0	0

(Continued on following page)

TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other/unknown marine animal	175	49	35	64	171	2	0	2	42	21	42	20	0	0
Insects														
Ant/fire ant	2,484	1,025	361	724	2,379	4	2	99	309	42	1,024	127	5	0
Bee/wasp/hornet	16,186	3,844	3,762	6,211	15,976	17	1	189	1,881	255	7,268	719	25	1
Caterpillar	1,701	495	453	642	1,545	6	0	149	138	50	553	53	0	0
Centipede/millipede	85	25	18	28	81	1	0	3	9	7	25	1	0	0
Mosquito	226	86	46	62	220	0	0	6	43	4	86	15	0	0
Scorpion	7,546	642	1,498	3,669	7,252	5	0	288	599	105	4,088	320	10	0
Tick	2,473	752	546	824	2,438	4	1	27	549	200	468	36	1	0
Other insect	7,857	1,887	1,414	3,445	7,429	16	64	340	1,575	327	2,516	433	6	0
Mammals														
Bat	82	14	12	38	82	0	0	0	47	13	16	3	0	0
Cat	555	118	110	214	537	11	0	7	265	16	133	13	0	0
Dog	1,360	280	502	451	1,260	89	2	7	861	50	201	29	2	0
Fox	6	2	1	3	6	0	0	0	3	1	0	0	0	0
Human	99	39	25	27	87	4	6	1	34	2	22	4	0	0
Raccoon	62	3	10	38	58	0	0	4	41	8	17	0	0	0
Rodents/lagomorphs	1,623	437	646	327	1,592	9	8	13	369	96	388	18	0	0
Skunk	155	19	39	48	154	0	0	1	22	17	32	2	0	0
Other mammal	559	126	164	185	545	0	0	14	232	43	126	8	1	0
Reptile: other/unknown	919	403	308	132	888	11	3	15	154	77	267	24	1	0
Snakes														
Copperhead	377	25	85	231	374	0	0	3	326	11	162	129	5	0
Coral	43	0	14	23	40	0	0	3	40	7	12	8	1	0
Cottonmouth	48	3	9	33	45	0	0	3	40	4	22	6	1	0
Crotalid: unknown	11	0	3	7	11	0	0	0	8	1	4	2	1	0
Rattlesnake	604	40	100	368	565	7	3	28	510	30	154	217	47	0
Exotic snakes														
Poisonous	67	7	13	38	66	0	0	0	56	2	19	17	13	0
Nonpoisonous	331	23	115	140	321	3	0	6	127	9	122	18	0	0
Unknown if poisonous	2	1	0	1	2	0	0	0	1	0	0	0	0	0
Nonpoisonous snake	1,647	236	811	447	1,616	3	0	27	337	102	650	19	2	0
Unknown snake	1,604	148	560	715	1,544	8	0	52	940	148	695	175	16	0
Spiders														
Black widow	1,818	179	266	1,036	1,786	0	0	30	608	137	743	254	7	0
Brown recluse	1,776	179	243	1,010	1,710	0	0	66	986	43	474	333	24	0
Other spider	1,341	197	258	702	1,303	1	1	35	297	26	521	98	2	0
Tarantula	72	10	27	18	70	0	0	2	13	2	42	2	0	0
Unknown insect or spider	16,951	2,900	2,956	6,487	16,808	4	4	128	4,097	235	6,550	1,007	18	0
Other/unknown animal bite	563	60	234	222	470	3	1	89	102	11	154	47	2	0
*Category total	72,637	14,306	15,875	29,357	70,598	214	96	1,693	16,097	2,118	28,065	4,282	190	1
Building and construction products														
Caulking compounds and putties	2,821	2,169	149	340	2,790	18	5	8	237	767	270	28	2	0
Cement, concrete	1,111	259	83	497	1,096	10	1	1	547	129	288	223	9	0
Insulation														
Asbestos	143	24	18	74	136	1	2	2	39	17	11	5	0	0
Fiberglass	1,249	528	201	345	1,221	10	3	12	216	176	342	29	0	0
Urea/formaldehyde	118	52	11	41	116	0	0	2	25	22	26	8	0	0
Other	373	155	28	143	364	6	2	0	30	76	42	10	0	0
Unknown	105	48	12	33	105	0	0	0	18	16	23	4	0	0
Soldering flux	429	210	42	118	426	1	1	1	151	99	125	27	4	0
Other construction product	1,479	817	163	346	1,449	16	4	9	319	267	312	43	1	0
Unknown construction product	109	34	13	41	109	0	0	0	44	17	33	11	0	0
*Category total	7,937	4,296	720	1,978	7,812	62	18	35	1,626	1,586	1,472	388	16	0
Chemicals														
Acetone	1,062	359	127	415	1,004	44	7	2	377	188	368	52	7	0
Acids														
Hydrochloric	2,396	176	381	1,326	2,311	57	13	2	969	190	979	323	9	0
Hydrofluoric	1,118	90	65	677	1,103	12	1	2	888	89	413	346	25	0
Other	3,945	589	490	1,976	3,828	79	11	13	1,848	440	1,568	496	30	1
Unknown	426	57	67	210	399	18	5	1	212	28	156	78	1	0
Alkali	4,824	1,667	669	1,671	4,628	86	75	20	2,046	766	1,637	614	44	2
Ammonia	5,080	1,578	611	2,126	4,834	194	29	11	1,805	682	1,939	510	21	3
Borates/boric acid	3,317	2,075	270	758	3,102	174	18	10	610	954	304	40	3	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Chlorates	38	15	7	14	37	0	1	0	10	7	10	5	1	0
Cyanide	307	19	11	198	271	29	4	0	215	52	95	35	8	7
Dioxin	15	2	0	9	15	0	0	0	6	1	3	1	0	0
Formaldehyde/formalin	1,442	241	225	656	1,368	47	6	13	660	178	563	87	3	0
Glycol: ethylene	501	102	69	234	409	71	6	1	254	93	101	46	24	11
Glycol: other	1,065	505	94	318	1,034	20	2	6	386	228	276	69	6	1
Ketones	844	223	66	406	824	13	2	2	425	138	288	92	3	0
Methylene chloride	718	105	67	395	697	8	2	3	371	66	292	92	1	0
Nitrates and nitrites	791	231	235	225	725	39	16	10	231	176	189	42	3	1
Phenol/creosote	1,216	213	139	577	1,193	13	2	4	508	144	468	136	7	0
Strychnine	14	3	0	10	7	6	1	0	9	5	1	1	2	1
Toluene diisocyanate	401	56	39	207	398	1	0	2	159	48	121	32	0	0
Other chemicals	12,654	4,016	1,559	4,752	11,985	357	104	149	4,554	2,438	3,488	830	48	6
Unknown chemicals	2,066	1,019	259	488	1,986	29	27	20	404	327	265	82	1	0
*Category total	44,240	13,341	5,450	17,648	42,158	1,297	332	271	16,947	7,238	13,524	4,009	247	33
Cleaning substances (household)														
Ammonia cleaners (all purpose)	3,902	1,956	325	1,228	3,756	117	14	10	697	797	1,188	158	1	0
Automatic dishwasher detergents														
Granules	4,962	4,340	179	305	4,926	26	9	1	185	2,100	879	33	1	0
Liquids	1,827	1,461	86	182	1,812	10	2	3	92	728	301	23	1	0
Rinse agents	703	649	18	25	702	1	0	0	20	250	81	2	0	0
Other/unknown	902	735	53	71	895	4	2	1	77	337	171	18	1	0
Bleaches														
Borate	618	328	50	136	574	13	3	27	89	145	168	18	0	0
Hypochlorite	39,824	17,777	3,781	12,668	38,223	1,244	187	113	8,229	6,758	13,651	1,516	35	3
Nonhypochlorite	1,331	785	73	313	1,283	23	1	21	175	295	356	26	1	0
Other/unknown	220	90	23	80	209	8	1	2	58	34	66	10	0	0
Carpet/upholstery cleaners	3,085	2,374	158	390	3,013	39	4	26	279	845	576	45	1	0
Cleansers														
Anionic/nonionic	7,982	6,188	491	831	7,760	159	24	34	738	2,548	1,408	114	3	0
Other/unknown	2,226	1,347	153	414	2,162	38	12	6	310	542	457	69	2	0
Disinfectants														
Hypochlorite	4,469	1,773	527	1,391	4,380	61	17	7	1,052	801	1,716	283	6	0
Phenol	3,404	2,269	251	640	3,201	181	13	5	539	895	847	75	5	0
Pine oil	10,308	7,622	623	1,397	9,869	372	25	25	1,991	3,600	2,300	211	8	1
Other/unknown	2,046	1,087	209	524	1,936	95	9	5	554	515	625	92	5	1
Drain cleaners														
Acid	879	94	68	500	847	23	6	1	356	80	408	138	9	3
Alkali	2,777	558	226	1,315	2,560	192	13	6	1,077	388	1,039	357	34	3
Other/unknown	340	77	22	174	321	15	2	0	129	43	126	33	1	0
Fabric softeners/ antistatic agents														
Aerosol/spray	64	30	7	21	62	0	0	2	4	10	18	2	0	0
Dry/powder	3	3	0	0	3	0	0	0	0	3	0	0	0	0
Liquid	1,161	899	65	123	1,116	19	0	26	82	350	155	9	1	0
Solid/sheet	440	363	22	28	416	1	0	22	27	107	28	1	0	0
Other/unknown	23	19	0	4	22	0	0	1	1	5	4	0	0	0
Glass cleaners														
Ammonia	2,782	2,162	240	275	2,681	81	11	1	277	738	564	23	4	1
Anionic/nonionic	44	31	4	4	41	3	0	0	6	16	7	1	0	0
Isopropanol	2,553	2,022	199	210	2,499	42	6	4	211	773	532	33	2	0
Other/unknown	4,678	3,779	389	342	4,551	111	13	1	398	1,447	1,041	38	2	0
Hand dishwashing														
Anionic/nonionic	8,357	5,557	707	1,220	8,094	98	76	78	408	1,725	2,402	77	0	0
Other/unknown	1,870	1,101	189	414	1,787	37	16	27	205	295	415	21	0	0
Laundry additives														
Bluing/brightening agent	49	35	7	3	45	3	1	0	6	23	9	1	0	0
Detergent booster	44	25	3	11	41	3	0	0	6	21	11	0	0	0
Enzyme/microbiological additive	34	24	1	5	34	0	0	0	4	12	4	2	0	0
Water softener	73	29	3	13	69	0	2	0	17	14	17	1	0	0
Other/unknown	267	194	18	32	260	2	0	4	48	64	74	15	2	0
Laundry Detergents														
Granules	8,661	7,333	385	562	8,429	78	16	130	1,038	2,408	2,518	169	9	0
Liquids	3,552	2,569	227	516	3,362	63	11	116	420	734	977	57	1	1
Soaps	105	77	10	14	100	0	0	4	14	22	26	1	0	0
Other/unknown	312	218	20	58	293	6	3	7	85	103	61	6	0	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Laundry prewash/stain removers														
Dry solvent-based	1	0	0	0	1	0	0	0	0	0	0	0	0	0
Liquid solvent-based	199	136	11	33	197	1	0	1	21	69	55	4	0	0
Spray solvent-based	476	354	26	58	463	6	2	3	69	122	149	20	0	0
Other/unknown solvent-based	160	105	11	31	155	2	1	2	17	52	26	3	0	0
Dry surfactant-based	739	672	27	21	735	3	0	1	22	217	90	4	0	0
Liquid surfactant-based	1,731	1,491	62	117	1,712	11	3	4	185	500	372	33	1	0
Spray surfactant-based	349	292	11	30	345	3	0	0	37	75	121	6	0	0
Other/unknown surfactant-based	124	112	5	3	124	0	0	0	2	32	19	0	0	0
Other/unknown	70	43	6	13	69	0	0	1	14	15	31	1	0	0
Miscellaneous cleaner														
Acid	837	317	51	330	822	10	3	1	227	182	293	53	0	1
Alkali	6,564	3,527	609	1,657	6,327	166	38	23	1,979	1,697	2,009	466	19	1
Anionic/nonionic	7,430	5,160	530	1,210	7,183	151	28	49	989	1,892	1,818	130	2	0
Cationic	3,009	1,662	306	746	2,894	90	5	15	735	775	837	134	5	0
Ethanol	419	298	32	63	411	7	1	0	59	131	99	9	0	0
Glycols	836	476	81	195	810	18	5	3	185	218	209	27	3	0
Isopropanol	1,094	754	130	134	1,074	15	3	2	130	367	245	17	2	0
Methanol	34	26	4	3	33	1	0	0	4	7	4	2	0	0
Phenol	16	6	6	3	15	1	0	0	7	4	7	0	0	0
Other/unknown	3,067	1,714	300	732	2,937	80	26	18	708	759	855	115	4	0
Oven cleaner														
Acid	9	2	1	4	9	0	0	0	6	0	2	3	0	0
Alkali	3,071	806	326	1,316	2,977	57	22	13	1,357	247	1,243	478	25	1
Detergent type	4	1	1	1	4	0	0	0	0	0	0	0	0	0
Other/unknown	347	74	47	131	339	5	2	1	114	42	117	28	1	0
Rust remover														
Alkali	57	23	6	20	55	0	0	2	15	18	19	5	0	0
Anionic/nonionic	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrofluoric acid	1,532	154	100	694	1,496	33	1	0	965	176	631	410	13	1
Acid other	227	97	22	78	216	7	3	1	75	53	59	21	1	0
Other/unknown	275	55	11	146	266	6	1	2	72	39	106	27	0	0
Spot remover/dry cleaning agent														
Anionic/nonionic	249	161	21	45	239	1	6	3	36	54	85	5	0	0
Glycol	82	57	6	14	82	0	0	0	12	26	19	2	0	0
Carbon tetrachloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perchloroethylene	72	35	9	23	67	5	0	0	29	25	19	4	0	0
Other halogenated hydrocarbon	179	60	27	67	159	16	1	3	52	41	41	15	0	0
Isopropanol	96	72	7	11	96	0	0	0	13	35	21	0	0	0
Other nonhalogenated hydrocarbon	173	110	15	37	164	7	1	1	35	56	58	7	1	0
Other/unknown	95	43	5	32	91	2	0	2	18	30	31	5	0	0
Starch/fabric finishes/sizing	1,129	924	83	85	1,095	21	3	8	51	262	147	2	1	0
Toilet bowl cleaner														
Acid	2,940	1,183	229	1,002	2,802	119	6	4	905	643	1,130	239	17	3
Alkali	356	213	16	79	352	4	0	0	63	120	63	11	0	0
Other/unknown	2,096	1,633	112	237	2,058	33	1	3	200	657	257	33	1	1
Wall/floor/tile cleaner														
Acid	3,260	1,490	254	1,024	3,199	48	6	6	784	751	1,266	213	5	0
Alkali	7,279	4,082	619	1,605	7,098	119	26	28	1,706	1,735	2,540	365	5	0
Anionic/nonionic	716	518	49	93	700	13	1	2	78	192	139	15	0	0
Cationic	799	554	61	132	777	14	2	4	122	205	165	16	0	0
Ethanol	3	1	0	2	3	0	0	0	2	1	1	1	0	0
Glycols	522	367	37	88	509	7	3	3	74	139	112	14	1	0
Isopropanol	99	67	8	7	98	0	0	1	3	9	9	0	0	0
Methanol	4	1	0	2	4	0	0	0	2	1	1	0	0	0
Other/unknown	458	232	42	127	435	16	1	5	123	106	122	32	0	0
*Category total	180,161	108,140	14,204	38,920	174,031	4,266	700	931	32,206	43,348	50,868	6,653	242	21
Industrial cleaners														
Acids	1,026	172	117	511	995	22	4	4	464	147	378	131	4	0
Alkali	2,198	419	306	1,026	2,120	47	20	8	1,325	228	906	425	23	0
Anionic/nonionic	341	113	50	113	322	14	3	1	127	55	136	31	0	0
Cationic	504	94	89	209	462	34	4	1	273	85	206	55	4	0
Other/unknown	1,538	324	216	671	1,481	37	11	5	777	215	661	177	4	1

