Toxicology

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

1994 Annual Report of the American Association of Poison Control Centers Toxic Exposure Surveillance System

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Toxic Exposure Surveillance System (TESS) data are compiled by the American Association of Poison Control Centers (AAPCC) in cooperation with the majority of US poison centers. These data are used to identify hazards early, focus prevention education, guide clinical research, and direct training. TESS data have prompted product reformulations, repackaging, recalls, and bans; these data are used to support regulatory actions and they form the basis for postmarketing surveillance of newly released drugs and products.

From its inception in 1983, TESS has grown dramatically, with increases in the number of participating poison centers, population served by those centers, and reported human exposures (Table 1).[1-11]

The cumulative AAPCC database now contains 16 million human poison exposure cases. This report includes

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

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Centers participating in this report include Children's Hospital of Alabama Regional Poison Control Center, Birmingham, AL; 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; Santa Clara Valley Medical Center Regional Poison Center, San Jose, CA; Central California Regional Poison Control Center, Fresno, CA; Los Angeles Regional Drug and Poison Information Center, Los Angeles, 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, FL; Florida Poison Information Center, Miami, 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: Minnesota Regional Poison Center, St. Paul, 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 Regional Poison Center, North Tarrytown, 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; Southeast Texas Poison Center, Galveston, TX; Texas Poison Center Network at Amarillo, Amarillo, 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; West Virginia Poison Center, Charleston, WV; University of Wisconsin Regional Poison Center, Madison, WI; Poison Center of Eastern Wisconsin, Milwaukee, 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
1994	65	215.9	1,926,438	8.9
Total			16,191,374	

1,926,438 human exposure cases reported by 65 participating poison centers during 1994, an increase of 10% compared with 1993 poisoning reports.

CHARACTERIZATION OF PARTICIPATING CENTERS

Of the 65 reporting centers, 60 submitted data for the entire year. Thirty-nine of the 65 participating centers were certified as regional poison centers by the AAPCC in 1994. Annual center call volumes (human exposure cases only) ranged from 1,178 to 90,798 (mean, 31,426) for centers participating for the entire year. Penetrance, calculated by state or portion of the state served, ranged from 3.5 to 17.3 per 1,000 with a mean of 8.9 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 215.9 million was served by the participating centers, including portions of 44 states and the District of Columbia (Figure 1). Noting the 260.3 million 1994 United States population, the data presented represent an estimated 83% of the human poison exposures that precipitated poison center contacts in the US during 1994. Extrapolating from the 1,926,438 human poison exposures reported in this database, 2.3 million human poison exposures are estimated to have been reported to all US poison centers in 1994. 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 17.3 poisonings per 1,000 population reported for one state, 4.5 million poisonings would have been reported to poison centers in 1994.

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 50 centers that participated for the entirety of both 1993 and 1994 shows a 4.1% increase in reported poison exposures from 1993 to 1994 within the regions served by these 50 centers.

REVIEW OF THE DATA

Of the 1,926,438 human exposures reported in 1994, 90.4% occurred at a residence (Table 2). In 4% of cases (78,736 cases), multiple patients were implicated in the poison exposure episode (eg, siblings "shared" a household product.

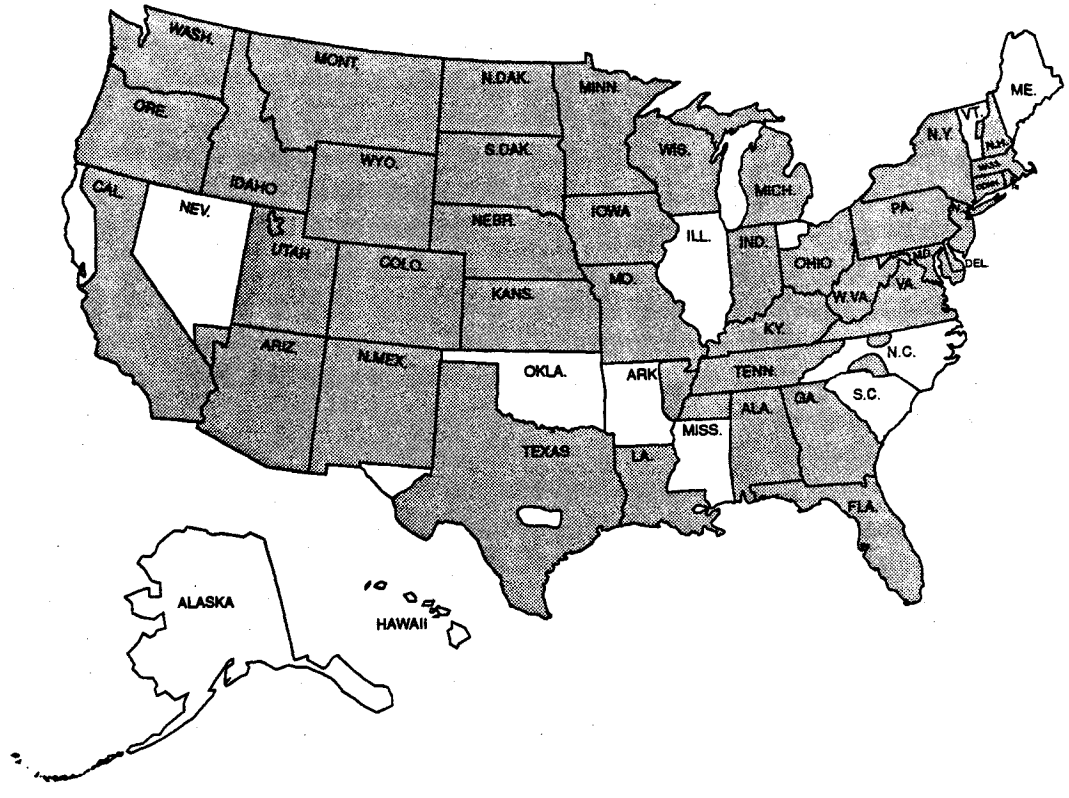

FIGURE 1. Sixty-five poison centers participated in the Toxic Exposure Surveillance System in 1994. The shaded areas denote regions served by reporting centers.

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

	Site of Caller (%)	Site of Exposure (%)
Residence		
Own	78.2	87.2
Other	2.2	3.2
Workplace	1.8	2.9
Health care facility	12.7	0.4
School	0.6	1.2
Restaurant/food service	0.1	0.6
Public area	0.6	1.3
Other	3.4	1.0
Unknown	0.5	2.2

multiple patients inhaled vapors at a hazardous materials spill). Two unlikely sites of poisonings, health care facilities and schools, accounted for 7,589 (0.4%) and 23,287 (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 40% of cases, and 54% 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, 60.4% of intentional exposures occurred in females, as did 65.6% of adverse reactions. Of all poison exposures captured, 6,147 occurred in pregnant women. Of those with known pregnancy duration, 31% occurred in the first trimester, 38% in the second trimester, and 31% in the third trimester.

Table 4 presents the age and gender distribution for the 766 reported fatalities. Although responsible for the majority of poisoning reports, children younger than 6 years of age comprised just 3.4% (26) of the fatalities. Fifty-nine 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 (94.7%) compared with only 62.0% of poison-related fatal exposures. Chronic exposures comprised 2.1% of all poison exposure reports, and acute-on-chronic exposures comprised 2.5%. (Chronic exposures were defined as continuous or repeated exposures occurring in a period exceeding 8 hours.)

Reason for exposure was coded according to the following definitions: *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 in-

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

	Male		Female		Unknown		Total		Cumulative Total	
Age (yr)	No.	%	No.	%	No.	%	No.	%	No.	%
<1	65,243	51.8	59,296	47.0	1,531	1.2	126,070	6.5	126,070	6.5
1	165,916	52.8	147,019	46.8	1,495	0.5	314,430	16.3	440,500	22.9
2	178,366	53.4	154,734	46.3	1,072	0.3	334,172	17.3	774,672	40.2
3	84,529	54.5	69,652	44.9	817	0.5	154,998	8.0	929,670	48.3
4	39,202	55.2	31,419	44.3	378	0.5	70,999	3.7	1,000,669	51.9
5	21,820	55.9	17,028	43.6	219	0.6	39,067	2.0	1,039,736	54.0
Unknown child ≤5	1,058	39.4	938	34.9	692	25.7	2,688	0.1	1,042,424	54.1
6-12	68,235	56.2	52,135	42.9	1,142	0.9	121,512	6.3	1,163,936	60.4
13-19	57,516	41.8	79,114	57.6	820	0.6	137,450	7.1	1,301,386	67.6
Unknown child	1,510	38.9	1,437	37.0	938	24.1	3,885	0.2	1,305,271	67.8
Total children (<20)	683,395	52.4	612,772	46.9	9,104	0.7	1,305,271	67.8	1,305,271	67.8
20-29	69,170	44.4	86,099	55.3	365	0.2	155,634	8.1	1,460,905	75.8
30-39	62,522	42.9	82,987	56.9	298	0.2	145,807	7.6	1,606,712	83.4
40-49	34,178	41.0	49,037	58.8	153	0.2	83,368	4.3	1,690,080	87.7
50-59	15,101	38.0	24,533	61.8	71	0.2	39,705	2.1	1,729,785	89.8
60-69	9,388	36.2	16,493	63.6	36	0.1	25,917	1.3	1,755,702	91.1
70-79	6,577	34.6	12,357	65.1	52	0.3	18,986	1.0	1,774,688	92.1
80-89	2,968	30.1	6,872	69.7	25	0.3	9,865	0.5	1,784,553	92.6
90-99	497	26.6	1,367	73.1	7	0.4	1,871	0.1	1,786,424	92.7
Unknown adult	48,823	39.5	71,994	58.3	2,768	2.2	123,585	6.4	1,910,009	99.1
Total adults	249,224	41.2	351,739	58.2	3,775	0.6	604,738	31.4	1,910,009	99.1
Unknown age	5,891	35.9	7,492	45.6	3,046	18.5	16,429	0.9	1,926,438	100.0
Total	938,510	48.7	972,003	50.5	15,925	0.8	1,926,438	100.0	1,926,438	100.0

TABLE 4. Distribution of Age and Gender for 766 Fatalities

Age (yr)	Male	Female	Unknown	Total	%	Cumulative Total	Cumulative %
<1	1	2	0	3	0.4	3	0.4
1	6	4	0	10	1.3	13	1.7
2	1	2	0	3	0.4	16	2.1
3	1	3	0	4	0.5	20	2.6
4	0	3	0	3	0.4	23	3.0
5	2	1	0	3	0.4	26	3.4
6-12	3	2	0	5	0.7	31	4.0
13-19	25	19	0	44	5.7	75	9.8
20-29	64	49	0	113	14.8	188	24.5
30-39	114	79	0	193	25.2	381	49.7
40-49	79	70	0	149	19.5	530	69.2
50-59	30	37	0	67	8.7	597	77.9
60-69	29	28	0	57	7.4	654	85.4
70-79	23	35	0	58	7.6	712	93.0
80-89	16	19	0	35	4.6	747	97.5
90-99	1	5	0	6	0.8	753	98.3
Unknown adult	6	5	0	11	1.4	764	99.7
Unknown age	1	0	1	2	0.3	766	100.0
Total	402	363	1	766	100.0		

cluded. 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 nonpharmaceutical substance. Unintentional misuse differs from intentional misuse in that the exposure was unplanned or not foreseen by the patient. *Bite/sting:* All animal bites and stings, with or without envenomation, are included. *Food poisoning:* Suspected or confirmed food poisoning; ingestion of food contaminated with microorganisms is included. *Unintentional unknown:* An exposure determined to be unintentional but the exact reason is unknown. *Suspected suicidal:* An exposure resulting from the inappropriate use of a substance for reasons that are suspected to be self destructive or manipulative. *Intentional misuse:* An exposure resulting from the intentional improper or incorrect use 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 by a victim who was likely attempting to achieve a euphoric or psychotropic effect. All recreational uses of substances for any effect are 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 a product, as opposed to overdose, misuse, or abuse. Included are cases with an unwanted effect caused by an allergic, hypersensitive, or idiosyncratic response to active ingredients, inactive ingredients, or excipients. Concomitant use of a contraindi-

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

No. of Substances	No. of Cases	% of Cases
1	1,796,217	93.2
2	98,451	5.1
3	18,028	0.9
4	6,864	0.4
5	2,736	0.1
6	1,179	0.1
7	507	0.0
8	265	0.0
≥9	2,191	0.1
Total	1,926,438	100.0

TABLE 6. Reason for Human Poison Exposure Cases

	Reason	No.	%
Unintentional	General	1,313,139	68.2
	Therapeutic error	89,361	4.6
	Bite/sting	69,844	3.6
	Misuse	56,225	2.9
	Environmental	47,586	2.5
	Occupational	42,219	2.2
	Food poisoning	42,109	2.2
	Unknown	3,065	0.2
	Total	1,663,548	86.4
Intentional	Suicidal	149,279	7.7
	Misuse	27,084	1.4
	Abuse	22,813	1.2
	Unknown	13,789	0.7
	Total	212,965	11.1
Other	Malicious	5,370	0.3
	Contaminant/tampering	4,232	0.2
	Total	9,602	0.5
Adverse Reaction	Drug	24,308	1.3
	Other	6,442	0.3
	Food	4,396	0.2
	Total	35,146	1.8
Unknown		5,177	0.3
Total		1,926,438	100.0

TABLE 7. Distribution of Reason for Exposure by Age

Reason	<6 Years		6-12 Years		13-19 Years		>19 Years		Unknown		Total	
	No.	Row %	No.	Row %	No.	Row %	No.	Row %	No.	Row %	No.	%
Unintentional	1,036,967	62.3	110,929	6.7	69,892	4.2	430,724	25.9	15,036	0.9	1,663,548	86.4
Intentional	768	0.4	6,760	3.2	62,259	29.2	139,082	65.3	4,096	1.9	212,965	11.1
Other	898	9.4	1,384	14.4	1,881	19.6	5,239	54.6	200	2.1	9,602	0.5
Adverse Reaction	3,300	9.4	1,978	5.6	2,666	7.6	26,598	75.7	604	1.7	35,146	1.8
Unknown	491	9.5	461	8.9	752	14.5	3,095	59.8	378	7.3	5,177	0.3
Total	1,042,424	54.1	121,512	6.3	137,450	7.1	604,738	31.4	20,314	1.1	1,926,438	100.0

TABLE 8. Distribution of Reason for Exposure and Age for 766 Fatalities

Reason	<6 Years	6-12 Years	13-19 Years	>19 Years	Unknown	Total
Unintentional						
General	15	1	0	6	0	22
Environmental	4	1	0	18	0	23
Occupational	0	0	0	18	0	18
Therapeutic error	3	1	0	40	0	44
Misuse	1	0	1	5	0	7
Bite/sting	0	0	0	4	0	4
Food poisoning	0	0	0	0	0	0
Unknown	0	0	0	5	0	5
Total	23	3	1	96	0	123
Intentional						
Suicide	0	1	19	390	0	410
Misuse	0	0	2	32	0	34
Abuse	0	1	19	83	1	104
Unknown	0	0	1	24	0	25
Total	0	2	41	529	1	573
Other	1	0	1	1	0	3
Adverse Reaction	1	0	0	9	0	10
Unknown	1	0	1	54	1	57
Total	26	5	44	689	2	766

TABLE 9. *Distribution of Route of Exposure for Human Poison* Exposure Cases and 766 Fatalities

Route	All Exposure Cases		Fatal Exposure Cases	
	No.	%	No.	%
Ingestion	1,500,506	74.3	617	76.6
Dermal	159,362	7.9	5	0.6
Inhalation	135,260	6.7	108	13.4
Ocular	124,680	6.2	1	0.1
Bites and stings	73,681	3.6	4	0.5
Parenteral	6,173	0.3	35	4.3
Aspiration	3,693	0.2	6	0.7
Other	7,608	0.4	2	0.2
Unknown	9,748	0.5	28	3.5
Total	2,020,711	100.0	806	100.0

NOTE: Multiple routes of exposure were observed in many poison exposure victims. Percentage is based on the total number of exposure routes (2,020,711 for all patients, 806 for fatal cases) rather than the total number of human exposures (1,926,438) or fatalities (766).

TABLE 10. Management Site of Human Poison Exposure Cases

Site	No.	%
Managed on-site, non–health care facility	1,388,165	72.1
Managed in health care facility		
Treated and released	254,162	13.2
Admitted to critical care	58,157	3.0
Admitted to noncritical care	33,052	1.7
Admitted to psychiatry	23,551	1.2
Lost to follow-up; left AMA	89,719	4.7
Unspecified level of care	248	0.0
Subtotal	458,889	23.8
Other	15,301	0.8
Refused referral	43,582	2.3
Unknown	20,501	1.1
Total	1,926,438	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	345,269	33.1	22,669	18.7	25,739	18.7	66,540	11.0	2,490	12.6	462,707	24.0
Minor effect	127,675	12.2	30,653	25.2	41,935	30.5	184,011	30.4	3,106	15.7	387,380	20.1
Moderate effect	10,020	1.0	3,406	2.8	11,866	8.6	52,968	8.8	619	3.1	78,879	4.1
Major effect	580	0.1	160	0.1	1,007	0.7	6,245	1.0	72	0.4	8,064	0.4
Death	26	0.0	5	0.0	44	0.0	689	0.1	2	0.0	766	0.0
No follow-up, nontoxic	271,839	26.1	22,445	18.5	10,526	7.7	46,257	7.6	2,537	12.8	353,604	18.4
No follow-up, minimal toxicity	245,323	23.5	32,926	27.1	25,934	18.9	142,527	23.6	4,324	21.9	451,034	23.4
No follow-up, potentially toxic	24,494	2.3	5,384	4.4	16,343	11.9	70,639	11.7	5,759	29.2	122,619	6.4
Unrelated effect	17,756	1.7	3,864	3.2	4,056	3.0	34,862	5.8	847	4.3	61,385	3.2
Total	1,042,982	54.1	121,512	6.3	137,450	7.1	604,738	31.4	19,756	1.0	1,926,438	100.0

cated medication or food is excluded and coded instead as a therapeutic error.

The vast majority (86.4%) of poison exposures were unintentional; suicidal intent was present in 7.7% of cases (Table 6). Therapeutic errors comprised 4.6% of exposures (89,361 cases), with unintentional nonpharmaceutical product misuse comprising another 2.9% of exposures (56,225 cases). Unintentional poisonings outnumbered intentional poisonings in all age groups (Table 7). In contrast, of the 766 human poisoning fatalities reported, 77% of adult deaths (older than 19 years of age) were intentional (Table 8).

Ingestions accounted for 74.3% of exposure routes (Table 9), followed in frequency by dermal, inhalation, and ocular exposures, bites and stings, and parenteral and aspiration exposures. For the 766 fatalities, ingestion and inhalation were the predominant exposure routes.