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
*Category total	5,607	1,122	778	2,530	5,380	154	42	19	2,966	730	2,287	819	35	1
Cosmetics/personal care products														
Bath oil, bubble bath	6,481	5,962	281	185	6,376	26	11	65	220	1,776	802	23	0	0
Creams, lotions, make-up	13,825	10,961	866	1,451	13,193	219	51	333	711	2,868	1,247	75	7	0
Dental care products														
False teeth cleaning	1,107	261	70	680	1,082	17	5	2	94	368	134	9	0	0
Toothpaste with fluoride	2,507	1,990	181	141	2,346	34	22	102	143	725	571	21	0	0
Toothpaste without fluoride	223	161	23	24	207	5	1	10	23	47	33	4	0	0
Other	1,038	676	68	170	1,007	15	3	13	127	222	355	10	2	0
Deodorants	9,180	7,833	538	509	8,914	125	26	112	370	1,875	989	58	3	0
Depilatories	515	161	69	206	372	39	3	101	136	75	189	42	0	0
Douches	235	166	11	27	218	7	0	9	34	85	22	3	0	0
Eye products	1,051	828	51	115	1,008	7	1	35	75	213	99	24	0	0
Hair care products														
Coloring agents	1,422	621	110	458	1,262	20	1	136	366	280	472	91	1	0
Rinses, conditioners, relaxers	3,184	2,490	233	352	3,064	62	6	48	730	999	675	167	6	0
Shampoos	8,236	6,509	641	801	7,940	195	10	74	659	1,918	1,649	77	1	0
Sprays	4,472	2,873	776	607	4,003	395	33	30	621	1,083	1,277	79	11	0
Other	3,082	2,072	269	466	2,895	71	13	97	583	802	657	129	4	0
Lipsticks/balms, with camphor	502	449	29	14	495	2	1	4	21	118	56	2	0	0
Lipsticks/balms, without camphor	2,210	2,088	66	36	2,187	11	1	9	41	305	83	0	0	0
Mouthwash														
Ethanol	4,351	2,277	710	1,070	3,693	586	37	23	811	1,428	856	98	16	1
Nonethanol	577	369	104	82	512	53	3	7	132	216	109	10	0	0
Fluoride	1,144	888	205	38	1,120	19	0	5	52	409	75	4	0	0
Unknown	151	36	91	13	131	13	6	1	22	22	74	3	0	0
Nail products														
Polish	8,250	7,381	473	279	8,141	85	11	8	564	2,336	1,531	67	0	0
Polish removers: acetone	2,915	2,351	229	260	2,831	73	6	4	356	1,189	543	23	2	0
Polish removers: other	1,515	1,203	141	124	1,484	27	3	1	134	545	279	12	1	0
Polish removers: unknown	6,425	5,071	579	551	6,218	177	20	2	777	2,222	1,074	42	0	0
Other miscellaneous	2,964	1,951	348	437	2,901	24	6	31	730	658	838	184	5	0
Perfume, cologne, aftershave	28,104	25,441	1,264	1,139	27,629	373	44	30	1,785	10,051	4,135	99	5	0
Peroxide	10,371	5,884	1,005	2,569	10,013	270	29	47	775	2,328	1,856	111	7	0
Powders: talc	2,939	2,621	156	121	2,864	59	1	12	313	794	810	37	1	0
Powders: without talc	900	837	38	16	886	4	6	4	29	168	192	3	0	0
Soaps	9,986	7,581	692	1,217	9,494	134	59	290	639	2,492	1,782	85	3	1
Suntan/sunscreen products	3,999	3,212	370	238	3,860	13	3	120	277	718	1,254	34	1	0
*Category total	143,861	113,204	10,687	14,396	138,346	3,160	422	1,765	12,350	39,335	24,718	1,626	76	2
Deodorizers														
Air fresheners	10,759	9,333	659	559	10,564	136	31	17	763	3,361	1,862	57	6	1
Diaper pail deodorizers	1,153	1,107	33	8	1,151	1	0	0	41	433	43	2	0	0
Toilet bowl deodorizers	954	882	34	23	947	6	1	0	81	360	74	6	1	0
Other	2,474	1,940	180	248	2,417	38	5	12	340	808	473	35	0	0
Unknown	151	116	11	21	144	7	0	0	32	49	34	2	0	0
*Category total	15,491	13,378	917	859	15,223	188	37	29	1,257	5,011	2,486	102	7	1
Dyes														
Fabric	839	680	61	58	827	5	0	7	72	256	40	3	0	0
Food dye (e.g., Easter egg)	1,033	920	70	26	1,011	11	2	7	16	238	34	0	1	0
Leather	109	92	3	11	108	1	0	0	12	33	8	0	0	0
Other	440	243	97	76	413	11	0	15	55	109	49	10	1	0
Unknown	81	51	7	10	74	0	1	5	16	16	9	2	1	0
*Category total	2,502	1,986	238	181	2,433	28	3	34	171	652	140	15	3	0
Essential oils	3,120	2,118	486	371	2,915	126	24	46	436	734	1,174	45	1	0
Fertilizers														
Household plant food	4,716	3,248	556	666	4,674	31	9	1	136	1,162	194	13	0	0
Outdoor fertilizers	1,705	1,081	196	310	1,679	11	4	9	135	445	168	27	0	0
Plant hormones	135	56	13	41	132	1	0	1	34	32	18	7	0	0
Other	286	189	25	40	281	3	0	2	33	66	37	4	0	0
Unknown	1,408	992	143	191	1,379	12	3	10	150	389	149	20	2	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
*Category total	8,250	5,566	933	1,248	8,145	58	16	23	488	2,094	566	71	2	0
Fire extinguishers	2,386	273	562	1,023	2,216	64	90	8	753	333	964	128	2	0
Food products/food poisoning	59,997	15,940	9,341	24,919	53,155	539	1,345	4,798	6,613	6,132	11,103	1,883	54	3
Foreign bodies/toys/ miscellaneous														
Ashes	613	557	21	26	604	5	3	1	36	120	65	3	0	0
Bubble blowing solutions	3,568	3,329	152	55	3,552	9	2	3	113	654	954	14	0	0
Charcoal	774	576	52	71	746	24	0	4	64	137	78	17	9	1
Christmas ornaments	1,311	1,134	92	60	1,302	5	1	3	87	272	97	5	0	0
Coins	3,915	3,271	563	53	3,877	24	1	2	1,431	1,163	361	46	2	0
Desiccants	14,578	12,986	982	392	14,418	117	30	8	445	2,049	119	8	0	0
Feces/urine	2,750	2,292	174	153	2,669	15	56	4	133	536	131	10	1	0
Glass	1,226	531	142	382	1,034	20	160	8	148	253	90	9	1	0
Incense, punk	286	246	19	16	275	10	1	0	19	72	29	6	0	0
Soil	1,762	1,559	77	97	1,755	4	2	1	51	331	85	6	0	0
Thermometer	11,815	6,596	3,187	1,184	11,713	74	11	9	638	1,830	204	7	4	0
Toys	4,498	3,396	945	94	4,436	47	8	6	243	849	527	17	0	0
Other	14,360	9,184	3,135	1,318	13,809	217	253	64	1,715	2,812	1,815	135	4	0
Unknown	184	118	26	26	152	6	24	2	33	31	37	3	0	0
*Category total	61,640	45,775	9,567	3,927	60,342	577	552	115	5,156	11,109	4,592	286	21	1
Fumes/gases/vapors														
Carbon dioxide	431	40	114	209	401	23	2	1	179	32	139	36	5	0
Carbon monoxide	12,879	1,764	1,903	6,444	12,553	274	1	11	5,932	1,218	4,615	1,288	165	32
Chloramine	2,804	91	167	1,952	2,707	95	1	1	833	73	1,430	360	6	0
Chlorine: acid mixed with hypochlorite	790	22	81	578	770	18	1	1	240	30	422	169	0	0
Chlorine: other	5,044	494	991	2,584	4,939	73	6	20	1,718	251	2,470	692	11	0
Hydrogen sulfide	1,144	112	155	498	1,139	1	1	0	412	115	408	95	12	2
Methane and natural gas	2,956	480	486	1,312	2,900	50	1	0	1,107	374	1,115	172	8	0
Polymer fume fever	11	2	0	7	11	0	0	0	0	1	4	0	0	0
Propane/simple asphyxiants	2,177	215	452	1,042	1,964	198	3	1	792	218	777	185	11	0
Other	2,028	223	259	1,061	1,982	26	7	9	878	222	761	169	10	0
Unknown	1,814	139	279	820	1,782	13	14	4	627	118	720	133	3	0
*Category total	32,078	3,582	4,887	16,507	31,148	771	37	48	12,718	2,652	12,861	3,299	231	34
Fungicides														
Carbamate fungicide	238	73	18	112	230	3	1	4	74	53	65	11	2	0
Mercurial fungicide	7	1	1	5	7	0	0	0	3	0	2	0	0	0
Nonmercurial fungicide	260	63	26	132	253	3	0	3	98	33	76	22	2	0
Phthalimide fungicide	231	135	30	46	227	2	2	0	40	52	20	6	1	0
Other/unknown	371	123	40	141	362	4	1	3	90	75	79	15	1	0
*Category total	1,107	395	115	436	1,079	12	4	10	305	213	242	54	6	0
Heavy metals														
Aluminum	691	345	60	184	674	9	3	4	131	143	65	16	2	0
Arsenic (excluding pesticides)	487	48	28	288	388	21	40	3	296	88	59	28	9	1
Barium	27	4	4	13	23	1	1	2	11	1	8	0	1	0
Cadmium	75	17	7	44	68	2	1	0	35	8	16	5	0	0
Copper	887	189	311	271	822	29	15	7	290	134	302	40	2	0
Fireplace flame colors	14	13	0	1	14	0	0	0	0	7	0	1	0	0
Gold	5	4	0	1	4	1	0	0	2	2	0	0	0	0
Lead	2,874	1,438	475	636	2,758	42	19	13	1,179	540	156	67	6	1
Manganese	52	7	18	19	44	6	0	0	19	12	14	1	0	0
Mercury	1,843	705	403	444	1,647	158	8	16	407	515	116	28	8	2
Metal fume fever	955	20	47	721	945	5	1	3	324	10	382	134	4	0
Selenium	65	25	7	22	56	4	0	4	7	18	5	3	0	0
Thallium	39	17	0	17	31	3	1	2	19	6	2	1	2	1
Other	746	280	102	264	691	22	2	30	282	132	142	47	1	0
Unknown	37	7	9	12	33	0	2	1	20	7	3	0	0	0
*Category total	8,797	3,119	1,471	2,937	8,198	303	93	85	3,022	1,623	1,270	371	35	5
Herbicides														
Carbamate herbicide	67	4	6	45	65	2	0	0	30	14	20	10	0	0
2,4-D or 2,4,5-T	1,743	509	179	736	1,695	24	2	20	486	386	448	90	5	0
Diquat	80	17	14	35	77	1	0	1	34	18	16	6	0	0
Paraquat	104	6	10	67	89	12	1	0	74	9	21	13	5	0
Paraquat/diquat	4	2	0	2	3	0	0	1	1	1	0	0	0	0
Triazine herbicide	402	68	40	192	391	6	0	5	205	48	143	25	1	0
Urea herbicide	57	6	8	29	56	1	0	0	26	7	11	6	0	0
Other	4,339	1,144	477	2,174	4,093	75	9	155	1,143	1,007	1,115	112	5	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Unknown	263	82	46	87	252	5	1	4	64	42	74	13	0	0
*Category total	7,059	1,838	780	3,367	6,721	126	13	186	2,063	1,532	1,848	275	16	0
Hydrocarbons														
Benzene	110	20	7	46	106	2	0	2	67	11	25	8	0	0
Carbon tetrachloride	80	4	5	51	79	0	0	1	34	6	43	5	1	0
Diesel fuel	1,236	274	128	617	1,202	22	7	1	309	198	492	54	5	0
Freon and other propellants	6,015	784	702	2,925	5,756	224	11	13	1,366	1,158	1,521	286	16	4
Gasoline	19,200	6,439	3,865	6,632	17,937	1,182	42	7	3,362	4,002	8,124	546	20	2
Halogenated hydrocarbon: other	1,262	213	214	578	1,160	72	8	17	599	133	527	123	3	4
Kerosene	3,247	2,152	274	596	3,152	70	17	5	1,133	939	1,076	189	17	0
Lighter fluid/naphtha	3,903	2,390	360	822	3,683	161	33	12	1,233	1,247	1,172	206	10	2
Lubricating oil/motor oil	3,791	2,738	296	521	3,715	52	20	2	511	1,542	641	65	1	1
Mineral seal oil	276	240	12	17	271	5	0	0	46	148	35	6	0	0
Mineral spirits/varsol	5,089	2,646	633	1,263	4,866	180	20	10	1,155	1,416	1,572	170	14	0
Toluene/xylene	1,674	279	180	869	1,491	157	11	7	882	237	617	192	28	2
Turpentine	1,296	563	212	390	1,142	132	12	3	374	351	387	39	3	0
Other	5,574	2,918	661	1,425	5,310	200	28	24	1,525	1,622	1,374	326	19	6
Unknown	5,883	3,713	470	1,155	5,710	121	29	15	1,676	1,883	1,520	329	20	1
*Category total	58,636	25,373	8,019	17,907	55,580	2,580	238	119	14,272	14,893	19,126	2,544	157	22
Insecticides/pesticides (excluding rodenticides)														
Arsenic pesticides	431	332	32	52	411	16	2	1	149	224	35	3	2	0
Borates/boric acid	2,733	2,231	134	286	2,668	54	3	5	325	954	161	7	1	1
Carbamate only	5,014	2,490	461	1,545	4,785	169	25	23	1,140	1,175	910	151	13	1
Carbamate with other pesticide	806	303	94	300	775	17	3	9	193	177	240	30	1	0
Chlorinated hydrocarbon only	2,645	1,240	381	766	2,430	102	17	89	986	911	499	99	18	2
Chlorinated hydrocarbon with other pesticide	155	48	14	60	151	4	0	0	39	21	44	6	0	0
Metaldehyde	199	157	5	30	197	0	0	2	40	111	13	3	0	0
Nicotine	5	0	1	3	3	1	1	0	2	0	3	0	1	0
Organophosphate														
Only	11,056	3,952	919	4,648	10,628	261	38	91	3,423	2,740	2,511	523	57	3
With carbamate	1,172	475	104	410	1,107	37	13	12	232	286	263	36	1	0
With chlorinated hydrocarbon	201	68	21	81	192	4	1	1	58	41	54	5	1	0
With other pesticide	1,209	454	119	494	1,154	39	1	9	317	292	326	46	0	0
With carbamate & chlorinated hydrocarbon	55	12	9	25	48	3	2	1	18	10	15	5	0	0
Piperonyl butoxide only	97	37	6	33	94	1	2	0	28	16	29	3	1	0
Piperonyl butoxide/pyrethrin	4,083	1,500	528	1,541	3,843	108	30	92	1,023	692	1,144	197	9	0
Pyrethrins only	4,404	1,603	482	1,703	4,137	133	8	111	1,285	847	1,172	199	8	0
Repellants (insect)	4,751	3,317	784	418	4,589	48	28	80	567	1,273	1,296	70	2	0
Rotenone	114	26	20	47	111	1	0	1	26	23	36	6	0	0
Veterinary insecticide	3,986	2,351	342	1,000	3,893	45	0	43	632	1,194	831	117	3	1
Other	3,095	1,991	208	592	3,005	64	5	15	480	756	380	55	5	0
Unknown	3,167	1,029	367	1,250	2,994	88	50	26	990	552	694	127	9	0
*Category total	49,378	23,616	5,031	15,284	47,215	1,195	229	611	11,953	12,295	10,656	1,688	132	8
Lacrimators														
Capsicum/peppers	944	324	311	225	845	24	63	6	144	37	629	23	1	0
Lacrimators: CN	9,570	2,666	3,539	2,045	8,297	266	826	19	1,426	359	5,634	277	9	0
Lacrimators: CR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lacrimators: CS	620	230	230	85	558	10	43	4	147	36	388	20	0	0
Lacrimators: DM	3	0	2	1	2	0	1	0	0	0	1	0	0	0
Other	76	14	19	19	75	1	0	0	25	4	38	4	0	0
Unknown	1,807	430	663	418	1,450	54	272	6	337	58	1,055	55	0	0
*Category total	13,020	3,664	4,764	2,793	11,227	355	1,205	35	2,079	494	7,745	379	10	0
Matches/fireworks/explosives														
Explosives	322	177	83	47	304	7	6	3	98	106	59	13	1	0
Fireworks	485	387	69	19	475	7	3	0	51	147	57	11	1	0
Matches	1,668	1,544	61	41	1,644	18	3	0	72	522	29	1	0	0
Other	65	32	14	11	59	4	1	0	17	18	22	4	0	0
Unknown	5	3	1	0	5	0	0	0	1	3	1	0	0	0
*Category total	2,545	2,143	228	118	2,487	36	13	3	239	796	168	29	2	0
Moth repellants														
Naphthalene	1,777	1,468	103	137	1,755	14	3	2	395	858	113	13	2	0
Paradichlorobenzene	211	171	14	17	206	3	0	1	19	101	9	2	0	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other	8	5	2	1	8	0	0	0	0	3	1	0	0	0
Unknown	3,121	2,549	184	254	3,058	44	8	5	684	1,365	219	21	1	0
*Category total	5,117	4,193	303	409	5,027	61	11	8	1,098	2,327	342	36	3	0
Mushrooms														
Coprine	15	12	0	3	15	0	0	0	1	8	3	1	0	0
Cyclopeptide	44	6	11	23	35	6	0	3	27	10	13	8	1	0
Gastrointestinal irritants	208	127	27	45	184	22	0	1	75	86	48	16	0	0
Hallucinogenic	334	77	110	108	125	203	3	2	182	73	56	92	4	0
Ibotenic acid	14	4	1	7	11	3	0	0	9	1	4	5	3	0
Miscellaneous, nontoxic	170	82	19	58	149	7	0	13	40	62	24	7	0	0
Monomethylhydrazine	75	4	9	47	72	3	0	0	28	12	28	17	0	0
Muscarine	11	2	1	8	9	2	0	0	7	1	2	3	1	0
Orellanine	1	0	0	1	1	0	0	0	0	0	0	0	0	0
Other potentially toxic	59	35	8	11	57	0	0	1	23	32	12	1	1	0
Unknown	7,045	5,575	733	582	6,649	317	15	56	1,706	4,340	582	162	7	1
*Category total	7,976	5,924	919	893	7,307	563	18	76	2,098	4,625	772	312	17	1
Paints and stripping agents														
Paint: antialgae	15	0	3	8	15	0	0	0	5	1	4	0	2	0
Paint: anticorrosion	73	20	13	28	72	1	0	0	23	11	24	2	0	0
Paint: oil-base	2,914	1,001	546	1,010	2,762	133	5	9	701	553	910	145	8	1
Paint: water-base	3,174	2,468	190	367	3,123	26	8	14	248	751	287	40	0	0
Stains	1,103	455	129	349	1,070	22	4	5	223	248	319	45	0	0
Stripping agents														
Methylene chloride	1,206	216	111	634	1,155	42	3	2	459	123	536	136	9	0
Other	479	113	35	252	464	9	2	3	193	51	189	56	3	0
Unknown	489	146	39	221	475	11	1	2	152	87	177	37	1	0
Varnishes, lacquers	821	306	86	281	803	12	3	2	196	134	207	44	0	0
Wood preservatives	411	99	44	200	406	2	0	3	96	50	117	15	0	0
Other paint/varnish/ lacquer	1,227	595	164	328	1,184	33	4	5	279	224	329	51	1	0
Unknown paint/varnish/ lacquer	10,751	6,418	984	2,121	10,386	280	18	53	1,839	2,010	1,624	268	10	1
*Category total	22,663	11,837	2,344	5,799	21,915	571	48	98	4,414	4,243	4,723	839	34	2
Photographic products														
Developers/fixing/stop baths	373	51	104	145	358	7	3	5	137	49	138	25	1	0
Photographic coating fluids	9	4	2	3	9	0	0	0	3	3	4	0	0	0
Other	319	213	29	49	313	5	0	1	46	60	46	6	0	0
Unknown	17	4	1	5	17	0	0	0	5	4	4	0	0	0
*Category total	718	272	136	202	697	12	3	6	191	116	192	31	1	0
Plants														
Amygdalin/cyanogenic glycosides	3,174	2,378	493	198	3,100	43	0	30	163	884	138	15	1	0
Anticholinergic	959	267	447	171	533	340	71	6	498	164	189	201	15	0
Cardiac glycosides	2,388	1,771	328	174	2,302	74	2	7	469	1,069	202	19	1	0
Colchicine	26	16	2	8	26	0	0	0	4	20	3	0	0	0
Depressants	50	37	1	10	41	7	0	2	12	13	10	0	0	0
Dermatitis	16,287	8,800	2,301	3,302	15,603	192	88	371	1,339	2,380	3,983	431	6	0
Gastrointestinal irritants	17,689	14,524	1,483	1,261	17,236	307	15	112	1,183	5,944	1,378	121	8	0
Hallucinogenic	261	148	59	37	189	64	0	7	65	88	27	22	0	0
Nicotine	371	86	97	156	350	9	2	5	176	65	164	58	1	0
Nontoxic plant	19,053	16,369	1,501	757	18,734	150	13	144	525	3,002	695	71	3	0
Oxalate	14,243	12,643	969	449	14,055	144	9	24	572	5,544	2,033	79	0	0
Solanine	1,853	1,542	117	138	1,813	20	2	17	279	946	172	12	0	0
Stimulants	362	247	45	55	314	29	0	18	97	165	56	9	2	0
Toxalbumins	237	137	49	39	226	11	0	0	91	109	37	5	0	0
Other	2,374	1,710	344	227	2,222	68	1	79	279	692	248	33	5	1
Unknown	15,398	12,098	1,817	942	14,962	240	10	168	1,426	5,185	1,525	176	3	0
*Category total	94,725	72,773	10,053	7,924	91,706	1,698	213	990	7,178	26,270	10,860	1,252	45	1
Polishes and waxes	6,993	5,639	407	678	6,844	115	19	8	824	2,820	1,272	93	6	1
Radioisotopes	166	11	20	85	154	0	4	5	55	19	14	7	0	0
Rodenticides														
ANTU	6	5	0	1	5	1	0	0	4	2	0	0	0	0
Anticoagulant: standard	1,427	1,260	49	86	1,368	47	9	0	497	526	33	6	0	0
Anticoagulant: long-acting	10,692	9,947	323	542	10,587	327	29	4	4,230	4,637	219	51	14	1
Barium carbonate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyanide	3	0	0	2	2	0	1	0	1	1	0	0	0	0
Monofluoroacetate	1	0	0	1	1	0	0	0	1	0	0	0	0	0
Strychnine	151	38	14	67	85	41	12	2	101	36	16	13	6	0
Vacor	1	0	0	1	0	1	0	0	1	0	0	0	0	0