Clinical effects (signs, symptoms, or laboratory abnormalities) were coded in 31.1% of cases (17.8% had one effect, 8.0% had two effects, 3.4% had three effects, 1.3% had four effects, 0.4% had five effects, and 0.3% had more than five effects). Of 1,285,603 clinical effects coded, 79.5% were deemed related, 6.0% were considered not related, and 14.4% were coded as "unknown if related."

The majority of cases reported to poison centers were managed in a non–health care facility (72.1%), usually at the site of exposure, the patient's own home (Table 10). Treatment in a health care facility was rendered in 23.8% of cases and recommended in another 2.3% of patients who refused the referral. Of cases managed in a health care facility, 55.4% were treated and released without admission, 12.7% were admitted for critical care, and 7.2% were admitted for noncritical care. When treatment was provided in a health care facility, 45.5% of the patients were referred by a poison center, and 54.5% were already in the health care facility or were en route to the health care facility when the poison center was contacted. Health care facilities included acute care hospitals (88.2%), freestanding emergency centers (1.9%), and physicians' offices or clinics (9.8%).

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 demonstrates the greater frequency of serious outcome in intentional exposures. Table 13 demonstrates the increasing duration of the clinical effects observed with more severe outcomes. Note the medical outcome categories, as follows: *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

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.	Col %
No effect	418,712	25.2	42,053	19.7	1,113	11.6	457	1.3	372	7.2	462,707	24.0
Minor effect	311,010	18.7	61,976	29.1	2,862	29.8	10,728	30.5	804	15.5	387,380	20.1
Moderate effect	45,381	2.7	29,025	13.6	394	4.1	3,496	9.9	583	11.3	78,879	4.1
Major effect	2,050	0.1	5,608	2.6	27	0.3	211	0.6	168	3.2	8,064	0.4
Death	123	0.0	573	0.3	3	0.0	10	0.0	57	1.1	766	0.0
No follow-up, nontoxic	347,905	20.9	3,790	1.8	1,006	10.5	643	1.8	260	5.0	353,604	18.4
No follow-up, minimal toxicity	419,132	25.2	18,346	8.6	2,482	25.8	10,319	29.4	755	14.6	451,034	23.4
No follow-up, potentially toxic	69,527	4.2	47,073	22.1	1,155	12.0	3,460	9.8	1,404	27.1	122,619	6.4
Unrelated effect	49,707	3.0	4,522	2.1	560	5.8	5,822	16.6	774	15.0	61,385	3.2
Total	1,663,547	86.4	212,966	11.1	9,602	0.5	35,146	1.8	5,177	0.3	1,926,438	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	36.5	5.8	2.5
>2 hours, ≤8 hours	22.3	18.1	6.8
>8 hours, ≤24 hours	17.6	28.4	23.7
>24 hours, ≤3 days	5.1	16.5	31.2
>3 days, ≤1 week	1.7	5.8	13.2
>1 week, ≤1 month	0.5	2.2	5.3
>1 month	0.2	0.5	1.2
Anticipated permanent	0.0	0.1	2.3
Unknown	16.0	22.7	13.9

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 implicated was nontoxic, the amount implicated was insignificant, or the route of exposure was unlikely to result in a clinical effect. *Not followed, minimal clinical effects possible:* No follow-up calls were made to determine the patient's outcome because the exposure was likely to result in only minimal toxicity of a trivial nature. (The patient was expected to experience no more than a minor effect). *Unable to follow, judged as a potentially toxic exposure:* The patient was lost to follow-up, refused follow-up, or was not followed up, 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 reliable and objective evidence showed 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 1994 there were 6,115 such cases reported nationally.

Tables 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 2.7% of cases. In children younger than six years of age, ipecac syrup was most often administered outside a health care facility. This pattern was reversed in teenagers and adults. Ipecac was administered more often in children (4.0% of poison exposures occurring in children younger than 6 years of age compared with 0.8% of poison

TABLE 14. Decontamination and Therapeutic Intervention

Therapy	No. of Patients	%
Decontamination only	1,063,865	55.2
No therapy provided	227,182	11.8
Observation only	201,926	10.5
Decontamination and other therapy	115,594	6.0
Other therapy only (no decontamination)	80,004	4.2
Unknown if therapy provided/patient refused	237,867	12.3

TABLE 15. Therapy Provided in Human Exposure Cases

Therapy	No.
Decontamination	
Dilution/irrigation	905,178
Activated charcoal, single dose	125,580
Cathartic	97,745
Gastric lavage	67,460
Ipecac syrup	51,271
Activated charcoal, multidose	16,218
Other emetic	5,231
Whole bowel irrigation	1,406
Measures to Enhance Elimination	
Alkalinization (with or without diuresis)	6,807
Hemodialysis	743
Hemoperfusion (charcoal or resin)	82
Other extracorporeal procedure	49
Specific Antidote Administration	
N-acetylcysteine (oral)	8,212
Naloxone	6,633
Flumazenil	2,615
Atropine	804
Antivenin	639
Ethanol	577
Deferoxamine	506
Hyperbaric oxygen	496
Phytonadione	389
N-acetylcysteine (IV)	336
Pyridoxine	230
Pralidoxime (2-PAM)	208
Physostigmine	176
Fab fragments	161
EDTA	122
Folate	96
Dimercaprol (BAL)	78
Methylene blue	75
Succimer	72
Sodium thiosulfate	50
Penicillamine	36
Sodium nitrite	34
Hydroxocobalamin	6
Other Intervention	
Transplantation	16
ECMO	14

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
1994	1,926,438	54.1	2.7	6.8

TABLE 17. Substances Most Frequently Involved in Human Exposures

Substance	No.	%*
Cleaning substances	203,989	10.6
Analgesics	181,333	9.4
Cosmetics and personal care products	162,807	8.5
Plants	103,616	5.4
Cough and cold preparations	100,347	5.2
Bites/envenomations	82,808	4.3
Pesticides (includes rodenticides)	78,360	4.1
Topicals	71,302	3.7
Foreign bodies	70,891	3.7
Food products, food poisoning	67,421	3.5
Hydrocarbons	64,634	3.4
Antimicrobials	61,322	3.2
Sedatives/hypnotics/antipsychotics	59,532	3.1
Alcohols	50,757	2.6
Antidepressants	49,533	2.6
Chemicals	47,605	2.5
Vitamins	44,238	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.

TABLE 18. Categories with Largest Numbers of Deaths

Category	No.	% of All Exposures in Category
Analgesics	205	0.113
Antidepressants	175	0.353
Sedative/hypnotics/psychotics	99	0.166
Stimulants and street drugs	91	0.312
Cardiovascular drugs	90	0.307
Alcohols	76	0.150
Gases and fumes	56	0.154
Asthma therapies	36	0.204
Automotive products	33	0.250
Chemicals	26	0.055
Hydrocarbons	26	0.040
Antihistamines	23	0.060
Cleaning substances	22	0.011

TABLE 19. 12-Year Comparisons of Fatality Data

	Total Fatalities		Suicides		Pediatric Deaths (<6 years)	
Year	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
1994	766	0.040	410	53.5	26	3.4

TABLE 20. Frequency of Plant Exposures by Plant Type

Botanical Name	Common Name	Frequency
Capsicum annuum	Pepper	5,333
Philodendron species	Philodendron	4,826
Euphorbia pulcherrima	Poinsettia	2,947
Ilex species	Holly	2,870
Dieffenbachia species	Dumbcane	2,838
Spathiphyllum species	Peace lily	2,336
Phytolacca americana	Pokeweed, inkberry	1,966
Crassula species	Jade plant	1,787
Epipremnum aureum	Pothos, devil's ivy	1,320
Toxicodendron/Rhus radicans	Poison ivy	1,452
Brassaia actinophylla	Umbrella tree	1,275
Saintpaulia ionantha	African violet	1,077
Eucalyptus globulus	Eucalyptus	1,011
Rhododendron species	Rhododendron, azalea	951
Cactus species	Cactus	932
Pyracantha species	Pyracantha	873
Solanum dulcamara	Climbing nightshade	857
Schlumbergera bridgesii	Christmas cactus	847
Chlorophytum comosum	Spider plant	841
Nerium oleander	Oleander	841

NOTE: This table provides the frequency of involvement of plants in exposures reported to poison centers with no correlation with severity of toxicity. Several of the plants on the list pose little, if any, ingestion hazard.

exposures occurring in patients older than 19 years). Table 16 demonstrates a continued decline 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).

A summary of the 766 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. The highest blood level of implicated substances is provided where available to the reporting poison center. Prehospital cardiac and/or respiratory arrests occurred in 38% of all fatalities, and these are indicated in Table 21.

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 1,926,438 exposures, presented by category. Table 22A focuses on nonpharmaceuticals; Table 22B presents drugs. Of the 2,056,182 substances logged in Tables 22A and 22B, 58.9% were nonpharmaceuticals and 41.1% were pharmaceuticals. The reason for the exposure was intentional for 27.7% of pharmaceutical substances implicated compared with only 4.0% of nonpharmaceutical substances. Correspondingly, treatment in a health care facility was provided in a higher percentage of exposures to pharmaceutical substances (37.7%) compared with nonpharmaceutical substances (18.2%). Pharmaceutical exposures also had more severe outcomes. Of substances implicated in fatal cases, 73.8% were pharmaceuticals, compared with only 41.1% in nonfatal cases. Similarly, 75.4% 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 1994

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
Adhesives/glues							
1[P]	17 yr	Rubber cement (hexane)	A	Inhalation	Int abuse		
Alcohols							
2[IP]	30 yr	Ethanol	A/C	Ingestion	Int abuse		
3[IP]	33 yr	Ethanol	A/C	Ingestion	Int abuse		
4[IP]	33 yr	Ethanol	C	Ingestion	Int abuse		
5	44 yr	Ethanol	C	Ingestion	Int abuse	264 mg/dL	
6[IP]	51 yr	Ethanol	C	Ingestion	Int abuse		
7	35 yr	Ethanol acetaminophen	C	Ingestion	Int abuse		
8	42 yr	Ethanol acetaminophen	C	Ingestion	Int abuse	12 mg/dL 47 µg/mL	
9[IP]	43 yr	Ethanol amitriptyline nortriptyline	U	Ingestion	Unknown	360 mg/dL§ 5,600 ng/mL§ 3,000 ng/mL§	
10	43 yr	Ethanol benzodiazepine opiate	A/C	Ingestion	Int suicide		
11	46 yr	Ethanol cocaine opiates	C	Unknown	Int abuse		
12[P]	32 yr	Ethanol diazepam	A/C	Ingestion	Int unk	309 mg/dl§ 0.7 µg/ml§	
13	35 yr	Ethanol doxepin	A	Ingestion	Unknown	553 mg/dL 28 ng/mL nordoxepin 157 ng/mL	
14	72 yr	Ethanol mouthwash	A/C	Ingestion	Int abuse		
15[IP]	38 yr	Ethanol temazepam	A/C	Ingestion	Int abuse		
16[P]	18 mo	Isopropanol	A	Ingestion	Malicious	133 mg/dL	
17	52 yr	Isopropanol	C	Ingestion	Int abuse	160 mg/dL	
18[P]	64 yr	Isopropanol	A	Ingestion	Int suicide	190 mg/dL	
19	42 yr	Isopropanol ethanol	A	Ingestion	Int suicide		
20	16 yr	Methanol	C	Ingestion	Cont/tamp	113 mg/dL	
21	22 yr	Methanol	A	Ingestion	Int suicide	100 mg/dL	
22	26 yr	Methanol	A	Ingestion	Int suicide	70 mg/dL	
23	30 yr	Methanol	A	Ingestion	Int suicide	264 mg/dL	
24[P]	31 yr	Methanol	A	Ingestion	Int abuse		
25	59 yr	Methanol	A	Ingestion	Intunk	18 mg/dL	
26	51 yr	Methanol ethylene glycol	A	Ingestion	Int suicide	390 mg/dL 50 mg/dL	
27	26 yr	Methanol canned fuel	A	Ingestion	Int abuse		

See also cases 19, 50, 51, 63, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 274, 316, 324, 325, 330, 333, 343, 345, 352, 353, 361, 412, 413, 414, 415, 463, 467, 491, 512, 517, 554, 578, 589, 590, 599, 600, 605, 625, 628, 629, 643, 655, 660, 663, 667, 672, 673, 695, 700, 701, 730, 731, 732, 733, 736, 756, 764 (ethanol); 452 (rubbing alcohol).

Anticoagulants

See cases 55, 577 (warfarin).

Automotive products							
28	23 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	92 mg/dL	
29	24 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	36 mg/dL	1 d
30	29 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide		
31	29 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide		
32	31 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	224 mg/dL	
33	31 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	355 mg/dL	
34	33 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	18 mg/dL	
35	37 yr	Antifreeze (ethylene glycol)	A	Unknown	Unknown	135 mg/dL	
36	49 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	143 mg/dL	
37	56 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	107 mg/dL	
38	63 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	231 mg/dL	6 h
39	64 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int abuse	11 mg/dL	
40	78 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	136 mg/dL	20 h
41	80 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide		
42	81 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	135 mg/dL	
43	83 yr	Antifreeze (ethylene glycol)	U	Unknown	Unknown	0.1 mg/dL	
44	85 yr	Antifreeze (ethylene glycol)	U	Ingestion	Int suicide	245 mg/dL	36 h
45	85 yr	Antifreeze (ethylene glycol)	U	Ingestion	Unknown		
46	93 yr	Antifreeze (ethylene glycol)	A	Ingestion	Int suicide	43 mg/dL	
47	25 yr	Antifreeze (ethylene glycol) acetaminophen	A	Ingestion	Int suicide		
48[P]	39 yr	Antifreeze (ethylene glycol) acetaminophen/propoxyphene aspirin/codeine	A	Ingestion	Int suicide		
49	27 yr	Antifreeze (ethylene glycol) disulfiram	A	Ingestion	Int suicide	168 mg/dL	5 h

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
50[ip]	22 yr	Antifreeze (ethylene glycol) ethanol	U	Ingestion	Unknown	132 mg/dL§	
51[ip]	29 yr	Antifreeze (ethylene glycol) ethanol	A	Ingestion	Int suicide		
52	70 yr	Antifreeze (ethylene glycol) gas line antifreeze (methanol)	A	Ingestion	Int suicide	84 mg/dL	
53	68 yr	Antifreeze (ethylene glycol) pentoxifylline ibuprofen	A	Ingestion	Int suicide	13 mg/dL	
54[p]	29 yr	Antifreeze (ethylene glycol) rodenticide unknown drug	A	Ingestion	Int suicide		
55	66 yr	Antifreeze (ethylene glycol) warfarin	A	Ingestion	Int suicide	53 mg/dL	
56[p]	30 yr	Brake fluid (ethylene glycol)	A	Ingestion	Int suicide	12 mg/dL	
57[a]	37 yr	Brake fluid (glycol ethers)	A	Ingestion	Unknown		
58	14 yr	Disc brake cleaner (trichloroethane/perchloroethane)	C	Inhalation	Int abuse		
59	33 yr	Gas line antifreeze (methanol)	A	Ingestion	Int suicide	80 mg/dL	2 d
Bites and envenomations							
60[a]	79 yr	Bee stings	A	Bite/sting	Bite/sting		
61	84 yr	Brown recluse spider	A	Bite/sting	Bite/sting		
62[a]	40 yr	*Crotalus scutulatus scutulatus*	A	Bite/sting	Bite/sting		
63[ap]	34 yr	Rattlesnake ethanol	A	Bite/sting	Bite/sting	118 mg/dL	
Building and construction products							
64	80 yr	Solder flux diphenhydramine acetaminophen	A	Ingestion	Int suicide		
Chemicals							
65	50 yr	Battery acid	A	Ingestion	Int suicide		
66[p]	35 yr	Caustic solvent	U	Ingestion	Unknown		
67	50 yr	Caustic (unidentified)	A	Ingestion	Int suicide		
68	30 yr	Chemical, unknown	A	Ingestion	Malicious		
69[ap]	44 yr	Cyanide	A	Ingestion	Int suicide	8.8 μg/mL	1 h
70[ip]	44 yr	Cyanide	A	Ingestion	Int suicide		
71	>19 yr	Cyanide	U	Unknown	Unknown		
72	2 yr	Cyanide carbon monoxide	A	Inhalation	Env	2.5 μg/mL 21%	
73[p]	48 yr	Cyanide, potassium	A	Ingestion	Int suicide		
74[p]	59 yr	Cyanide, sodium	A	Ingestion	Int suicide		
75	37 yr	Ethylene glycol	A	Ingestion	Int unk		
76	42 yr	Ethylene glycol	A	Ingestion	Int suicide	125 mg/dL	
77	62 yr	Ethylene glycol	U	Ingestion	Unint mis		
78[a]	37 yr	Hydrochloric acid	A	Ingestion	Int suicide		
79[a]	46 yr	Hydrochloric acid	A	Ingestion	Int suicide		
80	61 yr	Hydrochloric acid	A	Ingestion	Int suicide		
81	50 yr	Hydrochloric acid gasoline	A	Der/Ing/Inh	Int suicide		
82	51 yr	Methanol ethylene glycol	A	Ingestion	Int suicide	390 mg/dL 50 mg/dL	
83	87 yr	Potassium permanganate ibuprofen	A	Ingestion	Int suicide		
84	40 yr	Sodium nitrate phencyclidine	A	Ingestion	Int suicide		
85[p]	40 yr	Strychnine	A	Ingestion	Int suicide		
See also cases 168 (boric acid); 143, 144 (cyanide); 26, 82 (ethylene glycol).							
Cleaning substances							
86	62 yr	Bleach	A	Der/Ing/Inh/Oc	Unknown		
87	76 yr	Cationic cleaner	A	Asp/Ing	Int suicide		
88	91 yr	Cationic cleaner	A	Ingestion	Unint gen		
89	72 yr	Cleaner (hydroxyacetic & sulfamic acid)	A	Ingestion	Int suicide		
90	62 yr	Disinfectant, phenol	A	Ingestion	Unint mis		
91	65 yr	Drain opener (potassium hydroxide)	A	Ingestion	Int suicide		
92	36 yr	Drain opener (sodium hydroxide)	A	Ingestion	Int suicide		
93	42 yr	Drain opener (sodium hydroxide crystals)	A	Ingestion	Int suicide		
94[p]	44 yr	Drain opener (sodium hydroxide crystals)	A	Ingestion	Int suicide		
95	75 yr	Drain opener (sodium hydroxide)	A	Ingestion	Int suicide		
96	69 yr	Drain opener (sodium hydroxide liquid)	A	Ingestion	Int suicide		
97[a]	18 yr	Drain opener (sulfuric acid)	A	Der/Ing	Int suicide		
98	49 yr	Glass cleaner (isopropanol, butyl cellosolve)	A	Ingestion	Int suicide	50 mg/dL	
99	85 yr	Laundry detergent	A	Asp/Ing	Unint gen		

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TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
100[a]	13 mo	Pine oil/isopropanol cleaner	A	Asp/Ing	Unint gen	
101	47 yr	Toilet bowl cleaner	A	Ingestion	Int suicide	
102	47 yr	Toilet bowl cleaner (sulfamic acid) trichloroethane cleaner cationic detergent	A	Ingestion	Unint gen	
See also cases 102, 590 (cationic detergent); 162 (household bleach); 203 (household cleaner); 102 (trichloroethane cleaner).						
Cosmetics and personal care products						
103[a]	49 yr	Hydrogen peroxide 35%	A	Ingestion	Int suicide	
See also cases 322 (aftershave); 271 (hair dye); 14, 363 (mouthwash).						
Deodorizers						
104[ap]	13 yr	Air freshener	A	Inhalation	Int abuse	
105[p]	14 yr	Air freshener	A	Inhalation	Int abuse	
106[p]	17 yr	Air freshener propellent	A	Inhalation	Int abuse	
107[ip]	Unk	Air freshener	A	Inhalation	Int abuse	
Foreign body						
See cases 401, 432, 484, 490 (activated charcoal).						
Fumes, gases and vapors						
108[p]	2 yr	Carbon monoxide/smoke	A	Inhalation	Env	
109[p]	12 yr	Carbon monoxide/smoke	A	Inhalation	Env	
110[p]	14 yr	Carbon monoxide	A	Inhalation	Int suicide	7%
111[p]	19 yr	Carbon monoxide	A	Inhalation	Int suicide	42%
112[p]	20 yr	Carbon monoxide	A	Inhalation	Int suicide	
113[p]	22 yr	Carbon monoxide	A	Inhalation	Int suicide	42%
114[ip]	22 yr	Carbon monoxide	A	Inhalation	Occ	15%§
115	23 yr	Carbon monoxide/smoke	A	Inhalation	Env	10%§
116[p]	24 yr	Carbon monoxide	A	Inhalation	Env	46%§
117[ip]	26 yr	Carbon monoxide	A	Inhalation	Occ	38%§
118[p]	33 yr	Carbon monoxide	A	Inhalation	Int suicide	47%
119[ip]	34 yr	Carbon monoxide	A	Inhalation	Int suicide	
120[p]	35 yr	Carbon monoxide	A	Inhalation	Int suicide	15%
121[p]	35 yr	Carbon monoxide	A	Inhalation	Int suicide	
122	37 yr	Carbon monoxide	A	Inhalation	Env	35%
123[p]	37 yr	Carbon monoxide	A	Inhalation	Int suicide	76%
124[p]	37 yr	Carbon monoxide	A	Inhalation	Int suicide	93%
125[p]	40 yr	Carbon monoxide	A	Inhalation	Env	60%
126[ip]	45 yr	Carbon monoxide	U	Inhalation	Occ	53%§
127[p]	46 yr	Carbon monoxide	A/C	Inhalation	Int suicide	54%
128[ip]	48 yr	Carbon monoxide/smoke	A	Inhalation	Env	
129[ip]	50 yr	Carbon monoxide/smoke	A	Inhalation	Env	
130[p]	50 yr	Carbon monoxide	A	Inhalation	Int suicide	39%
131[p]	52 yr	Carbon monoxide	A	Inhalation	Env	41%
132[p]	54 yr	Carbon monoxide	A	Inhalation	Int suicide	
133[p]	54 yr	Carbon monoxide/smoke	A	Inhalation	Env	45%
134[ip]	67 yr	Carbon monoxide	A	Inhalation	Env	
135[p]	70 yr	Carbon monoxide	A	Inhalation	Env	17%
136[p]	71 yr	Carbon monoxide	A	Inhalation	Env	49%
137	75 yr	Carbon monoxide	A	Inhalation	Int suicide	39%
138[p]	80 yr	Carbon monoxide/smoke	A	Inhalation	Env	14%
139	80 yr	Carbon monoxide	C	Inhalation	Env	20%
140[p]	80s yr	Carbon monoxide	A	Inhalation	Env	39%§
141[p]	>19 yr	Carbon monoxide	U	Inhalation	Unknown	93%§
142[ip]	Unk	Carbon monoxide	U	Inhalation	Unknown	77%
143[ap]	3 yr	Carbon monoxide cyanide	A	Inhalation	Env	75% 3.1 µg/mL
144	30 yr	Carbon monoxide/smoke cyanide	A	Inhalation	Env	22% 452 µg/mL
145	41 yr	Carbon monoxide venlafaxine	A	Ing/Inh	Int suicide	33%
146	44 yr	Chlorine	A	Inhalation	Occ	
147[p]	75 yr	Chlorine	A	Inhalation	Occ	
148[a]	25 yr	Hydrogen sulfide	A	Inhalation	Occ	
149[p]	31 yr	Hydrogen sulfide	A	Inhalation	Occ	
150[p]	40 yr	Hydrogen sulfide	A	Inhalation	Occ	
151[p]	41 yr	Hydrogen sulfide	A	Inhalation	Occ	
152[p]	>19 yr	Hydrogen sulfide	A	Inhalation	Env	
153[p]	32 yr	Methane	A	Inhalation	Occ	
154[ap]	25 yr	Methane hydrogen sulfide	A	Inhalation	Occ	
155[ap]	32 yr	Nitrogen	A	Inhalation	Occ	
156[p]	40 yr	Propane	A	Inhalation	Env	
157[p]	26 yr	Sewer gas	A	Inhalation	Occ	
158	33 yr	Sewer gas	A	Inhalation	Occ	
159[p]	42 yr	Sewer gas	A	Inhalation	Occ	
See also cases 72, 461 (carbon monoxide); 154 (hydrogen sulfide).						
Heavy metals						
160	38 yr	Arsenic	A	Ingestion	Int suicide	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
161	19 yr	Copper sulfate pentahydrate	A	Ingestion	Int suicide		
162	55 yr	Copper sulfate household bleach	A	Ingestion	Int suicide	77 µg/dL	2-3 hrs
See also case 405 (chromium picolinate).							
Herbicides							
163[a]	53 yr	2,4-dichlorophenoxyacetic acid lawn weed killer	A	Ingestion	Int suicide		
164[ap]	68 yr	Glyphosate	A	Ingestion	Int suicide		
165	26 yr	Paraquat	A	Ingestion	Int suicide		
166	45 yr	Paraquat	A	Parenteral	Int suicide		
167	45 yr	Paraquat	A	Ingestion	Int suicide		
168[a]	45 yr	Paraquat boric acid	A	Ing/Paren	Int suicide		
Hydrocarbons							
169[ap]	22 yr	Bromochlorodifluoromethane	A	Inhalation	Occ		
170[ap]	15 yr	Butane	U	Inhalation	Int abuse		
171[p]	15 yr	Butane	A	Inhalation	Int abuse		
172[p]	16 yr	Butane	A	Inhalation	Int abuse		
173[p]	17 yr	Butane	A	Inhalation	Int abuse		
174[p]	18 yr	Butane	A	Inhalation	Int abuse		
175[p]	18 yr	Butane	A	Inhalation	Int abuse		
176[p]	18 yr	Butane	A	Inhalation	Int abuse		
177[p]	19 yr	Butane	A	Inhalation	Int abuse		
178[ap]	19 yr	Butane fuel	A/C	Inhalation	Int abuse		
179[p]	20 yr	Butane	C	Inhalation	Int abuse		
180	40 yr	Charcoal lighter fluid	A	Ingestion	Int suicide		
181[p]	46 yr	Chloroethane	A	Inhalation	Int abuse		
182[p]	3 yr	Chlorofluorocarbon	A	Inhalation	Unint gen		
183[p]	4 yr	Chlorofluorocarbon	A	Inhalation	Unint gen	1,850 µg/ml§	
184[ip]	23 yr	Chlorofluorocarbon propellant	A	Inhalation	Int abuse		
185[p]	38 yr	Chlorofluorocarbon	A	Inhalation	Occ	0.8 µg/ml§	
186[p]	14 yr	Gasoline	A	Inhalation	Int abuse		
187	14 mo	Kerosene lamp oil	A	Asp/Ing	Unint gen		
188	3 yr	Kerosene	A	Asp/Ing	Unint gen		
189[ap]	14 yr	Leather protector (trichloroethane)	A	Inhalation	Int abuse		
190[p]	27 yr	Lighter fluid	U	Inhalation	Int unk		
191[p]	18 yr	Propane	U	Inhalation	Int abuse		
192	43 yr	Propane	A	Inhalation	Int suicide		
193[p]	11 yr	Trichloroethane	A	Inhalation	Int abuse		
194[p]	40 yr	Trichloroethane	U	Inhalation	Occ		
195[a]	10 yr	Mineral spirits	A	Asp/Ing	Unint gen		
See also cases 251 (butane); 81, 207 (gasoline).							
Industrial Cleaners							
196	72 yr	Masonry cleaner (hydrochloric acid)	A	Ingestion	Int suicide		
Insecticides							
197	3 mo	Ant & roach killer (diazinon)	A	Unknown	Env		
198[p]	30 yr	Ant killer (sodium tetraborate)	C	Ingestion	Int suicide		
199[ap]	39 yr	Chlorpyrifos/hydrocarbons/ pyrethrins	A	Unknown	Unknown		
200[ap]	26 yr	DEET insect repellent	A	Dermal	Unint mis		
201	72 yr	Lindane endrin	A	Ingestion	Unint gen		
202	65 yr	Malathion	A	Ingestion	Int suicide		
203	20 yr	Organophosphate household cleaner	A	Ingestion	Int suicide		
204	19 yr	Sodium cyanide	A	Ingestion	Int suicide		
See also case 201 (endrin).							
Mushrooms							
205[a]	38 yr	*Boletus pulcherrimus*	A	Ingestion	Unint mis		
206	79 yr	Mushroom (suspect cyclopeptide)	A	Ingestion	Unint gen		
Paints and stripping agents							
207[p]	32 yr	Spray paint gasoline paint solvents	A	Inhalation	Env		
See also cases 747 (paint); 207 (paint solvent).							
Plant							
208	79 yr	Aloe vera (gel)	C	Ingestion	Int misuse		
209	24 yr	Golden seal root	C	Ingestion	Adv rxn		
210	65 yr	Helenium (sesquiterpene lactones)	A	Ingestion	Int unk		
211[ap]	24 yr	Pennyroyal black cohosh	A	Ingestion	Int misuse		
212[ap]	18 yr	Water hemlock	A	Ingestion	Unint mis		
213[ap]	20 yr	Water hemlock	A	Ingestion	Unint mis		
See also case 211 (black cohosh).							

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
Rodenticides							
214[ap]	4 yr	Aluminum phosphide	U	Inhalation	Unint mis		
215[a]	32 yr	Anticoagulant (long acting)	A	Ingestion	Int suicide		
216[ap]	37 yr	Anticoagulant (unknown type)	A	Ingestion	Int suicide		
See also case 54 (rodenticide).							
Analgesics							
217	20 yr	Acetaminophen	A	Ingestion	Int suicide	57 μg/mL	
218	20 yr	Acetaminophen	A	Ingestion	Int suicide	52 μg/mL	>48 hr
219	21 yr	Acetaminophen	A	Ingestion	Int suicide	105 μg/mL	33 h
220	22 yr	Acetaminophen	A	Ingestion	Int suicide	4 μg/mL	4 d
221	25 yr	Acetaminophen	U	Unknown	Unknown		
222	28 yr	Acetaminophen	A/C	Ingestion	Int suicide	76 μg/mL	
223	32 yr	Acetaminophen	A/C	Ingestion	Int misuse	120 μg/mL	
224	33 yr	Acetaminophen	A	Ingestion	Int suicide	169 μg/mL	
225	35 yr	Acetaminophen	A/C	Ingestion	Int suicide	77 μg/mL	18-24 h
226	35 yr	Acetaminophen	U	Ingestion	Int misuse	132 μg/mL	
227	36 yr	Acetaminophen	A	Ingestion	Int misuse	196 μg/mL	24 h
228	37 yr	Acetaminophen	U	Ingestion	Int unk	53 μg/mL	
229	37 yr	Acetaminophen	A	Ingestion	Int suicide	100 μg/mL	
230	38 yr	Acetaminophen	C	Ingestion	Int misuse	41 μg/mL	
231	38 yr	Acetaminophen	U	Ingestion	Unint unk	44 μg/mL	
232	41 yr	Acetaminophen	A	Ingestion	Unknown	33 μg/mL	
233	43 yr	Acetaminophen	C	Ingestion	Ther error	5 μg/mL	
234	44 yr	Acetaminophen	A	Ingestion	Int unk	226 μg/mL	
235	46 yr	Acetaminophen	C	Ingestion	Int misuse	16 μg/mL	
236	47 yr	Acetaminophen	A/C	Ingestion	Int suicide	129 μg/mL	
237	47 yr	Acetaminophen	A	Ingestion	Int suicide	764 μg/mL	
238	48 yr	Acetaminophen	A	Ingestion	Int suicide	196 μg/mL	24 h
239	54 yr	Acetaminophen	A	Ingestion	Int suicide	131 μg/mL	>24 h
240	55 yr	Acetaminophen	A/C	Ingestion	Unknown		
241	58 yr	Acetaminophen	A	Ingestion	Int suicide	44 μg/mL	
242	60 yr	Acetaminophen	A	Ingestion	Int suicide		
243	64 yr	Acetaminophen	A	Ingestion	Int suicide	77 μg/mL	9 h
244	66 yr	Acetaminophen	C	Ingestion	Int misuse	79 μg/mL	
245	74 yr	Acetaminophen	U	Ingestion	Unknown	65 μg/mL	
246	84 yr	Acetaminophen	C	Ingestion	Int unk		
247	49 yr	Acetaminophen Acetaminophen/butalbital	U	Ingestion	Ther error	85 μg/mL	
248	31 yr	Acetaminophen acetaminophen/codeine	A	Ingestion	Int suicide		
249[p]	63 yr	Acetaminophen acetaminophen/oxycodone propoxyphene	C	Ingestion	Ther error	25 μg/mL	
250[a]	3 yr	Acetaminophen bismuth subsalicylate liquid	C	Ingestion	Ther error	234 mg/dL	
251	26 yr	Acetaminophen butane	A	Ing/Inh	Int suicide	37 μg/mL	
252	29 yr	Acetaminophen ethanol	C	Ingestion	Int misuse		
253	31 yr	Acetaminophen ethanol	A/C	Ingestion	Int suicide		
254	33 yr	Acetaminophen ethanol	C	Ingestion	Int misuse		
255	35 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	23 μg/mL	
256	35 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	76 μg/mL	
257	35 yr	Acetaminophen ethanol	A/C	Ingestion	Ther error	35 μg/mL	
258	49 yr	Acetaminophen ethanol	A	Ingestion	Int suicide		
259[a]	53 yr	Acetaminophen ethanol	C	Ingestion	Int misuse	33 μg/mL	
260	60 yr	Acetaminophen ethanol	U	Ingestion	Int unk	8 μg/mL	
261	29 yr	Acetaminophen ethanol codeine	A	Ingestion	Int suicide	197 μg/mL	
262[p]	34 yr	Acetaminophen flurazepam diphenhydramine	A	Ingestion	Int suicide	223 μg/mL	
263	19 yr	Acetaminophen iron supplement hydrocodone/phenindamine/ guiafenesin	A	Ingestion	Int suicide	330 μg/mL 770 μg/dL	
264	37 yr	Acetaminophen lithium	A	Ingestion	Int suicide	58 μg/mL	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
265	20 yr	Acetaminophen meperidine	A/C	Ingestion	Int misuse		
266	34 yr	Acetaminophen phencyclidine	A	Ingestion	Int suicide		
267	25 yr	Acetaminophen valproic acid carbamazepine	A	Ingestion	Int suicide	270 µg/mL 27.4 µg/mL	
268[P]	33 yr	Acetaminophen/codeine	A	Ingestion	Int suicide		
269[P]	45 yr	Acetaminophen/codeine	A	Ingestion	Int suicide		
270	25 yr	Acetaminophen/codeine carisoprodol	C	Ingestion	Int abuse	19 µg/mL[‖]	
271	47 yr	Acetaminophen/codeine/ butalbital/caffeine diazepam hair dye	A	Ingestion	Int suicide	butalbital 5.2 µg/mL	
272	21 yr	Acetaminophen/diphenhydramine ranitidine unknown "cold" medication	A	Ingestion	Int suicide	157 µg/mL[‖]	15 h
273	30 yr	Acetaminophen/hydrocodone	C	Ingestion	Int suicide		
274	40 yr	Acetaminophen/hydrocodone ethanol	A	Ingestion	Int suicide	58 µg/mL[‖]	
275	13 yr	Acetaminophen/hydrocodone methocarbamol clorazepate	A	Ingestion	Int suicide	133 µg/mL[‖]	14.5 h
276[IP]	35 yr	Acetaminophen/oxycodone	U	Ingestion	Unknown		
277[P]	37 yr	Acetaminophen/oxycodone	A	Ingestion	Int suicide		
278	70 yr	Acetaminophen/oxycodone	U	Ingestion	Unknown	18 µg/mL[‖]	
279	36 yr	Acetaminophen/oxycodone aspirin lorazepam	A	Ingestion	Int suicide	167 µg/mL[‖]	
280[P]	22 yr	Acetaminophen/oxycodone doxycycline phenazopyridine	A/C	Ingestion	Unknown		
281	44 yr	Acetaminophen/oxycodone fluoxetine naproxen	A	Ingestion	Int suicide		
282[P]	23 yr	Acetaminophen/propoxyphene	A	Ingestion	Int suicide	380 µg/mL[‖] propoxyphene 3.7 µg/mL	
283	43 yr	Acetaminophen/propoxyphene	A	Ingestion	Int suicide		
284	48 yr	Acetaminophen/propoxyphene	A	Ingestion	Int suicide		
285[P]	72 yr	Acetaminophen/propoxyphene	A	Ingestion	Int suicide	89 µg/mL[‖§] propoxyphene 1.0 µg/mL§	
286	77 yr	Acetaminophen/propoxyphene	C	Ingestion	Int unk	244 µg/mL[‖]	
287[P]	28 yr	Acetaminophen/propoxyphene acetaminophen/hydrocodone	A/C	Ingestion	Int suicide	133 µg/ml[‖]	
288	78 yr	Acetaminophen/propoxyphene acetaminophen/hydrocodone	A	Ingestion	Int suicide	65 µg/mL[‖]	12 h
289[P]	37 yr	Acetaminophen/propoxyphene carisoprodol clonazepam	A	Ingestion	Int suicide		
290[P]	54 yr	Acetaminophen/propoxyphene clonazepam promethazine	A	Ingestion	Int suicide		
291	25 yr	Acetaminophen/propoxyphene doxepin	A	Ingestion	Int suicide	106 µg/mL[‖] 18 ng/mL nordoxepin 15 ng/mL	
292	16 mo	Aspirin	A	Ingestion	Unint gen		
293	17 yr	Aspirin	A	Ingestion	Int suicide	133 mg/dL	
294	30 yr	Aspirin	A	Ingestion	Int suicide	62 mg/dL§	
295[P]	31 yr	Aspirin	A	Ingestion	Int suicide	79 mg/dL	
296[a]	37 yr	Aspirin	A	Ingestion	Int suicide	126 mg/dL	13 h
297	41 yr	Aspirin	A	Ingestion	Int suicide	100 mg/dL	
298	42 yr	Aspirin	U	Ingestion	Unknown	68 mg/dL	
299	45 yr	Aspirin	A	Ingestion	Int suicide	102 mg/dl	3 h
300	53 yr	Aspirin	A	Ingestion	Int suicide	105 mg/dL	
301	55 yr	Aspirin	A	Ingestion	Int suicide	137 mg/dL	1-2 h
302	56 yr	Aspirin	A/C	Ingestion	Int suicide	65 mg/dL	3 h
303	57 yr	Aspirin	C	Ingestion	Ther error	67 mg/dL	
304	74 yr	Aspirin	A	Ingestion	Int suicide	134 mg/dL	
305	83 yr	Aspirin	C	Ingestion	Ther error	92 mg/dL	
306	87 yr	Aspirin	A	Ingestion	Int suicide	97 mg/dL	6 h
307	15 yr	Aspirin acetaminophen	A	Ingestion	Int misuse	97 mg/dL 168 µg/mL	9 h 9 h
308[P]	54 yr	Aspirin acetaminophen unknown drug	A	Ingestion	Int suicide	49 mg/dL 65 µg/mL	
309	50 yr	Aspirin amitriptylline alprazolam	A	Ingestion	Int suicide	93 mg/dL	