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TABLE 22A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6–19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Other	950	670	59	178	869	71	6	2	468	307	59	19	5	1
Unknown	1,419	1,118	72	163	1,254	125	28	2	698	549	52	19	4	0
*Category total	14,920	13,038	517	1,041	14,171	613	85	10	6,001	6,058	379	108	29	2
Sporting equipment														
Fishing bait	136	96	21	15	135	1	0	0	24	41	13	5	0	0
Fishing products, other	21	14	4	1	20	0	1	0	3	13	4	0	0	0
Golf balls	71	6	49	11	63	8	0	0	18	9	29	9	0	0
Golf products, other	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gun bluing	55	26	2	21	53	0	1	1	28	19	16	2	1	0
Hunting products, other	405	247	80	59	365	23	10	2	117	151	34	5	0	0
Other	77	39	29	7	70	6	1	0	6	20	2	0	0	0
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*Category total	765	428	185	114	706	38	13	3	196	253	98	21	1	0
Swimming pool/aquarium	5,675	3,110	840	1,205	5,578	57	11	24	946	1,287	1,582	289	9	0
Tobacco products	8,778	7,633	415	539	8,325	226	39	173	1,823	3,290	2,184	148	3	0
Other/unknown nondrug substance	8,337	3,624	1,253	2,253	7,651	166	303	114	1,729	1,699	1,493	254	20	0
Total number of nonpharmaceutical substances	1,075,934	588,752	128,714	252,211	1,009,381	44,509	6,746	12,998	205,694	233,369	243,453	38,174	2,548	210
% of nonpharmaceutical substances		54.7	12.0	23.4	93.8	4.1	0.6	1.2	19.1	21.7	22.6	3.5	0.2	0.0
% of all substances	57.6	31.5	6.9	13.5	54.0	2.4	0.4	0.7	11.0	12.5	13.0	2.0	0.1	0.0

NOTE: Patients with unknown age, reason, or medical outcome were omitted from the respective tabulations.
ABBREVIATIONS: Adv Rxn, adverse reaction; Int, intentional; Unint, unintentional.

TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Analgesics														
Acetaminophen only														
Adult formulations	24,307	6,774	8,922	7,249	11,047	12,940	43	191	14,704	7,861	3,531	1,107	250	35
Pediatric formulations	35,788	33,250	2,090	326	35,281	325	71	91	4,287	9,699	723	49	10	0
Unknown formulations	8,232	2,838	2,558	2,292	3,764	4,306	21	76	4,993	2,377	1,123	454	161	24
Acetaminophen in combination with														
Aspirin (with other ingredients)	1,737	657	474	498	910	735	9	75	811	519	348	73	4	0
Aspirin (no other ingredients)	40	13	17	8	19	21	0	0	25	13	11	3	0	0
Codeine	6,436	1,262	1,236	3,253	2,482	3,392	12	521	3,742	1,530	1,711	425	84	3
Oxycodone	2,393	351	296	1,403	927	1,246	7	190	1,368	466	624	153	49	4
Propoxyphene	4,134	588	587	2,517	1,358	2,565	11	163	2,833	958	1,151	348	98	18
Other narcotics	5,190	608	798	3,113	1,704	2,924	12	510	3,053	953	1,460	363	68	4
Other drugs, adult formulations	5,770	1,157	1,389	2,740	2,071	3,505	10	146	3,738	1,467	1,496	502	79	4
Other drugs, pediatric formulations	260	42	46	143	113	128	0	18	135	69	67	12	5	0
Aspirin only														
Adult formulations	4,775	1,720	1,495	1,273	2,371	2,285	5	97	2,573	1,513	818	354	25	10
Pediatric formulations	445	395	44	5	426	16	1	1	96	190	24	6	1	0
Unknown formulations	10,337	2,192	3,861	3,523	3,410	6,692	15	161	7,078	2,575	2,277	1,099	126	24
Aspirin in combination with														
Codeine	812	127	110	481	259	506	0	43	532	143	248	78	14	0
Oxycodone	376	56	41	230	120	222	0	33	230	66	93	29	7	0
Propoxyphene	62	16	8	32	26	31	0	5	40	18	14	8	1	0
Other narcotics/ analogs	172	22	25	106	53	106	0	13	108	27	56	17	1	1
Other drugs (adult formulations)	2,931	587	617	1,442	1,061	1,742	4	105	1,909	742	811	244	52	1
Other drugs (pediatric formulations	5	2	2	1	3	2	0	0	3	2	0	1	0	0