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TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
310	20 yr	Aspirin clemastine/phenylpropanolamine acetaminophen	A	Ingestion	Int suicide	93 mg/dL 40 µg/mL	6 h 6 h
311	66 yr	Aspirin desipramine aspirin/butalbital/caffeine	C	Ingestion	Unint unk	119 mg/dL	
312	80 yr	Aspirin digoxin	C	Ingestion	Ther error	79 mg/dL	
313	45 yr	Aspirin dimenhydrinate acetaminophen	A	Ingestion	Int suicide	 411 µg/mL	 3.5 h
314	42 yr	Aspirin diphenhydramine	A	Ingestion	Int suicide		
315	25 yr	Aspirin doxylamine	A	Ingestion	Int suicide	76 mg/dL	
316[i]	38 yr	Aspirin ethanol	A	Ingestion	Int suicide	144 mg/dL	17 h
317	43 yr	Aspirin ibuprofen	A	Ingestion	Int suicide	107 mg/dL 4.6 µg/mL§	12 h
318	57 yr	Aspirin nortriptyline diltiazem	U	Ingestion	Int suicide	160 mg/dL	
319	32 yr	Aspirin	U	Ingestion	Int suicide	85 mg/dL§	
320	>19 yr	Aspirin phenobarbital	A	Ingestion	Int suicide	105 mg/dL	
321[p]	40 yr	Aspirin promethazine/codeine	A	Ingestion	Int suicide	76 mg/dL	
322	20 mo	Aspirin salycin topical cream aftershave	A	Ingestion	Unint gen	120 mg/dL	
323	42 yr	Aspirin/butalbital/caffeine verapamil	A/C	Ingestion	Int suicide		
324	27 yr	Aspirin/carisoprodol acetaminophen/propoxyphene ethanol	C	Ingestion	Int misuse		
325[ip]	50 yr	Codeine cocaine ethanol	A/C	Ing/Inh	Int suicide		
326[ip]	55 yr	Codeine diphenhydramine	A	Ingestion	Int suicide		
327	21 yr	Colchicine	A	Ingestion	Int suicide		
328	86 yr	Colchicine	U	Ingestion	Int misuse		
329[a]	40 yr	Colchicine diphenhydramine indomethacin	A	Ingestion	Int suicide		
330	72 yr	Colchicine ethanol	A	Ingestion	Int suicide		
331[p]	39 yr	Fentanyl	A	Parenteral	Int abuse		
332[p]	38 yr	Hydromorphone	A	Ingestion	Int suicide		
333[p]	>19 yr	Hydromorphone ethanol	A	Parenteral	Int abuse	 86 mg/dL	
334[ip]	48 yr	Meperidine bupropion temazepam	A/C	Ingestion	Int suicide		
335[p]	4 yr	Methadone	A	Ingestion	Unint gen		
336[ip]	24 yr	Methadone	A/C	Ingestion	Int abuse	1.2 µg/dL§	
337	32 yr	Methadone	A/C	Ingestion	Int suicide		
338[p]	40 yr	Methadone	A	Ingestion	Int suicide		
339[ap]	40 yr	Methadone	A/C	Ingestion	Int suicide		
340[p]	45 yr	Methadone	U	Ingestion	Int suicide		
341[ip]	32 yr	Methadone hydrocodone	U	Ingestion	Int abuse	22.3 µg/dL§ 3.2 µg/dL§	
342[p]	34 yr	Morphine	A	Ingestion	Int suicide		
343[ip]	45 yr	Morphine cocaine ethanol	A	Ing/Paren	Int abuse	 280 mg/dL	
344[p]	31 yr	Morphine codeine	A	Ingestion	Int suicide	505 ng/mL§ 437 ng/mL§	
345[ip]	40 yr	Morphine oxycodone ethanol	A	Ingestion	Int abuse		
346[p]	33 yr	Morphine trazodone quinine	A	Ing/Paren	Int abuse	670 ng/mL .90 µg/mL	
347	20 yr	Opiates	A/C	Parenteral	Int abuse		
348	36 yr	Opiates	A	Parenteral	Int abuse		
349	41 yr	Opiates amphetamines cocaine	A/C	Parenteral	Int abuse		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
350[P]	35 yr	Opiates diazepam	A	Ingestion	Int suicide	
351[P]	30 yr	Opioids doxepin thioridazine	A	Ingestion	Int suicide	
352[P]	37 yr	Opiates ethanol	A/C	Ing/Paren	Int abuse	
353[P]	42 yr	Opiates ethanol	A	Ingestion	Int abuse	 251 mg/dL
354	40 yr	Opiates phencyclidine acetaminophen	A	Ingestion	Int abuse	 120 µg/mL
355[P]	44 yr	Opiates quinine	A	Unknown	Int abuse	
356[P]	21 yr	Propoxyphene	A	Ingestion	Int suicide	
357	29 yr	Propoxyphene	A	Ingestion	Int suicide	
358[P]	31 yr	Propoxyphene acetaminophen/oxycodone diazepam	A	Ingestion	Int suicide	 133 µg/mL[‖]
359[P]	40 yr	Propoxyphene cocaine amphetamine	A	Ingestion	Int abuse	
360	41 yr	Propoxyphene diazepam	A	Ingestion	Int suicide	
361[P]	42 yr	Propoxyphene ethanol	A	Ingestion	Int suicide	12,700 ng/mL§ norpropoxyphene 1,030 ng/mL§ 215 mg/dL§
362	80 yr	Salicylsalicylic acid acetaminophen/propoxyphene ibuprofen	C	Ingestion	Ther error	

See also cases 7, 8, 47, 64, 307, 308, 310, 313, 354, 418, 430, 446, 482, 621, 636, 654, 661, 699 (acetaminophen); 247 (acetaminophen/butalbital); 248, 431, 578 (acetaminophen/codeine); 287, 288, 396, 397, 447, 702 (acetaminophen/hydrocodone); 249, 358 (acetaminophen/oxycodone); 48, 324, 362, 608, 622, 652, 656 (acetaminophen/propoxyphene); 279, 400, 401, 462, 471, 607, 642, 729, 763 (aspirin); 311 (aspirin/butalbital/caffeine);48 (aspirin/codeine); 261, 344, 431, 580, 740 (codeine); 341, 665 (hydrocodone); 53, 83, 317, 362, 465, 640, 657 (ibuprofen); 329 (indomethacin); 634 (ketoprofen); 265, 739 (meperidine); 682, 740 (methadone); 495, 691, 742, 743 (morphine); 281 (naproxen); 10, 11, 470, 519, 733, 744, 745, 746 (opiates); 345 (oxycodone); 280 (phenazopyridine); 249, 418, 513 (propoxyphene); 473 (salicylate); 654 (salsalate); 650 (sulindac).

Anesthetics

363	37 yr	Benzocaine mouthwash cocaine	U	Ing/Inh	Int unk	
364[aP]	18 mo	Dibucaine ointment	A	Ingestion	Unint gen	
365[P]	24 yr	Halothane	A	Ingestion	Int suicide	
366[P]	27 yr	Nitrous oxide	A	Inhalation	Int abuse	

Anticholinergic drugs

367[P]	42 yr	Trihexyphenidyl	A	Ingestion	Int suicide	208 µg/mL

See also cases 435 (amantadine); 434, 684 (benztropine).

Anticonvulsants

368	72s yr	Carbamazepine	U	Ingestion	Unknown	30 µg/mL
369	50 yr	Carbamazepine amoxapine chlorpromazine	A/C	Ingestion	Unknown	57.3 µg/mL
370	38 yr	Carbamazepine chlorazepate phenytoin	A/C	Ingestion	Int suicide	21.8 µg/mL
371	23 yr	Carbamazepine clomipramine	A/C	Ingestion	Int suicide	35.6 µg/mL 167 ng/mL
372	36 yr	Carbamazepine cocaine	U	Ingestion	Unknown	65 µg/mL
373[P]	37 yr	Carbamazepine ergotamine methocarbamol	U	Ingestion	Int suicide	
374	47 yr	Carbamazepine fluoxetine propranolol	A	Ingestion	Int suicide	
375	53 yr	Carbamazepine haloperidol nortriptyline	A/C	Ingestion	Unknown	
376	45 yr	Carbamazepine perphenazine risperidone	A/C	Ingestion	Int suicide	
377	46 yr	Carbamazepine phenobarbital	A/C	Ingestion	Int suicide	33.8 µg/mL
378	33 yr	Carbamazepine phenytoin felbamate	A/C	Ingestion	Unint gen	47 µg/mL 24 µg/mL
379[P]	55 yr	Carbamazepine secobarbital	A/C	Ingestion	Int unk	38.8 µg/mL

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
380[a]	33 yr	Sodium valproate clonazepam	A/C	Ingestion	Int suicide	700 µg/mL
381	28 yr	Valproic acid	U	Ingestion	Int suicide	958 µg/mL
See also cases 267, 403, 491, 694 (carbamazepine); 370 (phenytoin); 378 (felbamate); 378, 472, 487, 635, 688 (phenytoin); 267, 703 (valproic acid).						
Antidepressants						
382[p]	20 yr	Amitriptyline	U	Ingestion	Int suicide	636 ng/mL nortriptyline 459 ng/mL
383	21 yr	Amitriptyline	A/C	Ingestion	Int suicide	
384	28 yr	Amitriptyline	A	Ingestion	Int suicide	
385	30 yr	Amitriptyline	A/C	Ingestion	Int suicide	2,068 ng/mL
386[p]	34 yr	Amitriptyline	A	Ingestion	Int suicide	
387[p]	35 yr	Amitriptyline	A	Ingestion	Int suicide	
388	38 yr	Amitriptyline	A	Ingestion	Int suicide	
389[ip]	39 yr	Amitriptyline	A	Ingestion	Int suicide	2,690 ng/mL§
390[p]	40 yr	Amitriptyline	A/C	Ingestion	Int suicide	
391[ip]	43 yr	Amitriptyline	U	Ingestion	Int suicide	3,600 ng/mL§ nortriptyline 6,600 ng/mL§
392[ip]	46 yr	Amitriptyline	A	Ingestion	Int suicide	
393	61 yr	Amitriptyline	A	Ingestion	Int suicide	
394	63 yr	Amitriptyline	U	Ingestion	Int suicide	1,144 ng/mL
395	80 yr	Amitriptyline	A	Ingestion	Unknown	>1,000 ng/mL
396	40 yr	Amitriptyline acetaminophen/hydrocodone	A	Ingestion	Int suicide	1,841 ng/mL nortriptyline 865 ng/mL
397[p]	31 yr	Amitriptyline acetaminophen/hydrocodone meclizine	A	Ingestion	Int suicide	94 µg/mL[ll]
398[p]	20s yr	Amitriptyline alprazolam bupropion	A	Ingestion	Int suicide	
399	72 yr	Amitriptyline alprazolam trifluoperazine	A/C	Ingestion	Int suicide	
400	15 yr	Amitriptyline aspirin	A	Ingestion	Int suicide	900 ng/mL 102 mg/dL
401	36 yr	Amitriptyline aspirin activated charcoal	A	Ingestion	Int suicide	22 mg/dL
402[ip]	43 yr	Amitriptyline butalbital	A/C	Ingestion	Int suicide	
403[ip]	31 yr	Amitriptyline carbamazepine butalbital	A/C	Ingestion	Int suicide	
404	52 yr	Amitriptyline chlordiazepoxide	A	Ingestion	Int suicide	
405[a]	33 yr	Amitriptyline chromium picolinate	A	Ingestion	Int suicide	
406	30 yr	Amitriptyline cocaine	A/C	Ingestion	Int suicide	1,220 µg/mL§ nortriptyline 2,070 µg/mL§ benzoylecgonine 0.29 µg/mL§
407	44 yr	Amitriptyline cocaine	A	Ingestion	Int suicide	4,810 ng/mL nortriptyline 750 ng/mL 0.06 µg/mL benzoylecogonine 0.32 µg/mL
408[p]	16 yr	Amitriptyline cocaine cannabinoids	A	Ingestion	Int suicide	
409	43 yr	Amitriptyline diazepam	A/C	Ingestion	Int suicide	
410[p]	31 yr	Amitriptyline diazepam clorazepate	A	Ingestion	Int unk	>3,000 ng/mL nortriptyline 570 ng/mL 1,842 ng/mL nordiazepam 1,062 ng/mL
411	17 yr	Amitriptyline diphenhydramine	A	Ingestion	Int suicide	2,460 ng/mL nortriptyline 1,520 ng/mL 1,580 ng/mL
412[p]	45 yr	Amitriptyline ethanol	A	Ingestion	Int suicide	215 mg/dL
413	46 yr	Amitriptyline ethanol	A	Ingestion	Int suicide	1,150 ng/mL
414[p]	49 yr	Amitriptyline ethanol	A/C	Ingestion	Int suicide	969 ng/mL§ nortriptyline 297 ng/mL§
415[ip]	36 yr	Amitriptyline ethanol meprobamate	U	Ingestion	Unknown	230 ng/mL§ 70 mg/dL§ 4.32 µg/mL§

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
416[P]	59 yr	Amitriptyline pentobarbital diazepam	A/C	Ingestion	Int suicide		
417	38 yr	Amitriptyline *perphenazine* nadolol	A/C	Ingestion	Int suicide		
418	63 yr	Amitriptyline propoxyphene acetaminophen	A/C	Ingestion	Int suicide	1,516 ng/mL	
419	74 yr	Amitriptyline thioridazine	A/C	Ingestion	Int suicide	467 ng/mL 1,180 ng/mL	
420	59 yr	Amitriptyline thiothixene sertraline	A	Ingestion	Int suicide		
421	37 yr	Amitriptyline verapamil captopril/hydrochlorothiazide	A	Ingestion	Int suicide		
422[P]	17 yr	Amitriptyline verapamil carisoprodol	U	Ingestion	Unknown		
423[P]	37 yr	Amitriptyline/chlordiazepoxide	A	Ingestion	Int suicide		
424[P]	29 yr	Bupropion	A/C	Ingestion	Int suicide		
425	50 yr	Clomipramine imipramine fluoxetine	U	Ingestion	Int suicide		
426	12 yr	Desipramine	A/C	Ingestion	Int suicide		
427[P]	25 yr	Desipramine	U	Ingestion	Int suicide	13,000 ng/mL§	
428	27 yr	Desipramine	A	Ingestion	Int suicide	1,460 ng/mL	19 h
429	30 yr	Desipramine	A	Ingestion	Int suicide		
430[P]	56 yr	Desipramine acetaminophen benzodiazepine	A	Ingestion	Int suicide	460 ng/mL 167 μg/mL	
431[P]	26 yr	Desipramine acetaminophen/codeine acetaminophen/propoxyhene	A	Ingestion	Int suicide	71 μg/mL‖	
432[P]	31 yr	Desipramine activated charcoal	A/C	Ingestion	Int suicide		
433	50s yr	Desipramine alprazolam paroxetine	A	Ingestion	Int suicide		
434[P]	44 yr	Desipramine benztropine	A	Ingestion	Int suicide	240 ng/mL 190 ng/mL	
435	42 yr	Desipramine lorazepam amantadine	A/C	Ingestion	Int suicide		
436[P]	5 yr	Doxepin	A/C	Ingestion	Ther error		
437	14 yr	Doxepin	A	Ingestion	Int suicide		
438[P]	30 yr	Doxepin	A	Ingestion	Int suicide		
439	33 yr	Doxepin	A	Ingestion	Int suicide		
440[P]	33 yr	Doxepin	U	Unknown	Unknown		
441	34 yr	Doxepin	A/C	Ingestion	Int suicide		
442	38 yr	Doxepin	A/C	Ingestion	Int suicide		
443[P]	55 yr	Doxepin	A	Ingestion	Int suicide	1,245 ng/mL	
444	73 yr	Doxepin	A/C	Ingestion	Int suicide		
445	>19 yr	Doxepin	U	Ingestion	Unknown		
446	62 yr	Doxepin acetaminophen	A	Ingestion	Int suicide		
447[P]	20 yr	Doxepin acetaminophen/hydrocodone baclofen	A	Ingestion	Int suicide		
448[P]	37 yr	Doxepin clonazepam	A	Ingestion	Int suicide		
449	40 yr	Doxepin diazepam	A	Ingestion	Int suicide		
450[P]	21 yr	Doxepin lithium propranolol	A	Ingestion	Int suicide		
451	56 yr	Doxepin oxazepam flurazepam	A	Ingestion	Int suicide		
452	55 yr	Doxepin thioridazine rubbing alcohol	U	Ingestion	Int suicide		
453[P]	60 yr	Doxepin zolpidem	A/C	Ingestion	Int suicide		
454	5 mo	Imipramine	U	Unknown	Unknown	412 ng/mL desipramine 42 ng/mL	
455	26 yr	Imipramine	A/C	Ingestion	Int suicide	desipramine 910 ng/mL	
456[P]	28 yr	Imipramine	A	Ingestion	Int suicide	3,100 ng/mL§ desipramine 300 ng/L§	

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TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
457[P]	32 yr	Imipramine	A	Ingestion	Int suicide		
458	41 yr	Imipramine	A	Ingestion	Int suicide		
459	57 yr	Imipramine	A	Ingestion	Int suicide		
460[P]	57 yr	Imipramine	A	Ingestion	Int suicide		
461	41 yr	Imipramine alprazolam carbon monoxide	U	Ing/Inh	Int suicide		
462	50 yr	Imipramine aspirin	A/C	Ingestion	Int suicide	1,512 ng/mL 51 mg/dL	15 h 27 h
463[IP]	23 yr	Imipramine brompheniramine ethanol	A	Ingestion	Int suicide		
464	40 yr	Imipramine clonazepam	A	Ingestion	Int suicide	5,780 ng/mL§ desipramine 2,960 ng/mL§ 0.75 µg/mL§	
465	15 yr	Imipramine cyclobenzaprine ibuprofen	A	Ingestion	Int suicide		
466	39 yr	Imipramine desipramine lithium	A	Ingestion	Int suicide	 5 mEq/L	
467	25 yr	Imipramine ethanol lithium	A/C	Ingestion	Int suicide	3,530 ng/mL desipramine 330 ng/mL 138 mg/dL 1 mEq/L	
468	50 yr	Imipramine glyburide	A	Ingestion	Int suicide		
469	20 yr	Imipramine lithium chlorpromazine	A/C	Ingestion	Int suicide	1,552 ng/mL§ 2.45 mEq/L§	
470	27 yr	Imipramine opiates cocaine	U	Ingestion	Int suicide	2,289 ng/mL	
471	44 yr	Imipramine perphenazine aspirin	A/C	Ingestion	Unknown	 49.7 mg/dL	
472	32 yr	Imipramine phenytoin	A	Ingestion	Int suicide	2,448 ng/mL desipramine 212 ng/mL 29.9 µg/mL	
473[P]	15 yr	Imipramine salicylate	A	Ingestion	Int suicide	4,900 ng/mL§ desipramine 2,000 ng/mL§	
474[P]	55 yr	Imipramine sertraline	A/C	Ingestion	Unknown		
475	25 yr	Imipramine trifluoperazine lithium	U	Ingestion	Int suicide		
476	40 yr	Lithium	A/C	Ingestion	Int unk	3.2 mEq/L	
477	40 yr	Lithium	A/C	Ingestion	Int suicide	5.8 mEq/L	
478	65 yr	Lithium	C	Ingestion	Ther error	>4 mEq/L	
479	81 yr	Lithium	C	Ingestion	Unknown	3.2 mEq/L	
480[P]	>19 yr	Lithium	A	Ingestion	Int suicide	>4 mEq/L	
481	40 yr	Lithium alprazolam	A/C	Ingestion	Int suicide	3.9 mEq/L	
482	49 yr	Lithium chlorpromazine acetaminophen	A/C	Ingestion	Int suicide	6.5 mEq/L 165 µg/mL	
483	57 yr	Lithium haloperidol theophylline	A/C	Ingestion	Int suicide	5.0 mEq/L 8 µg/mL	
484[a]	25 yr	Lithium theophylline activated charcoal	A	Ingestion	Int suicide	2.5 mEq/L 31 µg/mL	
485	65 yr	Loxapine lithium clonazepam	A	Ingestion	Int suicide		
486	77 yr	Maprotiline	U	Ingestion	Unknown	7,100 ng/mL	
487	41 yr	Maprotiline theophylline phenytoin	A/C	Ingestion	Int suicide	7,000 ng/mL§ 55 µg/mL 47.3 µg/mL§	
488	5 yr	Nortriptyline	A	Ingestion	Unint gen	558 ng/mL	
489[P]	37 yr	Nortriptyline	U	Ingestion	Int suicide		
490	37 yr	Nortriptyline activated charcoal indapamide	A	Ingestion	Int suicide		
491[P]	24 yr	Nortriptyline carbamazepine ethanol	A	Ingestion	Int suicide	 17.1 µg/mL 90 mg/dL	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
492	53 yr	Nortriptyline fluoxetine	A/C	Ingestion	Int suicide	
493	62 yr	Nortriptyline haloperidol	A	Ingestion	Int suicide	1,912 ng/mL
494	41 yr	Nortriptyline imipramine	A	Ingestion	Int suicide	
495[p]	43 yr	Nortriptyline morphine trazodone	A	Ingestion	Int suicide	1,500 ng/mL§ 600 ng/mL§
496	30 yr	Nortriptyline perphenazine	A/C	Ingestion	Int suicide	4,300 ng/mL§
497	23 yr	Paroxetine alprazolam	A/C	Ingestion	Int suicide	
498	26 yr	Paroxetine disulfiram antihistamine	A/C	Ingestion	Int suicide	
499	26 yr	Phenelzine hydroxyzine	A	Ingestion	Int suicide	
500	23 yr	Phenelzine pseudoephedrine/triprolidine	A/C	Ingestion	Adv rxn	
501	55 yr	Phenelzine sertraline	A/C	Ingestion	Adv rxn	
502[p]	35 yr	Sertraline	A/C	Ingestion	Int suicide	
503[p]	>19 yr	Tranylcypromine	A/C	Ingestion	Int suicide	
504	17 yr	Tranylcypromine cocaine marijuana	A	Ingestion	Int suicide	
505[a]	41 yr	Tranylcypromine fluoxetine	A	Ingestion	Int suicide	
506	42 yr	Tranylcypromine phenylpropanolamine meprobamate	A/C	Ingestion	Unknown	59 ng/mL 1 µg/mL 2.9 µg/mL
507	35 yr	Trazodone	U	Ingestion	Int suicide	
508[p]	37 yr	Trazodone unknown drug	A	Ingestion	Int suicide	
509[p]	26 yr	Tricyclic antidepressant	U	Ingestion	Int suicide	
510[p]	31 yr	Tricyclic antidepressant	U	Ingestion	Int unk	398 ng/mL
511	30 yr	Tricyclic antidepressant chlorpheniramine maleate/ pseudoephedrine benzodiazepines	U	Ingestion	Int suicide	
512[p]	38 yr	Tricyclic antidepressants lorazepam ethanol	A	Ingestion	Int suicide	
513	72 yr	Tricyclic antidepressant propoxyphene	A/C	Ingestion	Unknown	482 ng/mL
514[p]	72 yr	Trimipramine trazodone paroxetine	A/C	Ingestion	Int suicide	

See also cases 9, 309, 559, 606, 621, 623, 659, 701, 753 (amitriptyline); 559 (amitriptyline/perphenazine); 369 (amoxapine); 334, 398 (bupropion); 371, 664 (clomipramine); 311, 466 (desipramine); 13, 25, 351, 608 (doxepin); 281, 374, 425, 492, 505, 518, 624 (fluoxetine); 425, 494, 611 (imipramine); 264, 450, 466, 469, 475, 485 (lithium); 9, 318, 375 (nortriptyline); 514 (paroxetine); 420, 474, 501, 612, 633, 702 (sertraline); 346, 495, 514, 634, 695, 696 (trazodone); 592 (tricyclic antidepressant); 145, 668 (venlafaxine).

Antihistamines

515[p]	41 yr	Diphenhydramine	A	Ingestion	Int suicide	
516[aip]	16 mo	Diphenhydramine (OTC) sleep aid	A	Ingestion	Unint gen	13.7 µg/mL§
517[p]	28 yr	Diphenhydramine ethanol	A	Ingestion	Int suicide	11.9 µg/mL§ 58 mg/dL§
518[p]	26 yr	Diphenhydramine fluoxetine risperidone	U	Ingestion	Unknown	
519[p]	27 yr	Diphenhydramine opiates amphetamines	A	Ingestion	Int suicide	
520[ip]	31 yr	Doxylamine dextromethorphan	U	Ingestion	Unknown	0.97 µg/mL§ 0.12 µg/mL§
521[p]	43 yr	Hydroxyzine	A/C	Ingestion	Int unk	
522[ap]	21 yr	Terfenadine	C	Ingestion	Int misuse	
523[p]	61 yr	Terfenadine caffeine	A	Ingestion	Adv rxn	

See also cases 498 (antihistamine); 624 (astemizole); 463 (brompheniramine); 313 (dimenhydrinate); 64, 262, 314, 326, 329, 411, 626, 649, 663, 664, 763 (diphenhydramine); 315 (doxylamine); 499, 591, 647(hydroxyzine); 397 (meclizine); 433 (paroxetine); 290 (promethazine).

Antimicrobials

524[p]	34 yr	Isoniazid	A	Ingestion	Int suicide	
525	42 yr	Isoniazid	A/C	Ingestion	Int suicide	

See also cases 653 (acyclovir); 551, 552 (ciprofloxacin); 280 (doxycycline); 553 (erythromycin); 650 (trimethoprim/sulfamethoxazole).

(Continued on following page.

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
Asthma therapies						
526[p]	37 yr	Epinephrine inhaler	A	Parenteral	Int abuse	
527[a]	6 yr	Theophylline	C	Parenteral	Ther error	47 µg/mL
528	51 yr	Theophylline	A/C	Ingestion	Int suicide	31 µg/mL
529	52 yr	Theophylline	A/C	Ingestion	Int suicide	146 µg/mL
530[p]	59 yr	Theophylline	U	Ingestion	Unknown	36 µg/mL
531[p]	63 yr	Theophylline	A	Ingestion	Unknown	54 µg/mL
532	66 yr	Theophylline	A/C	Ingestion	Ther error	49 µg/mL
533	69 yr	Theophylline	C	Ingestion	Int misuse	74 µg/mL
534	69 yr	Theophylline	C	Ingestion	Int misuse	49 µg/mL
535	69 yr	Theophylline	A	Ingestion	Int suicide	113 µg/mL
536	70 yr	Theophylline	C	Ingestion	Int misuse	91 µg/mL
537	70s yr	Theophylline	C	Ingestion	Ther error	39 µg/mL
538	71 yr	Theophylline	C	Ingestion	Ther error	>50 µg/mL
539	72 yr	Theophylline	C	Ingestion	Ther error	36 µg/mL
540	74 yr	Theophylline	C	Ingestion	Int misuse	55 µg/mL
541	75 yr	Theophylline	U	Ingestion	Unknown	75 µg/mL
542	75 yr	Theophylline	C	Ingestion	Ther error	30 µg/mL
543	75 yr	Theophylline (long-acting)	C	Ingestion	Ther error	47 µg/mL
544	76 yr	Theophylline	A/C	Ingestion	Adv rxn	85 µg/mL
545	76 yr	Theophylline (long-acting)	C	Ingestion	Adv rxn	43 µg/mL
546	77 yr	Theophylline	C	Ingestion	Unint unk	33 µg/mL
547	79 yr	Theophylline (long-acting)	C	Ingestion	Ther error	49 µg/mL
548	80 yr	Theophylline	C	Ingestion	Ther error	36 µg/mL
549	83 yr	Theophylline	C	Ingestion	Ther error	50 µg/mL
550	86 yr	Theophylline	C	Ingestion	Unknown	60 µg/mL
551	73 yr	Theophylline ciprofloxacin	C	Ingestion	Ther error	49 µg/mL
552[p]	82 yr	Theophylline ciprofloxacin	C	Ingestion	Ther error	51 µg/mL
553	65 yr	Theophylline erythromycin furosemide	C	Ingestion	Ther error	72 µg/mL
554	31 yr	Theophylline ethanol	A	Ingestion	Int suicide	145 µg/mL
555	61 yr	Theophylline glipizide	A/C	Ingestion	Int misuse	163 µg/mL
556	86 yr	Theophylline lidocaine	A/C	Ingestion	Ther error	39 µg/mL
557	64 yr	Theophylline magnesium citrate	U	Ingestion	Unknown	59 µg/mL
558	20 yr	Theophylline zolpidem	A	Ingestion	Int suicide	265 µg/mL
See also cases 483, 484, 487, 580 (theophylline).						
Cardiovascular drugs						
559	66 yr	Amlodipine amitriptyline amitriptyline/perphenazine	A	Ingestion	Int suicide	
560[a]	4 mo	Amrinone procainamide	C	Parenteral	Adv rxn	
561[p]	45 yr	Atenolol verapamil	A/C	Ingestion	Int suicide	
562	60 yr	Digoxin	A/C	Ingestion	Int suicide	
563	65 yr	Digoxin	C	Ingestion	Ther error	6 ng/mL
564[p]	72 yr	Digoxin	A/C	Ingestion	Unknown	5.7 ng/mL
565	73 yr	Digoxin	C	Ingestion	Ther error	4.6 ng/mL
566[p]	75 yr	Digoxin	C	Ingestion	Ther error	3.6 ng/mL
567	76 yr	Digoxin	U	Ingestion	Unknown	2.7 ng/mL
568	77 yr	Digoxin	C	Ingestion	Unint unk	3.7 ng/mL
569	78 yr	Digoxin	C	Ingestion	Ther error	2.6 ng/mL
570	78 yr	Digoxin	C	Ingestion	Adv rxn	7.6 ng/mL
571	80 yr	Digoxin	C	Ingestion	Ther error	>4 ng/mL
572	88 yr	Digoxin	C	Ingestion	Ther error	7.3 ng/mL
573[p]	89 yr	Digoxin	C	Ingestion	Ther error	3 ng/mL
574	91 yr	Digoxin	C	Ingestion	Ther error	4.2 ng/mL
575	95 yr	Digoxin	C	Ingestion	Unknown	6 ng/mL
576	97 yr	Digoxin	C	Ingestion	Unint unk	2.72 ng/mL
577	70 yr	Digoxin diltiazem warfarin	A	Ingestion	Int suicide	>40 ng/mL
578	39 yr	Digoxin ethanol acetaminophen/codeine	A	Ingestion	Int suicide	>10 ng/mL
579	89 yr	Digoxin haloperidol carbidopa/levodopa	C	Ingestion	Ther error	6.9 ng/mL
580	84 yr	Digoxin theophylline (long-acting) codeine	C	Ingestion	Ther error	4.76 ng/mL 32.8 µg/mL