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TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Narcotics														
Codeine	1,563	731	304	389	1,067	362	4	121	548	457	256	49	6	6
Meperidine	517	69	65	301	179	275	4	57	316	72	132	54	16	2
Methadone	397	55	29	256	133	222	8	20	301	39	77	76	44	3
Morphine	505	79	58	305	235	226	3	33	303	73	92	63	30	3
Oxycodone	138	15	21	67	46	73	0	18	87	19	32	14	4	0
Pentazocine	282	36	22	177	94	140	3	42	167	40	92	37	5	0
Propoxyphene	716	80	94	450	210	460	1	36	495	147	193	77	22	11
Other/unknown	1,654	311	192	908	734	656	3	237	901	245	474	166	69	10
Nonaspirin salicylates	990	478	143	290	632	309	5	40	428	330	187	52	5	0
Other nonsteroidal anti-inflammatory drugs														
Colchicine	107	35	13	46	60	36	1	9	65	35	8	12	3	3
Ibuprofen, OTC	19,139	12,224	3,537	2,735	14,085	4,727	19	282	5,567	6,820	1,754	266	16	0
Ibuprofen, R_x	5,177	1,401	1,235	2,120	2,307	2,710	15	128	2,719	1,540	855	171	17	2
Ibuprofen, unknown if OTC or R_x	8,697	3,038	2,570	2,434	4,228	4,208	8	224	4,263	2,803	1,375	285	41	1
Indomethacin	752	226	114	323	368	307	1	75	385	233	137	31	3	1
Other	12,010	4,503	2,030	4,400	6,584	4,639	20	710	5,357	3,980	1,969	423	54	2
Unknown	10	2	1	4	5	4	0	1	4	2	1	0	0	0
Phenacetin	4	3	0	1	3	1	0	0	2	1	2	0	0	0
Phenazopyridine	562	433	49	65	488	45	0	29	155	234	81	4	4	0
Salicylamide	88	62	9	15	68	18	0	2	22	40	15	1	0	0
Other analgesic	69	25	11	21	40	23	0	4	34	18	9	2	3	0
Unknown analgesic	183	29	67	66	44	131	0	8	123	38	35	7	1	1
*Category total	167,762	76,492	35,180	46,008	99,015	63,261	316	4,515	74,500	48,354	24,362	7,115	1,378	173
Anesthetics														
Inhalation anesthetics														
Nitrous oxide	141	4	61	57	52	72	0	17	69	13	34	17	2	3
Other/unknown	156	19	25	80	137	14	1	0	68	16	67	8	0	0
Ketamine and analogs	24	2	1	15	9	13	0	1	14	2	5	6	1	0
Local and topical anesthetics	4,447	3,334	341	577	4,136	120	14	162	896	1,905	550	77	21	1
Other anesthetics	8	2	1	4	7	0	0	1	1	3	4	1	0	0
Unknown anesthetic	7	2	0	3	4	1	0	2	2	1	1	1	0	0
*Category total	4,783	3,363	429	736	4,345	220	15	183	1,050	1,940	661	110	24	4
Anticholinergic drugs	3,747	1,065	455	1,894	1,734	1,726	17	223	2,417	1,064	877	523	78	3
Anticoagulants														
Heparin	70	20	1	32	62	4	0	3	44	14	11	14	1	0
Warfarin (excluding rodenticides)	761	375	41	288	586	140	2	28	386	281	59	50	13	1
Other	67	29	3	32	50	7	2	8	25	31	5	1	0	0
Unknown	11	9	0	1	9	2	0	0	8	7	0	0	0	0
*Category total	909	433	45	353	707	153	4	39	463	333	75	65	14	1
Anticonvulsants														
Carbamazepine	5,563	1,824	1,035	2,357	3,179	2,105	15	201	3,777	1,390	1,502	820	243	5
Phenytoin	3,891	992	390	2,157	2,114	1,429	16	253	2,678	1,002	961	520	86	4
Succinimides	110	52	25	31	87	21	0	2	42	40	20	2	1	0
Valproic acid	1,938	476	412	892	1,119	711	7	89	1,063	622	374	141	55	3
Other	186	38	12	110	140	21	1	24	73	35	46	15	4	0
Unknown	8	0	2	5	5	2	0	1	4	1	2	1	0	0
*Category total	11,696	3,382	1,876	5,552	6,644	4,289	39	570	7,637	3,090	2,905	1,499	389	12
Antidepressants														
Cyclic antidepressants														
Amitriptyline	6,710	973	780	4,266	1,889	4,587	10	146	5,500	1,109	1,694	1,318	762	44
Amoxapine	190	32	23	122	55	125	1	9	167	34	46	40	17	6
Desipramine	1,456	231	360	706	490	881	3	64	1,159	336	351	238	110	26
Doxepin	2,911	199	291	2,081	595	2,220	6	60	2,442	416	784	592	320	11
Imipramine	3,394	659	988	1,465	1,325	1,879	6	156	2,457	861	833	496	219	13
Maprotiline	97	14	10	62	34	59	0	3	76	22	29	14	9	0
Nortriptyline	2,617	241	442	1,670	672	1,806	6	98	2,043	488	674	438	185	15
Protriptyline	48	8	4	30	14	30	0	3	36	10	12	7	1	0
Other cyclic antidepressant	1,286	83	156	881	296	904	1	76	1,014	234	366	223	71	4
Unknown cyclic antidepressant	378	17	55	260	47	312	0	6	345	39	69	90	102	5
Cyclic antidepressant formulated with a benzodiazepine	197	32	21	128	55	136	0	5	161	35	52	37	16	0

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TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Cyclic antidepressant formulated with a phenothiazine	631	110	69	406	181	427	2	16	508	128	164	106	51	8
Lithium	4,560	348	803	2,778	1,417	2,722	14	314	3,632	1,087	1,177	710	184	3
MAO inhibitors	556	69	15	378	196	249	1	102	424	106	117	139	43	3
Trazodone	3,808	235	475	2,609	815	2,858	9	111	2,925	799	1,376	419	71	6
Other antidepressants	11,651	1,352	2,356	6,463	3,053	7,759	17	744	8,424	3,350	3,077	979	215	7
Unknown antidepressants	59	4	9	35	10	47	0	1	43	5	13	3	2	0
*Category total	40,549	4,607	6,857	24,340	11,144	27,001	76	1,914	31,356	9,059	10,834	5,849	2,378	151
Antihistamines														
H_2 receptor antagonists	3,283	1,385	468	1,131	2,105	998	6	166	1,320	1,151	401	97	18	0
Diphenhydramine (unknown if OTC or R_x)	10,457	6,609	1,354	2,088	7,797	2,372	36	216	3,841	3,529	2,251	658	53	6
Diphenhydramine (R_x)	209	84	37	72	123	74	1	7	120	51	58	18	4	0
Diphenhydramine (OTC)	6,924	1,533	1,456	3,349	2,594	4,123	17	164	4,231	1,448	1,928	786	74	4
Other	13,478	5,723	2,930	3,982	8,577	4,332	38	470	6,190	4,517	2,484	831	91	4
*Category total	34,351	15,334	6,245	10,622	21,196	11,899	98	1,023	15,702	10,696	7,122	2,390	240	14
Antimicrobials														
Antibiotics: systemic	41,073	24,655	6,315	7,633	30,899	5,796	102	4,152	8,807	10,370	4,490	704	64	3
Antibiotics: topical	5,185	4,072	326	561	5,014	67	6	96	195	1,083	253	19	1	0
Antibiotics: unknown	2,098	638	592	662	1,058	657	11	361	799	418	483	62	4	0
Antifungals: systemic	745	416	105	151	598	83	3	61	151	216	68	9	2	0
Antifungals: topical	6,275	4,980	322	690	6,126	56	17	72	292	1,367	568	24	2	0
Antifungals: unknown	22	12	1	3	20	1	0	1	3	3	0	1	0	0
Anthelmintics: diethylcarbamazine	947	677	31	200	938	6	2	0	42	264	25	3	0	0
Anthelmintics: piperazine	561	460	30	53	550	7	2	1	56	199	28	3	0	0
Anthelmintics: other	599	285	68	160	563	10	2	23	192	151	127	36	6	0
Anthelmintics: unknown	23	15	1	5	19	3	1	0	5	11	2	0	0	0
Antiparasitics: antimalarials	196	84	28	58	142	23	0	29	118	77	26	16	0	0
Antiparasitics: metronidazole	962	243	161	421	508	277	4	169	380	205	182	31	0	0
Antiparasitics: other	335	212	41	56	278	24	0	33	73	103	31	5	1	0
Antituberculars: isoniazid	453	94	133	182	166	260	0	24	341	126	59	65	59	2
Antituberculars: rifampin	61	24	14	17	39	14	0	8	32	23	14	0	1	0
Antituberculars: other	17	3	7	4	6	8	0	3	12	5	3	1	0	0
Antituberculars: unknown	1	1	0	0	1	0	0	0	0	0	0	0	0	0
Antivirals: systemic	675	230	83	290	373	235	4	58	298	205	86	25	7	0
Antivirals: topical	52	28	4	13	45	3	0	4	9	6	9	4	0	0
Antivirals: unknown	45	14	7	20	27	14	0	4	17	12	3	2	0	0
Other antimicrobials	102	64	11	21	86	9	0	7	29	31	18	3	0	0
Unknown antimicrobials	8	4	1	2	4	3	0	1	3	3	0	0	0	0
*Category total	60,435	37,211	8,281	11,202	47,460	7,556	154	5,107	11,854	14,878	6,475	1,013	147	5
Antineoplastics	613	226	39	241	513	47	5	45	246	200	87	24	3	1
Asthma therapies														
Aminophylline/ theophylline	4,473	1,047	1,116	2,038	2,530	1,621	20	248	2,878	1,078	1,026	782	120	27
Terbutaline and other beta-2 agonists	10,666	8,366	1,295	812	9,580	738	47	275	4,395	4,097	2,231	800	12	0
Other beta agonists	996	287	391	253	421	540	4	25	640	258	269	137	5	0
Other	507	370	77	43	447	37	0	20	75	188	40	6	0	0
Unknown	27	7	11	6	12	13	2	0	10	8	6	4	0	0
*Category total	16,669	10,077	2,890	3,152	12,990	2,949	73	568	7,998	5,629	3,572	1,729	137	27
Cardiovascular drugs														
Alpha blockers	168	64	14	73	122	40	0	5	100	64	22	21	2	0
Antiarrhythmics	1,095	265	62	654	904	134	7	45	489	456	108	51	26	9
Antihypertensives	6,548	3,092	737	2,352	5,054	1,254	17	188	3,305	2,723	927	557	113	2
Beta blockers	5,063	1,708	542	2,406	3,437	1,439	24	149	2,930	2,128	599	481	97	17
Calcium antagonists	6,730	1,897	510	3,774	4,835	1,653	33	182	3,802	2,684	801	668	182	35
Cardiac glycosides	2,285	977	127	1,059	1,848	316	6	87	1,285	935	199	273	73	10
Hydralazine	217	88	19	88	165	42	1	8	105	90	31	24	3	0
Long-acting nitrates	722	338	29	317	626	79	2	13	269	349	78	28	2	0