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
581	36 yr	Diltiazem (sustained release)	A	Ingestion	Int suicide		
582[a]	45 yr	Diltiazem	A	Ingestion	Int suicide		
583	52 yr	Diltiazem (sustained release)	A	Ingestion	Int suicide		
584	60 yr	Diltiazem (sustained release)	A	Ingestion	Int suicide		
585	64 yr	Diltiazem	A/C	Ingestion	Int suicide		
586	68 yr	Diltiazem	A	Ingestion	Int suicide		
587	75 yr	Diltiazem	A/C	Ingestion	Int suicide		
588	83 yr	Diltiazem	A	Ingestion	Int suicide	4.05 µg/mL	
589	41 yr	Diltiazem ethanol	A	Ingestion	Int suicide		
590	68 yr	Diltiazem isopropanol cationic detergent	A	Ingestion	Int suicide		
591	37 yr	Diltiazem lorazepam hydroxyzine	A/C	Ingestion	Int suicide		
592	46 yr	Metoprolol verapamil tricyclic antidepressant	A	Ingestion	Int misuse		
593[p]	26 yr	Mexiletine	A	Ingestion	Int suicide		
594[p]	40 yr	Mexiletine	A	Ingestion	Int suicide	39.9 µg/mL§	
595[a]	14 mo	Nifedipine	A	Ingestion	Unint gen		
596[ap]	30 yr	Nifedipine	A	Ingestion	Int suicide		
597	77 yr	Nifedipine bisoprolol/hydrochlorothiazide	A	Ingestion	Unknown		
598	31 yr	Nifedipine clonidine atenolol	U	Ingestion	Int suicide		
599	37 yr	Nifedipine cocaine ethanol	U	Ingestion	Int suicide		
600[p]	60 yr	Nifedipine ethanol	A	Ingestion	Int suicide		
601	58 yr	Procainamide	A	Parenteral	Unknown	19 µg/mL	
602	65 yr	Procainamide	A/C	Ingestion	Ther error	12.9 µg/mL N-acetylprocainamide 27 µg/mL	
603	66 yr	Procainamide	A	Parenteral	Ther error	16 µg/mL	
604	70 yr	Procainamide	C	Ingestion	Ther error	40 µg/mL N-acetylprocainamide 42 µg/mL	
605[a]	47 yr	Propafenone ethanol	A	Ingestion	Int suicide		
606[p]	31 yr	Propranolol amitriptyline	A	Ingestion	Int suicide		
607	26 yr	Propranolol aspirin cocaine	A	Ingestion	Int suicide		
608	44 yr	Propranolol doxepin acetaminophen/propoxyphene	U	Ingestion	Int suicide	147 µg/mL	
609	52 yr	Propranolol ethchlorvynol zolpidem	A	Ingestion	Int suicide		
610[p]	35 yr	Propranolol glyburide	A	Ingestion	Int suicide	8,900 ng/mL§	
611	65 yr	Propranolol glyburide imipramine	A	Ingestion	Int suicide		
612	33 yr	Propranolol imipramine sertraline	A	Ingestion	Int suicide		
613	74 yr	Propranolol nifedipine	A/C	Ingestion	Int suicide		
614	43 yr	Quinidine	A	Ingestion	Int suicide		
615	15 yr	Verapamil	A	Ingestion	Int suicide		
616	22 yr	Verapamil	A	Ingestion	Int suicide		
617	25 yr	Verapamil	A	Ingestion	Int suicide		
618	38 yr	Verapamil	A	Ingestion	Int suicice		
619	51 yr	Verapamil (sustained release)	A/C	Ingestion	Ther error		
620[p]	66 yr	Verapamil	A	Ingestion	Int suicide		
621[p]	35 yr	Verapamil acetaminophen amitriptyline	A	Ingestion	Int suicide	42 µg/mL	6 h
622	43 yr	Verapamil acetaminophen/propoxyphene	A	Ingestion	Int suicide		
623	35 yr	Verapamil Amitriptyline	A/C	Ingestion	Int suicide		
624	43 yr	Verapamil astemizole fluoxetine	A	Ingestion	Int suicide	4,500 ng/mL§ 2,200 ng/mL§	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
625	34 yr	Verapamil cocaine ethanol	A	Ing/Inh	Int suicide		
626[p]	40 yr	Verapamil diphenhydramine	A	Ingestion	Int suicide	3,900 ng/mL§ 0.17 µg/mL§	
627	66 yr	Verapamil (sustained release) disopyramide clonazepam	A	Ingestion	Int suicide		
628[p]	40 yr	Verapamil ethanol	A/C	Ingestion	Int suicide	5,400 ng/mL§ 250 mg/dL§	
629	68 yr	Verapamil ethanol	A/C	Ingestion	Int suicide		
630	51 yr	Verapamil hydrochlorothiazide/triamterene	A	Ingestion	Int suicide		
631	29 yr	Verapamil nadolol	A	Ingestion	Int suicide		
632	35 yr	Verapamil risperidone	A	Ingestion	Int suicide		
633	41 yr	Verapamil sertraline	A/C	Ingestion	Int suicide		
634	55 yr	Verapamil trazodone ketoprofen	A	Ingestion	Int suicide		
See also cases 598 (atenolol); 597 (bisoprolol/hydrochlorothiazide); 421 (captopril/hydrochlorothiazide); 598 (clonidine); 312 (digoxin); 318, 577 (diltiazem); 627 (disopyramide); 556 (lidocaine); 417, 631 (nadolol); 613 (nifedipine); 560 (procainamide); 374, 450 (propranolol); 662 (terazosin); 323, 421, 422, 561, 592 (verapamil).							
Cough and cold preparations							
635	49 yr	Acetaminophen/diphenhydramine clonazepam phenytoin	A	Ingestion	Int suicide	321 µg/mL[ll] 38 µg/mL	4 h
636	42 yr	Acetaminophen/pseudoephedrine acetaminophen	C	Ingestion	Ther error		
637[ap]	19 yr	Benzonatate	A	Ingestion	Int suicide		
638[a]	41 yr	Clemastine/phenylpropanolamine	A	Ingestion	Ther error		
See also cases 511 (chlorpheniramine maleate/pseudoephedrine); 310 (clemastine/phenylpropanolamine); 520 (dextromethorphan); 263 (hydrocodone/phenindamine/guiafenesin); 321 (promethazine/codeine); 500 (pseudoephedrine/triprolidine); 272 (unknown "cold" medication).							
Diuretics							
See cases 553 (furosemide); 630 (hydrochlorothiazide/triamterene); 490 (indapamide).							
Electrolytes and minerals							
639[ap]	18 mo	Ferrous sulfate	A	Ingestion	Unint gen		
640[a]	12 mo	Ferrous sulfate ibuprofen	A	Ingestion	Unint gen	972 µg/dL 105 µg/mL	
641	43 yr	Phosphate (unknown source)	U	Other	Unknown		
See also cases 263 (iron supplement); 557 (magnesium citrate).							
Gastrointestinal preparations							
642	59 yr	Bismuth subsalicylate liquid aspirin	C	Ingestion	Int misuse		
643[p]	29 yr	Diphenoxylate/atropine ethanol	A	Ingestion	Int abuse		
644	62 yr	Magnesium citrate	A	Ingestion	Int misuse		
See also cases 250 (bismuth subsalicylate liquid); 272 (ranitidine).							
Hormones and Hormone Antagonists							
645	79 yr	Acetohexamide	C	Ingestion	Ther error		
646	48 yr	Chlorpropamide carisoprodol	A/C	Ingestion	Int suicide		
647	18 yr	Glipizide hydroxyzine quinine	A	Ingestion	Int suicide		
648[p]	32 yr	Methandriol	C	Parenteral	Int misuse		
See also cases 657 (chlorpropamide); 555 (glipizide); 468, 610, 611 (glyburide).							
Lacrimators							
See case 737 (lacrimator).							
Miscellaneous drugs							
649[a]	40 yr	Quinine sulfate diphenhydramine cocaine	A	Ingestion	Int suicide	25.1 µg/mL§ 0.5 µg/mL§ .22 µg/mL§	
650	19 yr	Quinine sulfate sulindac trimethoprim/sulfamethoxazole	A	Ingestion	Int suicide		
See also cases 579 (carbidopa/levodopa); 49, 498 (disulfiram); 373 (ergotamine); 53 (pentoxifylline); 346, 355 (quinine).							
Muscle relaxants							
651[a]	80 yr	Baclofen	A/C	Ingestion	Int suicide	32,931 ng/mL	
652[p]	41 yr	Carisoprodol acetaminophen/propoxyphene	A	Ingestion	Int suicide		

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
653[P]	30 yr	Carisoprodol acyclovir marijuana	A	Ingestion	Unknown	
654	42 yr	Carisoprodol salsalate acetaminophen	A	Ingestion	Int suicide	32.9 μg/mL meprobamate 8.8 μg/mL
655[I]	41 yr	Cyclobenzaprine lorazepam ethanol	A	Ingestion	Int suicide	
656[P]	32 yr	Methocarbamol acetaminophen/propoxyphene	U	Unknown	Int suicide	
657	31 yr	Methocarbamol chlorpropamide ibuprofen	A	Ingestion	Int suicide	
See also cases 447 (baclofen); 270, 289, 422, 646 (carisoprodol); 465 (cyclobenzaprine); 275, 373 (methocarbamol); 647 (quinine).						
Sedatives/hypnotics/antipsychotics						
658	34 yr	Alprazolam	A	Ingestion	Int suicide	
659	39 yr	Alprazolam amitriptyline	A/C	Ingestion	Unknown	
660[I]	31 yr	Alprazolam ethanol	U	Ingestion	Unknown	
661[P]	26 yr	Benzodiazepines barbiturates acetaminophen	A	Ingestion	Int suicide	 188 μg/mL
662[P]	73 yr	Butabarbital terazosin	A	Ingestion	Int unk	
663[P]	50 yr	Chloral hydrate ethanol diphenhydramine	A	Ingestion	Int unk	trichloroethanol 19 μg/mL
664	22 yr	Chlorpromazine clomipramine diphenhydramine	A	Ingestion	Int suicide	
665[IP]	25 yr	Chlorpromazine hydrocodone butalbital	A/C	Ingestion	Int suicide	
666[P]	40 yr	Clonazepam	A	Ingestion	Int unk	
667[P]	43 yr	Clonazepam ethanol	A	Ingestion	Int abuse	 251 mg/dL
668	30 yr	Clonazepam venlafaxine risperidone	A	Ingestion	Int suicide	
669[a]	2 yr	Clozapine	A	Ingestion	Unint gen	218 ng/mL
670[a]	35 yr	Clozapine	A	Ingestion	Int suicide	
671	87 yr	Diazepam	U	Ingestion	Int suicide	1.1 μg/mL nordiazepam 0.9 μg/mL
672[P]	58 yr	Diazepam ethanol	A	Ingestion	Int unk	 426 mg/dL
673[P]	37 yr	Diazepam ethanol cocaine	U	Ingestion	Int suicide	1.7 μg/mL nordiazepam .27 μg/mL 219 mg/dL
674[P]	35 yr	Ethchlorvynol alprazolam	A	Ingestion	Int suicide	
675	47 yr	Ethchlorvynol chloral hydrate meprobamate	A/C	Ingestion	Int suicide	
676	54 yr	Euthanasia solution (pentobarbital, phenytoin, ethanol)	A	Unknown	Int suicide	
677	76 yr	Haloperidol	A	Parenteral	Adv rxn	
678	69 yr	Lorazepam	A/C	Ingestion	Int suicide	
679	92 yr	Meprobamate	A	Ingestion	Int suicide	30 μg/mL
680	39 yr	Mesoridazine	A	Ingestion	Int suicide	4.7 μg/mL
681	56 yr	Mesoridazine	A	Ingestion	Int suicide	
682[P]	88 yr	Pentobarbital methadone	A	Ingestion	Int suicide	55 μg/mL§ 100 μg/dL§
683	32 yr	Perphenazine	A/C	Ingestion	Adv rxn	
684	23 yr	Perphenazine benztropine	A	Ingestion	Int suicide	
685	32 yr	Phenobarbital clonazepam	A	Ingestion	Int suicide	
686[P]	34 yr	Phenobarbital cocaine	A	Ingestion	Int suicide	166 μg/mL
687[P]	37 yr	Phenobarbital diazepam	A/C	Ingestion	Int suicide	126 μg/mL
688[P]	50 yr	Phenobarbital phenytoin	A/C	Ingestion	Int suicide	240 μg/mL 32 μg/mL
689[P]	35 yr	Risperidone	A	Ingestion	Int suicide	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels
690	68 yr	Secobarbital amobarbital	A	Ingestion	Int suicide	14.2 μg/mL 17 μg/mL
691[P]	30 yr	Secobarbital morphine benzodiazepine, unknown	U	Ingestion	Unknown	
692[P]	83 yr	Temazepam	A	Ingestion	Int suicide	
693	79 yr	Temazepam flurazepam	U	Ingestion	Int suicide	
694[P]	>19 yr	Thioridazine carbamazepine	U	Ingestion	Int suicide	
695[IP]	40 yr	Thioridazine trazodone ethanol	A/C	Ingestion	Int suicide	
696[P]	33 yr	Zolpidem trazodone	A	Ingestion	Int suicide	

See also cases 309, 398, 399, 433, 461, 481, 497, 674, 739 (alprazolam); 690 (amobarbital); 661 (barbiturates); 10, 430, 511, 691 (benzodiazepine); 402, 403, 665 (butalbital); 675 (chloral hydrate); 275,.370, 410 (chlorazepate); 404 (chlordiazepoxide); 369, 469, 482 (chlorpromazine); 289, 290, 380, 448, 464, 485, 627, 635, 685, 699 (clonazepam); 12, 271, 350, 358, 360, 409, 410, 416, 449, 687, 746 (diazepam); 609 (ethchlorvynol); 262, 451, 693 (flurazepam); 375, 483, 493, 579 (haloperidol); 279, 435, 512, 591, 655 (lorazepam); 741 (methaqualone); 415, 506, 675 (meprobamate); 451 (oxazepam); 416 (pentobarbital); 376, 417, 471, 496 (perphenazine); 320, 377 (phenobarbital); 376, 518, 632, 668 (risperidone); 379 (secobarbital); 15, 334 (temazepan); 420 (thiothixene); 351, 419, 452 (thioridazine); 399, 475 (trifluoperazine); 453, 558, 609 (zolpidem).

Stimulants and street drugs

697	14 yr	Amphetamine	A	Ingestion	Int abuse	
698	21 yr	Amphetamine	U	Unknown	Int abuse	
699	40 yr	Amphetamine clonazepam acetaminophen	A	Ingestion	Int misuse	 110 μg/mL
700	16 yr	Amphetamine ethanol	A	Ing/Unk	Int abuse	
701	36 yr	Amphetamine ethanol amitriptyline	A	Ingestion	Int suicide	 >150 mg/dL 300 ng/mL
702	35 yr	Amphetamine sertraline acetaminophen/hydrocodone	A	Ingestion	Int unk	
703	28 yr	Amphetamine valproic acid	A	Ingestion	Int abuse	 75.6 μg/mL
704	43 yr	Caffeine	C	Ingestion	Int misuse	147 μg/mL§
705[P]	40 yr	Caffeine diet aid	A	Ingestion	Int suicide	
706	17 yr	Cocaine	A	Ingestion	Int misuse	
707[P]	18 yr	Cocaine	A	Ingestion	Int unk	0.38 μg/mL§ benzoylecgonine 5.29 μg/mL§
708[P]	20s yr	Cocaine	A	Ingestion	Int abuse	
709[P]	26 yr	Cocaine	A	Ingestion	Int misuse	
710[aP]	29 yr	Cocaine	A	Ingestion	Int misuse	24 μg/mL
711	29 yr	Cocaine	A/C	Inhalation	Int abuse	
712	30 yr	Cocaine	U	Inhalation	Int abuse	
713	32 yr	Cocaine	A	Inhalation	Int abuse	
714	32 yr	Cocaine (crack)	U	Ingestion	Int abuse	
715[IP]	33 yr	Cocaine	A/C	Unknown	Int abuse	
716[P]	33 yr	Cocaine	U	Unknown	Int abuse	
717[P]	34 yr	Cocaine	A	Parenteral	Int abuse	0.3 μg/mL§
718	35 yr	Cocaine	A	Unknown	Int abuse	
719	35 yr	Cocaine	A	Inhalation	Int abuse	
720[P]	35 yr	Cocaine	A	Ingestion	Int abuse	
721[P]	37 yr	Cocaine	A	Unknown	Int abuse	2.2 μg/mL§
722[P]	37 yr	Cocaine	A	Inhalation	Int abuse	
723[P]	39 yr	Cocaine	A	Unknown	Int abuse	
724[P]	41 yr	Cocaine	C	Parenteral	Int abuse	
725[P]	43 yr	Cocaine	A	Inhalation	Int abuse	
726[P]	43 yr	Cocaine	A/C	Parenteral	Int abuse	
727	>19 yr	Cocaine	U	Unknown	Int abuse	
728[P]	22 yr	Cocaine amphetamine	A	Unknown	Int abuse	
729	35 yr	Cocaine aspirin	U	Ingestion	Unknown	
730[P]	25 yr	Cocaine ethanol	A	Ing/Inh	Int abuse	benzoylecgonine 2.49 μg/mL
731[P]	30 yr	Cocaine ethanol	A	Ing/Unk	Int abuse	
732[P]	37 yr	Cocaine ethanol	A/C	Ing/Unk	Int abuse	
733[P]	41 yr	Cocaine ethanol opiates	A	Ing/Inh	Int unk	 147 mg/dL§
734[P]	27 yr	Cocaine heroin	A	Inh/Paren	Int abuse	

(Continued on following page)

TABLE 21. Summary of Fatal Exposures Reported to TESS in 1994 (Cont'd)

Case	Age	Substances	Chronicity	Route	Reason	Blood Levels	
735	51 yr	Cocaine heroin	A	Parenteral	Int abuse		
736[P]	33 yr	Cocaine heroin ethanol	U	Ing/Inh	Int unk	 220 mg/dL	
737[P]	30 yr	Cocaine lacrimator	A/C	Der/Inh/Par	Int abuse		
738	21 yr	Cocaine marijuana	A/C	Ingestion	Int misuse		
739	30 yr	Cocaine meperidine alprazolam	A	Ingestion	Int suicide		
740[P]	35 yr	Cocaine methadone codeine	A/C	Unknown	Int abuse	0.16 µg/mL benzoylecgonine 0.093 µg/mL 0.18 µg/mL 0.14 µg/mL	
741	41 yr	Cocaine methaqualone	A/C	Ing/Inh	Int abuse		
742[P]	27 yr	Cocaine morphine	A/C	Inh/Paren	Int abuse	0.05 µg/mL benzoylecgonine 3.38 µg/mL	
743	42 yr	Cocaine morphine	U	Unknown	Unknown	1.69 µg/mL opioid 11.9 µg/mL	
744[P]	37 yr	Cocaine opiates	U	Ing/Paren	Int unk		
745	37 yr	Cocaine opiates	A	Ing/Inh	Int abuse		
746[P]	34 yr	Cocaine opiates diazepam	A/C	Inhalation	Int abuse	 0.3 µg/mL	
747[P]	24 yr	Cocaine paint	U	Ing/Inh	Int abuse		
748[P]	34 yr	Heroin	A	Parenteral	Int abuse		
749[P]	37 yr	Heroin	A	Parenteral	Int suicide		
750	42 yr	Heroin	A	Parenteral	Int abuse		
751[iP]	42 yr	Heroin	A/C	Parenteral	Int abuse		
752[P]	44 yr	Heroin	A	Parenteral	Int abuse		
753[P]	44 yr	Heroin amitriptyline	A	Ing/Paren	Int abuse		
754[P]	34 yr	Heroin cocaine	A/C	Parenteral	Int abuse	morphine 0.46 µg/mL§	
755[P]	60 yr	Heroin cocaine	A/C	Parenteral	Int abuse		
756[iP]	36 yr	Heroin ethanol	A/C	Ing/Paren	Int abuse		
757	20 yr	Methamphetamine	C	Ingestion	Int abuse		
758	21 yr	Methamphetamine	A	Unknown	Int abuse	1,786 ng/mL	
759[a]	33 yr	Methamphetamine	A	Ing/Oth	Int misuse		
760[P]	34 yr	Methamphetamine	A	Parenteral	Int abuse		
761	34 yr	Methamphetamine	A	Unknown	Int abuse		
762	>19 yr	Methamphetamine	A	Ingestion	Int abuse		
763	47 yr	Methamphetamine/amphetamine aspirin diphenhydramine	U	Ing/Unk	Unknown	 43 mg/dL	
764	63 yr	Phenylpropanolamine diet aid ethanol	A	Ingestion	Int suicide	 15 mg/dL	
See also cases 349, 359, 519, 728 (amphetamines); 523 (caffeine); 11, 325, 343, 349, 359, 363, 372, 406, 407, 408, 470, 504, 599, 607, 625, 649, 673, 686, 754, 755 (cocaine); 408 (cannabinoids); 734, 735, 736 (heroin); 504, 653, 738 (marijuana); 84, 266, 354 (phencyclidine); 506 (phenylpropanolamine).							
Topical Preparations							
765[P]	5 yr	Camphor/menthol cream	A	Ingestion	Ther error		
766[a]	45 yr	Methyl salicylate (oil of wintergreen)	A	Ingestion	Ther error	108 mg/dL[¶]	5 h
Unknown Drugs							
See cases 54, 308, 508 (unknown drugs).							

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

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	12,245	3,835	2,329	4,174	12,056	131	26	19	2,841	1,590	2,901	690	4	0
Epoxy	793	317	68	310	763	14	9	3	270	199	214	53	2	0
Toluene/xylene	2,092	1,467	286	248	2,017	64	6	2	318	624	484	52	2	0
Nontoxic	1,660	1,185	321	114	1,613	33	8	4	80	272	121	7	0	0
Unknown	5,287	2,873	717	1,177	5,083	135	21	42	1,022	1,378	1,140	175	1	1
*Category totals	22,077	9,677	3,721	6,023	21,532	377	70	70	4,531	4,063	4,860	977	9	1
Alcohols														
Ethanol (beverage)	27,209	1,675	3,660	18,858	4,165	22,286	147	412	19,386	3,155	8,757	3,937	649	62
Ethanol (other)	2,487	1,546	227	556	2,287	170	6	20	373	870	363	56	9	1
Higher alcohols	131	40	21	50	124	6	0	0	56	30	43	7	0	0
Isopropanol	9,474	6,520	740	1,751	8,566	823	43	13	1,995	3,522	1,708	252	41	3
Methanol	859	218	115	423	736	106	9	2	468	240	206	79	22	8
Rubbing alcohol														
Ethanol, with methyl salicylate	38	28	4	6	37	1	0	0	8	14	8	1	0	0
Ethanol, without methyl salicylate	230	178	17	27	217	13	0	0	37	97	38	6	0	0
Isopropanol, with methyl salicylate	299	229	20	41	282	14	2	1	71	121	58	4	1	0
Isopropanol, without methyl salicylate	8,849	6,642	621	1,296	8,105	681	35	10	1,556	3,305	1,529	168	17	2
Unknown rubbing alcohol	497	367	35	74	471	24	2	0	101	110	49	7	1	0
Other alcohol	62	21	7	27	62	0	0	0	22	11	14	0	1	0
Unknown alcohol	622	69	94	380	259	343	1	10	397	83	130	64	17	0
*Category totals	50,757	17,533	5,561	23,489	25,311	24,467	245	468	24,470	11,558	12,903	4,581	758	76
Arts/crafts/office supplies														
Artist paints, non-watercolor	986	705	114	122	967	15	2	2	73	283	85	12	1	0
Chalk	2,079	1,874	143	45	2,054	16	3	3	52	323	50	3	0	0
Clay	1,672	1,458	114	77	1,656	9	3	4	66	228	96	12	0	0
Crayon	2,999	2,668	204	96	2,964	19	9	3	168	427	72	4	0	0
Glazes	269	123	46	84	261	7	0	1	40	77	35	5	0	0
Office supplies: miscellaneous	281	107	31	104	274	6	1	0	57	47	58	9	0	0
Pencil	3,077	1,582	1,151	229	2,997	36	37	2	157	300	359	30	1	0
Pens/ink	13,858	10,575	2,496	500	13,552	251	24	22	415	2,702	478	42	1	0
Typewriter correction fluid	1,947	1,227	464	196	1,777	152	14	2	228	652	283	18	3	0
Water color	3,105	2,568	300	193	3,061	29	1	12	75	569	154	3	0	0
Other	5,441	4,181	594	454	5,341	76	15	6	215	906	272	38	2	0
Unknown	393	279	74	31	381	8	2	0	28	81	20	3	0	0
*Category totals	36,107	27,347	5,731	2,131	35,285	624	111	57	1,574	6,595	1,962	179	8	0
Auto/aircraft/boat products														
Ethylene glycol	4,201	773	550	2,282	3,828	317	21	4	1,552	970	983	273	76	29
Glycols: other	1,592	537	127	695	1,540	40	5	1	555	415	564	78	6	1
Glycol and methanol	115	26	25	47	106	8	1	0	41	23	49	4	2	0
Hydrocarbons	3,721	1,672	435	1,232	3,609	92	14	5	973	936	1,400	168	9	1
Methanol	1,408	495	224	549	1,324	73	7	0	628	494	431	52	14	2
Nontoxic	78	63	3	11	78	0	0	0	6	14	16	0	0	0
Other	1,849	611	278	715	1,811	26	4	6	618	333	752	128	3	0
Unknown	202	63	36	71	195	5	0	1	79	35	77	14	1	0
*Category totals	13,166	4,240	1,678	5,602	12,491	561	52	17	4,452	3,220	4,272	717	111	33
Batteries														
Automotive batteries	1,842	193	247	1,057	1,819	12	7	0	648	146	751	235	2	0
Disc batteries														
Alkaline (MnO_2)	112	84	15	7	111	0	0	0	67	76	11	1	0	0
Lithium	44	16	6	13	44	0	0	0	24	9	11	2	1	0
Mercuric oxide	27	13	9	3	25	2	0	0	20	16	3	0	0	0
Nickel cadmium	8	1	1	4	8	0	0	0	2	0	0	0	0	0
Silver oxide	54	37	9	8	53	1	0	0	39	26	1	1	1	0
Zinc-air	106	48	8	45	104	2	0	0	76	75	2	1	0	0
Other	14	11	1	1	14	0	0	0	9	12	0	0	0	0
Unknown	1,539	1,116	293	110	1,510	26	0	0	1,027	825	62	18	2	0
Dry cell batteries	4,079	2,270	955	561	3,942	126	7	0	674	1,003	1,131	171	4	0
Other batteries	127	48	26	39	124	2	0	1	32	37	26	9	0	0
Unknown batteries	40	16	9	13	38	1	1	0	13	5	18	3	0	0
*Category totals	7,992	3,853	1,579	1,861	7,792	172	15	1	2,631	2,230	2,016	441	10	0
Bites and envenomations														
Coelenterate	46	10	17	15	45	1	0	0	12	2	13	2	0	0
Fish	1,322	18	207	878	1,315	3	0	4	455	10	541	147	3	0
Other/unknown marine animal	227	63	38	101	225	0	0	2	69	16	57	14	4	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
Insects														
Ant/fire ant	2,856	1,233	370	921	2,840	5	7	2	347	67	1,068	158	4	0
Bee/wasp/hornet	18,455	4,103	4,380	7,990	18,432	13	1	7	1,926	191	8,586	981	21	1
Caterpillar	2,291	661	662	802	2,276	5	2	8	177	45	793	68	0	0
Centipede/millipede	102	36	25	24	102	0	0	0	10	9	30	2	0	0
Mosquito	239	79	54	86	237	0	0	2	48	1	85	13	0	0
Scorpion	9,040	708	1,757	4,457	9,037	0	1	2	725	93	4,975	461	18	0
Tick	2,871	786	680	1,073	2,858	5	0	3	582	162	576	35	2	0
Other insect	9,889	2,102	1,841	4,813	9,728	19	118	15	1,832	320	2,979	505	5	0
Mammals														
Bat	87	8	18	41	87	0	0	0	46	4	21	0	0	0
Cat	538	97	116	244	534	1	1	1	225	18	134	27	0	0
Dog	1,058	254	365	338	1,021	33	2	1	521	32	223	45	1	0
Fox	6	1	0	5	6	0	0	0	2	1	2	0	0	0
Human	76	28	22	17	63	2	8	1	21	2	16	4	0	0
Raccoon	62	6	12	37	62	0	0	0	36	3	16	0	0	0
Rodents/lagomorphs	1,659	501	639	350	1,645	1	6	5	353	58	453	26	1	0
Skunk	192	22	51	79	189	0	2	1	23	14	58	6	0	0
Other mammal	570	144	141	186	563	2	2	2	223	27	132	17	1	0
Reptile other/unknown	1,117	462	364	210	1,093	17	2	5	164	97	311	30	1	0
Snakes														
Copperhead	419	23	95	261	418	1	0	0	377	9	198	141	10	0
Coral	62	4	16	35	62	0	0	0	51	7	35	6	2	0
Cottonmouth	59	1	12	35	59	0	0	0	47	4	26	11	2	0
Crotalid: unknown	6	0	2	4	6	0	0	0	2	1	3	1	0	0
Rattlesnake	782	51	143	485	777	4	0	0	654	26	230	276	61	2
Exotic snakes														
Poisonous	77	3	14	54	77	0	0	0	63	8	30	19	0	0
Nonpoisonous	368	28	127	166	368	0	0	0	134	6	141	15	0	0
Unknown if poisonous	3	0	1	1	3	0	0	0	2	1	0	0	0	0
Nonpoisonous snake	1,714	217	797	547	1,710	3	0	0	361	72	696	42	2	0
Unknown snake	1,710	162	554	850	1,707	1	1	0	996	99	758	226	12	0
Spiders														
Black widow	2,120	198	314	1,302	2,115	4	0	0	670	159	868	278	8	0
Brown recluse	1,835	159	286	1,096	1,827	3	0	2	996	31	502	363	27	1
Other spider	5,381	791	1,068	2,773	5,373	0	2	1	936	104	1,917	340	4	0
Tarantula	82	10	30	27	80	0	0	2	18	1	34	3	0	0
Unknown insect or spider	14,868	2,403	2,612	6,484	14,841	7	3	12	3,457	192	6,013	1,044	13	0
Other/unknown animal bite	619	95	273	196	618	1	0	0	77	7	158	34	2	0
*Category totals	82,808	15,467	18,103	36,983	82,399	131	158	78	16,638	1,899	32,678	5,340	204	4
Building and construction products														
Caulking compounds and putties	3,204	2,458	204	380	3,182	12	2	6	243	890	327	41	0	0
Cement, concrete	1,407	369	97	699	1,390	5	2	8	587	173	379	297	14	0
Insulation														
Asbestos	262	43	49	111	259	2	0	1	74	32	27	9	0	0
Fiberglass	1,475	569	259	483	1,449	5	12	8	215	192	390	47	1	0
Urea/formaldehyde	133	42	10	68	130	1	1	1	30	16	30	11	0	0
Other	465	189	53	176	455	6	4	0	42	118	64	2	0	0
Unknown	88	47	8	26	86	0	0	2	10	22	19	3	0	0
Soldering flux	456	203	64	137	450	6	0	0	159	108	133	43	4	1
Other construction product	1,675	997	120	419	1,653	13	3	5	260	305	290	51	0	0
Unknown construction product	101	39	6	40	100	1	0	0	25	17	26	5	0	0
*Category totals	9,266	4,956	870	2,539	9,154	51	24	31	1,645	1,873	1,685	509	19	1
Chemicals														
Acetone	1,226	435	141	477	1,159	45	6	7	381	268	369	64	1	0
Acids														
Hydrochloric	2,772	180	442	1,624	2,711	39	8	8	1,093	217	1,172	370	15	4
Hydrofluoric	1,370	145	94	869	1,339	19	2	1	1,036	105	543	342	22	0
Other	4,805	636	783	2,495	4,688	66	23	17	2,047	515	1,963	623	30	2
Unknown	439	41	54	243	410	8	16	1	208	35	167	68	3	0
Alkali	4,627	1,233	728	1,974	4,475	80	41	25	2,139	615	1,599	718	38	0
Ammonia	5,380	1,557	679	2,457	5,145	169	33	17	1,740	628	2,034	587	24	0
Borates/boric acid	3,477	2,123	307	826	3,285	143	26	14	579	908	324	32	1	1
Chlorates	38	15	10	11	35	3	0	0	15	8	9	5	0	0
Cyanide	360	19	23	235	300	45	7	1	228	53	92	41	13	9
Dioxin	19	2	1	12	18	1	0	0	6	3	1	0	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
Formaldehyde/formalin	1,518	243	233	732	1,446	52	7	9	622	185	518	105	4	0
Glycol: ethylene	591	136	70	292	494	90	2	0	291	143	131	45	30	5
Glycol: other	1,200	509	131	368	1,154	33	5	6	379	275	340	56	2	0
Ketones	929	237	70	471	911	14	2	2	456	144	336	106	2	0
Methylene chloride	679	103	75	367	667	9	2	0	334	81	266	66	0	0
Nitrates and nitrites	867	244	280	260	783	45	24	11	269	200	225	42	3	1
Phenol/creosote	1,340	211	145	708	1,316	12	3	7	514	151	532	144	4	0
Strychnine	21	3	2	9	13	7	1	0	11	6	1	3	0	1
Toluene diisocyanate	432	49	27	275	425	7	0	0	183	42	151	49	1	0
Other chemicals	13,175	4,184	1,726	5,157	12,425	396	119	169	4,223	2,556	3,348	838	50	3
Unknown chemicals	2,340	1,092	328	602	2,253	37	27	17	409	367	344	66	2	0
*Category totals	47,605	13,397	6,349	20,464	45,452	1,320	354	312	17,163	7,505	14,465	4,370	249	26
Cleaning substances (household)														
Ammonia cleaners (all (purpose)	3,850	1,814	342	1,358	3,714	109	10	13	642	777	1,178	191	4	0
Automatic dishwasher detergents														
Granules	4,903	4,147	219	386	4,875	7	10	8	187	2,028	875	38	1	0
Liquids	2,067	1,645	107	247	2,047	8	3	8	121	810	334	31	0	0
Rinse agents	970	886	29	38	965	5	0	0	20	246	120	5	0	0
Other/unknown	732	576	47	80	719	6	4	1	79	285	142	16	2	0
Bleaches														
Borate	922	496	66	267	879	14	15	12	167	195	289	31	2	0
Hypochlorite	45,311	19,538	4,402	16,496	43,585	1,321	238	105	8,657	7,483	15,449	2,080	39	2
Nonhypochlorite	1,073	566	84	303	1,026	26	4	16	188	256	311	37	0	0
Other/unknown	377	161	51	125	349	18	5	3	101	56	134	14	0	0
Carpet/upholstery cleaners	4,142	3,138	262	546	4,060	35	4	41	374	1,110	790	59	2	0
Cleansers														
Anionic/nonionic	8,292	6,314	552	1,053	8,075	165	22	24	765	2,506	1,437	154	1	0
Other/unknown	2,081	1,162	209	432	2,024	39	7	9	271	379	370	52	1	0
Disinfectants														
Hypochlorite	4,918	2,036	608	1,641	4,816	60	14	23	1,152	944	1,852	367	3	0
Phenol	4,387	2,921	428	757	4,177	170	21	13	608	1,089	1,122	109	3	1
Pine oil	10,656	7,577	751	1,784	10,194	405	27	14	2,030	3,724	2,427	240	17	1
Other/unknown	1,834	902	209	496	1,734	71	17	8	496	435	578	100	2	0
Drain cleaners														
Acid	985	108	125	547	946	30	5	2	402	81	390	192	11	1
Alkali	3,117	612	315	1,560	2,890	191	21	3	1,141	445	1,108	460	28	4
Other/unknown	378	82	35	199	362	13	1	1	106	71	108	40	1	0
Fabric softeners/ antistatic agents														
Aerosol/spray	64	33	9	16	61	3	0	0	8	16	15	1	0	0
Dry/powder	6	3	0	3	6	0	0	0	2	2	2	1	0	0
Liquid	1,244	945	72	150	1,214	12	1	16	86	368	135	11	0	0
Solid/sheet	420	328	21	38	393	2	0	25	15	86	21	1	0	0
Other/unknown	28	19	1	4	27	1	0	0	3	12	4	0	0	0
Glass cleaners														
Ammonia	2,916	2,273	248	286	2,814	75	13	7	258	824	589	37	1	0
Anionic/nonionic	24	14	3	7	21	3	0	0	8	6	4	2	1	0
Isopropanol	3,630	2,866	289	329	3,532	69	21	5	304	1,141	744	45	3	1
Other/unknown	4,808	3,801	427	407	4,659	112	29	7	385	1,506	1,057	34	2	0
Hand dishwashing														
Anionic/nonionic	8,470	5,368	780	1,605	8,179	100	69	113	452	1,552	2,268	126	1	0
Other/unknown	1,771	990	165	499	1,676	34	17	39	156	269	361	31	2	0
Laundry additives														
Bluing/brightening agent	57	41	9	5	56	1	0	0	6	16	7	0	0	0
Detergent booster	42	23	2	14	42	0	0	0	6	14	12	2	0	0
Enzyme/microbiological additive	52	30	5	13	51	1	0	0	11	16	7	4	0	0
Water softener	94	33	3	32	87	0	3	3	21	20	19	4	0	0
Other/unknown	132	79	10	32	122	3	2	5	33	32	36	10	0	0
Laundry detergents														
Granules	9,108	7,573	499	714	8,881	80	16	128	998	2,541	2,451	212	6	0
Liquids	3,599	2,612	239	577	3,445	51	4	91	438	778	946	70	1	1
Soaps	219	141	18	42	209	6	0	3	22	62	40	6	0	0
Other/unknown	178	127	16	26	167	4	1	5	36	52	44	3	1	0
Laundry prewash/stain removers														
Dry solvent-based	58	51	3	4	57	0	0	1	6	20	9	0	0	0
Liquid solvent-based	347	269	15	41	340	4	0	3	41	103	83	4	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
Spray solvent-based	488	360	32	61	482	2	0	3	95	108	172	29	0	0
Other/unknown solvent-based	103	63	9	22	101	1	0	1	8	28	15	0	0	0
Dry surfactant-based	842	744	43	38	835	5	1	1	35	253	108	6	0	0
Liquid surfactant-based	2,106	1,763	99	169	2,079	14	3	9	197	555	486	50	0	0
Spray surfactant-based	363	291	28	32	357	5	1	0	44	60	127	7	1	0
Other/unknown surfactant-based	54	48	1	2	54	0	0	0	5	15	7	1	0	0
Other/unknown	51	38	1	10	49	1	0	1	12	20	11	4	0	0
Miscellaneous cleaner														
Acid	675	272	42	270	664	7	1	3	207	185	227	52	3	0
Alkali	7,680	3,974	746	2,182	7,422	159	57	27	2,225	1,894	2,469	586	35	4
Anionic/nonionic	8,439	5,763	638	1,540	8,199	148	30	53	1,077	2,110	2,013	199	9	0
Cationic	3,426	1,898	357	865	3,277	119	15	13	794	903	919	143	9	0
Ethanol	409	264	37	83	392	9	6	1	69	134	112	6	0	0
Glycols	831	417	95	224	802	22	7	0	180	173	238	32	2	0
Isopropanol	1,352	927	186	162	1,319	23	6	3	189	463	319	26	1	0
Methanol	49	30	5	12	47	2	0	0	14	13	13	1	0	0
Phenol	9	2	2	5	7	2	0	0	4	1	3	0	0	0
Other/unknown	2,869	1,631	324	669	2,710	87	25	38	639	749	715	128	7	1
Oven cleaner														
Acid	5	1	0	4	5	0	0	0	3	1	1	2	0	0
Alkali	3,405	858	418	1,525	3,312	50	23	15	1,487	334	1,285	571	22	0
Detergent type	25	6	7	10	23	2	0	0	5	1	6	1	0	0
Other/unknown	303	75	42	140	288	6	5	2	114	31	105	34	3	0
Rust remover														
Alkali	54	13	5	28	54	0	0	0	16	16	12	4	0	0
Anionic/nonionic	2	0	0	1	2	0	0	0	1	0	2	0	0	0
Hydrofluoric acid	1,479	121	91	974	1,457	18	0	4	880	139	660	447	22	0
Acid other	255	112	15	97	250	4	1	0	78	65	71	14	2	0
Other/unknown	311	50	21	173	290	3	3	15	78	43	120	42	1	0
Spot removers/dry cleaning agent														
Anionic/nonionic	277	201	18	43	274	2	0	1	32	76	70	5	0	0