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TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Nitroglycerin	2,026	1,409	119	418	1,768	232	4	18	604	1,013	147	47	9	1
Nitroprusside	35	3	0	24	14	0	0	20	33	2	5	8	2	0
Other vasodilators	531	298	35	171	456	60	3	10	189	248	52	14	1	0
Unknown types of vasodilators	1	0	0	1	0	1	0	0	1	0	0	1	0	0
Vasopressors	12	3	5	4	9	2	0	1	10	3	5	1	0	0
Other cardiovascular drugs	523	147	127	203	451	43	2	24	145	143	89	29	2	0
Unknown cardiovascular drugs	43	20	6	13	33	9	1	0	15	16	1	0	0	0
*Category total	25,999	10,309	2,332	11,557	19,722	5,304	100	750	13,282	10,854	3,064	2,203	512	74
Cough and cold preparations	105,588	72,540	15,522	14,120	89,647	12,586	336	2,812	26,109	34,201	21,587	2,821	147	8
Diagnostic agents	316	100	32	120	270	18	0	28	132	71	62	19	0	1
Diuretics														
Furosemide	1,205	640	109	398	1,001	175	7	18	433	436	191	61	4	1
Thiazide	1,215	650	123	378	964	211	4	33	478	511	145	40	3	0
Other	1,462	752	191	416	1,114	279	10	57	536	572	191	54	1	1
Unknown	258	130	29	87	187	58	2	8	111	88	45	7	0	1
*Category total	4,140	2,172	452	1,279	3,266	723	23	116	1,558	1,607	572	162	8	3
Electrolytes and minerals														
Calcium	1,537	1,189	135	169	1,438	70	3	24	188	343	92	21	0	0
Fluoride	3,483	3,088	264	86	3,417	40	3	21	249	1,143	503	16	0	1
Iron	4,616	3,114	649	684	3,595	944	5	63	2,420	1,794	852	247	26	4
Magnesium	266	109	37	77	222	24	6	14	75	50	57	11	1	0
Potassium	832	452	61	259	690	108	3	27	238	325	80	30	8	0
Sodium	2,165	1,482	376	206	2,012	113	20	16	333	627	391	23	4	1
Zinc	885	492	91	222	811	42	0	30	169	167	151	40	1	0
Other	119	66	8	27	104	7	0	7	19	25	9	0	1	0
Unknown	5	2	2	1	3	1	1	0	1	0	2	1	0	0
*Category total	13,908	9,994	1,623	1,731	12,292	1,349	41	202	3,712	4,474	2,137	389	41	6
Eye/ear/nose/throat preparations														
Nasal preparations														
Tetrahydrozoline	102	43	9	23	98	3	0	1	24	31	48	0	1	0
Other decongestants	2,496	1,492	233	562	2,311	96	6	79	569	1,039	425	35	3	0
Other	374	269	28	49	359	2	4	9	29	69	69	6	0	0
Unknown	13	3	2	5	9	1	0	3	5	3	3	0	0	0
Ophthalmic preparations														
Contact lens products	3,613	2,097	243	855	3,568	22	8	13	486	698	687	113	2	0
Glaucoma therapies	126	56	8	52	109	5	0	12	32	42	25	3	0	0
Tetrahydrozoline	1,417	1,066	114	170	1,304	49	36	15	708	808	147	38	6	0
Other ophthalmic sympathomimetics	218	144	20	39	197	6	2	13	71	111	20	4	1	0
Other	599	335	48	145	545	15	1	38	82	113	99	17	0	0
Unknown	22	9	3	7	16	2	1	3	7	4	6	0	0	0
Otic preparations														
Combination products	907	683	75	102	898	3	3	2	107	348	173	11	0	0
Other	1,503	897	129	323	1,473	13	5	10	147	323	390	15	0	0
Unknown	47	28	3	11	47	0	0	0	3	10	16	0	0	0
Steroids—topical for eye/nose/throat	746	373	111	191	685	9	4	46	60	133	146	6	0	0
Throat preparations														
Lozenges without local anesthetics	678	516	79	54	634	35	0	8	33	193	33	3	1	0
Lozenges with local anesthetics	606	414	89	59	579	18	0	9	48	156	183	3	0	0
Other	289	179	47	41	270	12	2	4	47	102	59	3	0	0
Unknown	9	5	1	2	7	2	0	0	2	1	2	1	0	0
*Category total	13,765	8,609	1,242	2,690	13,109	293	72	265	2,460	4,184	2,531	258	14	0
Gastrointestinal preparations														
Antacids:salicylate containing	2,533	2,114	160	139	2,412	52	4	64	202	785	285	10	0	0
Antacids: other	16,228	14,903	564	540	15,919	183	19	90	478	3,043	420	35	3	0
Antidiarrheals diphenoxylate	1,594	890	173	460	1,214	263	7	108	807	657	296	75	10	2

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TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Antidiarrheals: nonnarcotic	679	561	45	59	635	20	1	19	64	152	22	2	1	0
Antidiarrheals: paregoric	153	114	17	16	133	15	0	5	38	56	30	3	1	0
Antidiarrheals: other narcotic	233	182	16	9	231	2	0	0	6	40	66	1	0	0
Antispasmodics: anticholinergic	1,475	586	291	523	836	536	5	90	782	503	326	113	11	0
Antispasmodics: other	8	2	2	4	6	2	0	0	5	2	3	0	0	0
Laxatives	12,493	9,404	1,162	1,478	11,402	789	93	180	1,970	2,542	2,592	216	10	0
Other	3,185	2,448	199	379	2,834	237	10	100	619	821	313	88	7	3
Unknown	445	258	30	126	326	77	0	39	110	158	25	14	2	1
*Category total	39,026	31,462	2,659	3,733	35,948	2,176	139	695	5,081	8,759	4,378	557	45	6
Hormones and hormone antagonists														
Androgens	155	40	25	65	82	64	1	8	55	32	7	9	0	0
Corticosteroids	5,431	3,386	594	1,090	4,727	314	25	354	667	1,067	347	55	4	2
Estrogens	2,115	1,558	139	320	1,890	156	9	55	273	533	82	18	2	0
Insulin	868	63	54	617	583	249	12	20	398	259	101	138	19	3
Oral contraceptives	9,848	8,675	681	305	9,302	479	6	54	709	2,022	284	17	1	0
Oral hypoglycemics	2,272	1,207	180	761	1,794	430	7	31	1,669	1,017	278	352	48	1
Progestins	959	571	131	180	805	81	1	72	145	205	41	12	1	0
Thyroid preparations	4,199	2,814	329	844	3,789	345	10	49	923	1,291	187	55	7	0
Other hormones	455	250	57	124	354	69	1	30	192	146	105	28	3	0
Other hormone antagonists	205	96	26	65	165	28	0	10	56	80	11	4	0	0
Unknown hormones or antagonists	11	6	1	4	8	1	1	1	2	2	1	0	0	0
*Category total	26,518	18,666	2,217	4,375	23,499	2,216	73	684	5,089	6,654	1,444	688	85	6
Miscellaneous drugs														
Allopurinol	265	162	13	71	220	28	0	15	79	102	20	6	1	0
L-dopa and related drugs	360	137	8	179	302	37	2	17	152	134	61	19	0	0
Disulfiram	577	32	25	367	161	328	6	78	365	84	144	71	9	0
Ergot alkaloids	637	305	91	199	407	161	1	64	364	242	113	43	3	0
Homeopathic preparations	1,653	1,098	135	312	1,327	181	3	131	409	541	170	31	8	0
Methysergide	2	1	0	1	1	1	0	0	1	2	0	0	0	0
Neuromuscular blocking agents	13	4	2	5	8	1	0	4	11	1	2	1	1	0
Other	6,431	3,543	654	1,696	5,236	762	25	373	1,539	1,804	1,124	217	20	2
*Category total	9,938	5,282	928	2,830	7,662	1,499	37	682	2,920	2,910	1,634	388	42	2
Muscle relaxants														
Cyclobenzapine	2,945	560	432	1,676	1,036	1,815	2	75	2,182	623	874	391	85	3
Methocarbamol	1,018	143	189	550	342	634	3	35	704	250	300	61	13	0
Other	4,209	505	467	2,717	1,192	2,813	5	160	2,997	691	1,360	460	131	9
Unknown	56	6	20	20	9	46	0	0	37	13	15	3	1	0
*Category total	8,228	1,214	1,108	4,963	2,579	5,308	10	270	5,920	1,577	2,549	915	230	12
Narcotic antagonists	35	3	5	19	16	15	0	4	21	3	9	4	2	0
Radiopharmaceuticals	11	3	0	4	10	0	0	1	6	3	2	1	0	0
Sedatives/hypnotics/ antipsychotics														
Barbiturates: long-acting	3,517	833	326	2,026	1,768	1,608	10	79	2,242	817	882	412	178	4
Barbiturates: short-acting	1,159	110	158	730	305	796	8	37	873	173	381	133	59	4
Barbiturates: unknown type	31	3	6	21	4	22	0	0	29	2	6	10	4	3
Benzodiazepines	32,334	4,203	2,636	21,513	8,112	23,289	46	619	24,382	5,459	10,913	3,484	877	33
Chloral hydrate	556	143	57	313	203	308	5	36	428	78	190	87	48	2
Ethchlorvynol	195	25	8	139	47	140	2	1	149	17	51	34	16	2
Glutethimide	42	1	9	26	4	36	1	0	33	6	9	7	7	0
Meprobamate	367	45	28	260	105	251	1	7	265	50	108	60	21	4
Methaqualone	62	7	9	39	11	47	1	1	51	5	16	10	2	0
Phenothiazines	10,975	1,420	1,522	6,831	3,475	6,729	23	615	8,485	2,369	2,935	1,954	315	25
Sleep aids (OTC)	2,984	153	600	1,904	411	2,532	4	23	2,464	578	899	408	27	0
Other	2,033	291	234	1,258	648	1,254	4	111	1,379	500	578	150	28	3
Unknown	266	12	60	129	21	235	2	3	219	27	67	33	3	0
*Category total	54,521	7,246	5,653	35,189	15,114	37,247	107	1,532	40,999	10,081	17,035	6,782	1,585	80
Serums, toxoids, vaccines	1,039	229	115	447	725	11	3	297	411	96	253	58	5	0

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TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
Stimulants and street drugs														
Amphetamines	6,902	2,166	2,484	1,732	4,033	2,630	41	156	3,820	1,931	1,441	827	74	11
Amyl/butyl nitrites	66	11	7	30	34	31	1	0	30	8	21	8	2	0
Caffeine	5,568	1,048	2,955	1,181	1,962	3,365	22	174	2,808	839	1,818	684	13	1
Cocaine	3,334	133	326	2,454	333	2,911	24	20	3,008	436	734	773	219	58
Diet aids: phenylpropanolamine	2,240	726	942	458	997	1,181	0	49	1,366	688	476	289	15	0
Diet aids: phenylpropanolamine and caffeine	235	57	94	70	92	137	0	5	164	63	39	35	0	0
Diet aids: other, OTC	182	91	35	42	108	52	1	20	73	63	36	11	0	0
Diet aids: other, R_x	40	14	8	12	23	13	0	3	25	15	10	5	0	0
Diet aids: unknown	164	55	58	40	70	80	1	9	104	37	37	19	1	0
Heroin	900	25	33	719	88	793	3	5	808	85	177	250	110	18
LSD	890	28	513	223	114	725	34	2	633	52	187	237	18	0
Marijuana	1,032	98	488	330	204	780	22	15	681	87	250	176	21	1
Mescaline/peyote	167	41	43	61	97	62	1	2	75	11	46	21	1	0
Phencyclidine	348	19	95	205	39	291	9	0	301	17	81	105	37	3
Phenylpropanolamine look-alike drugs	189	26	99	48	45	143	1	0	163	38	51	32	0	0
Other stimulants	901	218	359	272	283	597	5	9	617	205	244	151	8	0
Other hallucinogens	2	1	0	1	1	1	0	0	1	1	1	0	0	0
Unknown hallucinogens	8	0	3	5	0	8	0	0	7	2	1	2	1	0
Other street drugs	40	12	10	9	19	20	1	0	20	4	9	6	1	0
Unknown stimulants/street drugs	97	16	37	28	17	74	5	1	80	12	17	28	1	0
*Category total	23,305	4,785	8,589	7,920	8,559	13,894	171	470	14,784	4,594	5,676	3,659	522	92
Topical preparations														
Acne preparations	1,677	768	494	210	1,503	38	4	128	168	290	625	39	0	0
Boric acid/borates	259	174	14	47	248	4	2	5	31	82	33	6	0	0
Calamine	4,549	3,717	227	488	4,488	32	12	15	336	1,028	271	33	0	0
Camphor	7,635	6,055	457	877	7,380	179	15	50	1,460	3,232	1,211	74	15	0
Camphor and methyl salicylate	1,209	952	79	129	1,153	20	2	33	219	461	258	9	1	0
Diaper products	16,607	15,573	473	414	16,546	43	4	9	236	2,965	569	14	1	0
Hexachlorophene antiseptics	128	74	14	30	122	3	1	2	27	33	24	1	0	0
Hydrogen peroxide	7,912	4,511	757	1,961	7,695	155	16	35	497	1,551	1,502	82	4	0
Iodine or iodide antiseptics	1,639	682	245	562	1,382	189	7	52	412	445	305	45	2	0
Mercury antiseptics	573	466	31	60	549	19	1	4	54	182	31	1	1	0
Methyl salicylate	8,045	5,888	603	1,153	7,899	60	21	60	826	2,378	1,738	42	5	0
Podophylin	51	15	3	19	35	9	0	6	25	6	15	4	1	0
Silver nitrate	156	27	47	65	142	6	2	5	34	21	56	5	1	0
Topical steroids	5,748	4,352	298	770	5,619	54	8	63	180	962	369	19	0	0
Topical steroids with antibiotics	1,356	1,077	83	147	1,333	5	1	16	67	319	123	4	0	0
Wart preparations	2,037	1,510	199	238	1,981	27	3	23	237	594	444	40	0	0
Other liniments	1,611	948	135	397	1,513	26	8	61	171	377	430	22	1	0
Other topical antiseptics	3,505	2,489	346	492	3,359	101	14	26	446	1,257	459	38	1	0
*Category total	64,697	49,278	4,505	8,059	62,947	970	121	593	5,426	16,183	8,463	478	33	0
Veterinary Drugs	2,691	1,537	213	726	2,638	28	9	13	284	738	456	26	4	0
Vitamins														
Multiple vitamin tablets: adult formulations														
No iron, no fluoride	1,855	1,357	216	219	1,593	152	1	106	235	479	148	11	1	0
With iron, no fluoride	4,394	3,258	511	485	3,748	586	4	52	1,183	1,754	417	67	5	0
With iron, with fluoride	71	62	5	3	64	7	0	0	22	21	12	5	0	0
No iron, with fluoride	193	190	3	0	192	0	0	0	8	94	5	0	0	0
Multiple vitamin tablets: pediatric formulations														
No iron, no fluoride	7,725	6,955	718	35	7,597	111	4	12	274	2,375	303	6	0	0
With iron, no fluoride	12,427	11,274	1,063	65	12,249	153	1	22	2,148	5,183	1,156	79	0	0
With iron, with fluoride	668	630	27	7	652	14	0	1	67	191	48	2	0	0
No iron, with fluoride	1,890	1,791	69	27	1,871	15	0	3	75	468	62	0	0	0
Multiple vitamin liquids: adult formulations														

(Continued on following page)

TABLE 22B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (yr)			Reason				Treated in Health Care Facility	Outcome				
		<6	6-19	>19	Unint	Int	Other	Adv Rxn		None	Minor	Moderate	Major	Death
No iron, no fluoride	273	185	37	43	227	36	0	7	130	93	24	3	2	0
With iron, no fluoride	78	42	9	19	60	11	1	6	19	21	8	0	0	0
With iron, with fluoride	3	1	2	0	1	1	1	0	3	3	0	0	0	0
No iron, with fluoride	2	2	0	0	2	0	0	0	0	1	0	0	0	0
Multiple vitamin liquids: pediatric formulations														
No iron, no fluoride	209	198	5	4	201	1	0	6	15	55	19	0	0	0
With iron, no fluoride	363	338	18	2	359	3	0	1	34	134	34	1	0	0
With iron, with fluoride	92	89	3	0	91	0	0	0	9	28	7	0	0	0
No iron, with fluoride	526	505	13	3	516	2	2	6	19	131	25	0	0	0
Multiple vitamins, unspecified adult formulations														
No iron, no fluoride	42	27	4	8	32	6	0	4	9	7	3	0	0	0
With iron, no fluoride	1,727	1,381	194	116	1,537	164	3	21	465	705	181	22	2	1
With iron, with fluoride	12	8	3	1	10	2	0	0	7	6	2	2	0	0
No iron, with fluoride	9	3	2	4	6	2	0	1	3	2	2	0	0	0
Multiple vitamins, unspecified pediatric formulations														
No iron, no fluoride	125	111	12	1	124	1	0	0	6	38	5	0	0	0
With iron, no fluoride	140	128	11	1	138	2	0	0	23	67	12	1	0	0
With iron, with fluoride	6	5	1	0	5	1	0	0	1	0	0	0	0	0
No iron, with fluoride	30	30	0	0	30	0	0	0	0	10	1	0	0	0
Other vitamins														
Vitamin A	950	656	81	155	833	70	0	43	129	265	68	11	0	0
Niacin(B_3)	1,779	410	161	956	873	107	6	790	212	88	790	40	1	1
Pyridoxine (B_6)	283	172	27	59	224	35	0	23	62	79	23	12	3	0
Other B complex vitamins	1,085	715	103	206	874	112	3	91	182	269	94	12	0	0
Vitamin C	1,860	1,441	221	148	1,698	119	3	37	144	459	131	10	2	0
Vitamin D	163	107	12	36	143	15	4	1	39	57	8	1	0	0
Vitamin E	1,048	849	73	98	975	44	0	28	89	261	47	1	0	0
Other	581	432	48	76	511	39	2	28	101	175	63	3	1	0
Unknown	938	690	93	103	799	91	2	40	242	281	70	15	3	0
*Category total	41,547	34,042	3,745	2,880	38,235	1,902	37	1,329	5,955	13,800	3,768	304	20	2
Unknown drugs	16,116	5,642	2,729	5,485	10,736	3,380	840	538	7,961	3,683	2,724	1,021	210	0
Total number of pharmaceutical substances	792,902	415,303	115,966	212,227	552,722	208,020	2,916	25,468	295,333	219,715	135,314	41,050	8,293	682
% of pharmaceutical substances		52.4	14.6	26.8	69.7	26.2	0.4	3.2	37.2	27.7	17.1	5.2	1.0	0.1
% of all substances	42.4	22.2	6.2	11.4	29.6	11.1	0.2	1.4	15.8	11.8	7.2	2.2	0.4	0.0

NOTE: Patients with unknown age, reason, or medical outcome were omitted from the respective tabulations.
ABBREVIATIONS: Adv Rxn, adverse reaction; Int, intentional; Unint, unintentional.

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