Glycol	115	73	10	25	113	0	0	2	12	29	30	5	0	0
Carbon tetrachloride	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perchloroethylene	65	25	3	23	61	3	0	1	18	15	23	4	0	0
Other halogenated hydrocarbon	157	50	11	70	148	6	1	2	54	23	59	8	0	0
Isopropanol	63	50	2	7	63	0	0	0	8	17	10	1	0	0
Other nonhalogenated hydrocarbon	174	108	20	30	164	6	3	1	34	61	59	7	0	0
Other/unknown	90	47	7	26	84	5	0	1	23	21	28	5	0	0
Starch/fabric finishes/sizing	1,219	990	111	90	1,188	27	2	0	41	306	138	4	0	0
Toilet bowl cleaner														
Acid	3,480	1,290	386	1,360	3,326	139	4	7	1,030	696	1,330	342	8	1
Alkali	546	335	38	119	537	9	0	0	93	201	118	24	0	0
Other/unknown	2,495	1,859	150	308	2,442	37	7	8	220	708	313	40	1	1
Wall/floor/tile cleaner														
Acid	2,803	1,268	222	954	2,727	59	6	9	702	654	1,081	207	2	1
Alkali	7,009	3,877	603	1,884	6,837	124	17	27	1,587	1,709	2,325	455	14	0
Anionic/nonionic	1,006	671	85	168	974	21	2	8	110	230	190	25	1	0
Cationic	1,809	1,268	122	294	1,759	35	4	10	227	528	463	55	1	0
Ethanol	9	1	1	4	8	1	0	0	1	0	4	0	0	0
Glycols	1,219	843	102	214	1,186	22	6	4	212	359	397	38	1	0
Isopropanol	93	64	4	15	90	0	1	2	9	22	15	2	0	0
Methanol	2	2	0	0	2	0	0	0	1	1	0	0	0	0
Other/unknown	443	218	58	128	418	17	2	4	134	125	135	15	0	0
*Category totals	196,921	115,261	16,872	48,219	190,354	4,456	843	1,031	33,806	46,431	54,872	8,447	280	19
Industrial cleaners														
Acids	1,578	311	175	823	1,537	33	3	4	687	238	662	201	6	1
Alkali	2,539	476	373	1,177	2,439	71	21	5	1,497	317	1,026	475	29	0
Anionic/nonionic	548	199	66	205	529	12	5	0	187	92	195	28	4	0
Cationic	700	117	129	321	654	41	4	1	333	97	316	94	0	2
Other/unknown	1,703	481	186	761	1,628	44	23	5	700	268	697	161	4	0
*Category totals	7,068	1,584	929	3,287	6,787	201	56	15	3,404	1,012	2,896	959	43	3
Cosmetics/personal care products														
Bath oil, bubble bath	7,997	7,331	387	202	7,877	27	7	82	248	2,137	1,006	32	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
Creams, lotions, make-up	15,637	11,718	1,082	2,098	14,711	231	31	646	735	3,235	1,432	110	8	0
Dental care products														
False teeth cleaning	1,087	217	60	706	1,058	21	6	0	74	333	136	5	0	0
Toothpaste with fluoride	3,339	2,566	284	280	3,109	42	17	163	166	852	800	19	1	0
Toothpaste without fluoride	247	157	18	56	222	6	4	15	22	41	52	2	2	0
Other	1,275	706	103	290	1,236	12	1	26	121	309	433	14	1	0
Deodorants	10,750	8,837	784	782	10,244	145	27	327	448	2,308	1,259	67	1	0
Depilatories	571	155	94	235	432	37	5	96	132	91	190	53	0	0
Douches	244	170	14	38	217	6	4	14	35	67	36	4	0	0
Eye products	1,264	994	72	149	1,216	10	0	37	79	268	117	20	0	0
Hair care products														
Coloring agents	1,584	648	133	582	1,427	26	1	128	390	304	553	102	5	0
Rinses, conditioners, relaxers	3,555	2,730	263	436	3,417	55	14	68	914	1,010	851	223	3	0
Shampoos	8,966	6,908	756	961	8,630	206	17	102	649	2,164	1,696	117	5	0
Sprays	4,184	2,716	679	598	3,730	384	35	30	537	1,079	1,107	74	6	0
Other	3,288	2,114	306	631	3,064	80	15	124	597	779	657	163	7	0
Lipsticks/balms, with camphor	521	445	48	19	485	4	25	6	22	100	81	5	0	0
Lipsticks/balms, without camphor	2,284	2,121	98	51	2,256	8	0	20	45	322	87	3	0	0
Mouthwash														
Ethanol	6,948	2,937	1,365	2,076	6,148	699	46	37	918	1,824	1,261	154	17	2
Nonethanol	517	318	91	88	462	42	1	9	94	210	84	2	2	0
Fluoride	1,220	924	244	44	1,207	11	0	2	40	409	79	3	0	0
Unknown	183	27	120	26	158	12	9	2	21	22	96	4	0	0
Nail products														
Polish	8,434	7,553	483	305	8,332	81	11	8	567	2,409	1,535	68	2	0
Polish removers: acetone	3,282	2,627	264	323	3,199	62	12	6	394	1,297	631	23	1	0
Polish removers: other	1,934	1,562	165	161	1,901	26	7	0	206	709	356	11	0	0
Polish removers: unknown	6,633	5,122	645	647	6,433	162	17	11	851	2,235	1,141	58	3	0
Other miscellaneous	3,838	2,378	563	656	3,772	21	13	31	1,017	865	1,110	266	8	0
Perfume, cologne, afterhsave	29,847	26,974	1,469	1,158	29,311	392	72	54	1,773	10,598	4,427	139	5	0
Peroxide	13,449	7,399	1,363	3,521	13,085	273	16	60	872	2,824	2,385	126	2	1
Powders: talc	3,008	2,665	187	131	2,963	33	4	7	333	762	840	51	1	0
Powders: without talc	1,108	1,033	43	29	1,100	3	1	4	38	197	240	9	1	0
Soaps	11,740	8,653	975	1,663	11,094	152	110	372	754	2,766	2,022	118	5	0
Suntan/sunscreen products	3,873	2,986	398	339	3,724	40	7	100	270	665	1,239	30	1	0
*Category totals	162,807	123,691	13,556	19,281	156,220	3,309	535	2,587	13,362	43,191	27,939	2,075	87	3
Deodorizers														
Air fresheners	12,923	10,700	1,046	815	12,668	158	39	49	913	3,588	2,795	118	4	4
Diaper pail deodorizers	846	807	21	14	844	0	2	0	42	360	34	1	0	0
Toilet bowl deodorizers	947	872	39	28	938	7	2	0	90	415	80	4	0	0
Other	3,067	2,254	238	382	2,951	55	10	50	429	854	612	84	3	0
Unknown	119	93	8	15	119	0	0	0	16	42	24	3	0	0
*Category totals	17,902	14,726	1,352	1,254	17,520	220	53	99	1,490	5,259	3,545	210	7	4
Dyes														
Fabric	934	732	82	82	920	6	0	8	84	326	60	6	0	0
Food dye (e.g., Easter egg)	1,127	966	103	40	1,095	17	2	12	34	243	52	5	1	0
Leather	114	92	7	11	108	3	0	3	10	32	10	4	0	0
Other	579	351	149	47	561	13	1	4	71	170	63	7	1	0
Unknown	80	55	10	14	75	0	0	5	9	19	7	1	0	0
*Category totals	2,834	2,196	351	194	2,759	39	3	32	208	790	192	23	2	0
Essential oils	3,185	2,187	431	390	3,005	119	17	43	448	774	1,086	72	4	1
Fertilizers														
Household plant food	5,127	3,514	612	787	5,082	30	11	3	168	1,301	204	16	0	0
Outdoor fertilizers	2,140	1,352	262	319	2,088	11	14	26	150	497	213	25	1	0
Plant hormones	118	43	12	51	115	2	0	1	30	30	28	4	0	0
Other	338	233	31	60	331	4	0	1	33	87	37	6	0	0
Unknown	1,639	1,130	176	251	1,621	8	1	9	147	400	194	32	0	0
*Category totals	9,362	6,272	1,093	1,468	9,237	55	26	40	528	2,315	676	83	1	0
Fire extinguishers	2,795	258	700	1,231	2,604	57	89	5	793	389	1,061	189	2	1
Food products/food poisoning	67,421	17,823	10,533	30,225	62,044	551	1,340	3,365	6,789	6,864	12,556	2,569	54	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
Foreign bodies/toys/ miscellaneous														
Ashes	593	524	28	30	586	3	1	1	27	113	68	1	0	0
Bubble blowing solutions	3,714	3,477	162	55	3,694	12	4	3	96	646	947	18	1	0
Charcoal	834	620	50	119	811	9	5	9	55	195	76	16	3	2
Christmas ornaments	1,421	1,247	91	65	1,408	8	2	1	69	312	104	5	0	0
Coins	3,688	3,036	569	60	3,653	29	4	1	1,314	1,186	396	48	5	0
Desiccants	20,013	17,942	1,306	525	19,862	105	29	8	565	2,830	170	4	2	0
Feces/urine	3,066	2,492	188	265	2,978	12	69	4	127	554	126	18	0	0
Glass	2,163	772	263	810	1,878	21	248	8	302	323	230	35	1	0
Incense, punk	306	276	11	16	303	3	0	0	12	82	24	1	0	0
Soil	1,979	1,720	100	128	1,969	5	3	0	60	361	98	5	0	0
Thermometer	11,460	6,216	2,896	1,483	11,363	65	15	7	617	1,977	208	7	1	0
Toys	5,225	3,861	1,183	127	5,154	37	9	10	294	983	688	26	1	0
Other	16,177	10,127	3,675	1,710	15,513	238	331	68	1,788	3,094	2,051	191	11	0
Unknown	252	175	38	27	237	1	8	4	36	60	23	3	0	0
*Category totals	70,891	52,485	10,560	5,420	69,409	548	728	124	5,362	12,716	5,209	378	25	2
Fumes/gases/vapors														
Carbon dioxide	438	72	105	191	405	23	6	1	129	36	123	35	2	0
Carbon monoxide	14,926	1,887	2,488	7,910	14,556	313	6	16	6,461	1,184	5,597	1,378	167	39
Chloramine	2,852	104	195	2,116	2,773	74	0	3	743	92	1,442	382	3	0
Chlorine: acid mixed with hypochlorite	749	24	87	536	740	8	0	0	222	34	378	130	1	0
Chlorine: other	5,312	419	987	3,002	5,206	59	9	35	1,796	254	2,581	783	18	2
Hydrogen sulfide	1,411	105	184	695	1,401	7	3	0	507	139	539	138	11	9
Methane and natural gas	3,945	607	570	1,856	3,861	64	4	5	1,284	509	1,473	209	11	2
Polymer fume fever	8	4	1	2	8	0	0	0	1	1	1	0	0	0
Propane/simple asphyxiants	2,546	239	513	1,336	2,318	220	2	2	992	243	988	243	9	3
Other	2,386	217	295	1,377	2,335	30	6	11	919	278	779	243	11	1
Unknown	1,676	142	264	858	1,628	16	21	6	497	110	680	122	8	0
*Category totals	36,249	3,820	5,689	19,879	35,231	814	57	79	13,551	2,880	14,581	3,663	241	56
Fungicides														
Carbamate fungicide	277	70	24	142	265	10	0	2	71	57	59	13	0	0
Mercurial fungicide	6	2	1	2	5	0	0	1	3	1	3	0	0	0
Nonmercurial fungicide	377	85	30	168	364	3	1	8	107	57	100	23	0	0
Phthalimide fungicide	239	111	30	68	238	0	0	1	41	36	28	8	0	0
Other/unknown	448	129	60	162	438	5	0	3	108	83	125	18	1	0
*Category totals	1,347	397	145	542	1,310	18	1	15	330	234	315	62	1	0
Heavy metals														
Aluminum	741	358	91	222	721	9	7	3	111	119	93	17	1	0
Arsenic (excluding pesticides)	507	63	30	316	365	35	58	6	322	70	76	35	5	1
Barium	20	2	2	15	18	1	0	1	12	2	9	1	0	0
Cadmium	77	21	6	36	76	0	0	0	27	20	13	3	0	0
Copper	954	218	338	278	869	39	37	7	272	202	284	56	3	2
Fireplace flame colors	22	21	0	1	22	0	0	0	2	5	3	0	0	0
Gold	5	2	0	2	5	0	0	0	0	1	2	0	0	0
Lead	3,234	1,628	495	819	3,093	46	40	9	1,316	586	213	71	7	0
Manganese	30	9	8	7	27	1	2	0	12	4	9	2	0	0
Mercury	2,146	807	513	561	1,953	121	28	27	449	524	128	33	4	0
Metal fume fever	1,092	18	74	853	1,084	1	3	4	325	24	391	139	3	0
Selenium	88	35	10	34	77	7	0	3	23	21	11	3	0	0
Thallium	103	43	9	19	95	2	0	4	14	6	15	2	0	0
Other	973	292	143	369	897	31	5	34	317	173	217	47	5	0
Unknown	28	4	5	11	21	0	6	0	10	5	0	0	0	0
*Category totals	10,020	3,521	1,724	3,543	9,323	293	186	98	3,212	1,762	1,464	409	28	3
Herbicides														
Carbamate herbicide	67	2	6	31	64	2	0	1	24	2	17	5	0	0
2,4-D or 2,4,5-T	2,407	704	247	902	2,344	24	4	34	550	434	529	128	1	1
Diquat	176	40	31	75	170	1	1	3	62	41	37	15	0	0
Paraquat	175	8	16	85	164	10	0	0	79	26	29	13	0	4
Paraquat/diquat	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Triazine herbicide	438	80	45	201	421	7	0	8	150	60	119	17	3	0
Urea herbicide	57	12	10	27	56	1	0	0	28	15	13	4	0	0
Other	4,655	1,222	438	2,210	4,461	47	24	117	1,111	943	1,188	148	8	1
Unknown	287	93	41	122	280	3	0	0	74	45	68	10	0	0
*Category totals	8,262	2,161	834	3,653	7,960	95	29	163	2,078	1,566	2,000	340	12	6
Hydrocarbons														
Benzene	107	15	10	53	98	0	9	0	60	9	30	6	2	0
Carbon tetrachloride	39	5	4	16	39	0	0	0	14	8	8	1	1	0
Diesel fuel	1,441	349	174	693	1,404	28	1	3	396	222	519	53	1	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
Freon and other propellants	6,890	716	849	3,559	6,594	238	42	7	1,496	1,183	2,090	319	18	4
Gasoline	20,965	6,898	4,324	7,618	19,744	1,120	63	6	3,551	4,151	9,139	691	32	3
Halogenated hydrocarbon: other	1,219	230	149	594	1,152	54	4	8	572	150	489	115	9	3
Kerosene	3,420	2,159	332	714	3,325	66	23	1	1,116	970	1,141	211	10	2
Lighter fluid/naphtha	4,225	2,480	469	984	3,964	218	36	4	1,350	1,281	1,309	228	12	3
Lubricating oil/motor oil	4,313	2,985	365	716	4,219	51	34	3	662	1,654	745	71	3	0
Mineral seal oil	296	263	10	17	289	5	2	0	50	152	43	3	0	0
Mineral spirits/varsol	5,697	2,848	724	1,591	5,459	180	30	18	1,274	1,541	1,747	233	13	0
Toluene/xylene	1,825	315	229	965	1,668	141	9	5	869	224	683	218	10	0
Turpentine	1,282	509	236	415	1,118	148	9	6	343	273	401	60	3	0
Other	6,381	3,252	754	1,690	6,096	216	32	29	1,737	1,765	1,631	362	23	11
Unknown	6,534	4,239	541	1,275	6,362	106	46	15	1,787	2,027	1,744	366	24	0
*Category totals	64,634	27,263	9,170	20,900	61,531	2,571	340	105	15,277	15,610	21,719	2,937	161	26
Insecticides/pesticides (excluding rodenticides)														
Arsenic pesticides	430	340	36	38	417	13	0	0	124	226	27	3	0	0
Borates/boric acid	3,262	2,659	184	327	3,188	64	4	6	368	1,008	166	10	1	1
Carbamate only	6,139	2,676	579	1,921	5,906	149	28	45	1,184	1,284	1,105	225	13	0
Carbamate with other pesticide	1,318	385	133	496	1,264	27	9	17	232	341	323	42	1	0
Chlorinated hydrocarbon only	2,813	1,225	465	871	2,564	124	5	110	1,102	922	561	120	16	2
Chlorinated hydrocarbon with other pesticide	180	54	11	77	168	8	0	3	42	36	55	13	0	0
Metaldehyde	265	198	15	43	262	2	0	1	68	120	23	1	0	0
Nicotine	23	8	4	8	19	4	0	0	9	4	8	0	0	0
Organophosphate														
Only	15,555	5,413	1,184	6,068	15,035	294	31	152	3,901	3,234	3,292	673	67	2
With carbamate	1,022	362	109	397	964	43	6	6	225	210	214	40	2	0
With chlorinated hydrocarbon	284	60	30	133	270	6	5	3	78	60	57	15	0	0
With other pesticide	1,736	472	160	758	1,659	37	15	22	367	284	452	67	4	2
With carbamate & chlorinated hydrocarbon	53	14	11	18	52	1	0	0	8	16	5	2	0	0
Piperonyl butoxide only	110	43	14	40	100	6	1	2	25	26	37	8	1	0
Piperonyl butoxide/pyrethrin	5,353	1,729	652	1,923	5,016	142	29	156	1,145	886	1,389	288	12	0
Pyrethrins only	5,677	2,000	602	2,260	5,341	137	21	165	1,426	1,066	1,427	308	11	0
Repellants (insect)	6,216	4,210	1,030	647	5,941	47	41	184	638	1,475	1,678	119	3	1
Rotenone	140	50	14	58	136	2	0	2	26	33	44	4	0	0
Veterinary insecticide	4,244	2,448	400	1,044	4,079	91	7	63	615	1,242	976	90	3	0
Other	3,658	2,294	268	747	3,538	49	16	50	527	912	413	94	6	0
Unknown	3,404	974	384	1,506	3,200	91	51	42	964	500	757	143	8	0
*Category totals	61,882	27,614	6,285	19,380	59,119	1,337	269	1,029	13,074	13,885	13,009	2,265	148	8
Lacrimators														
Capsicum/peppers	1,466	395	591	347	1,247	38	148	8	243	43	885	43	0	0
Lacrimators: CN	9,391	2,781	3,441	2,051	8,142	216	905	13	1,277	324	5,613	318	4	0
Lacrimators: CR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lacrimators: CS	575	229	214	96	551	8	14	0	76	24	336	14	0	0
Lacrimators: DM	3	0	3	0	3	0	0	0	0	0	2	0	0	0
Other	129	22	38	53	122	3	4	0	27	9	80	11	0	0
Unknown	3,419	779	1,286	912	2,856	76	435	15	574	102	2,000	137	0	1
*Category totals	14,983	4,206	5,573	3,459	12,921	341	1,506	36	2,197	502	8,916	523	4	1
Matches/fireworks/explosives														
Explosives	271	141	68	41	246	13	8	4	74	71	40	16	2	0
Fireworks	516	363	77	27	505	9	0	2	97	197	79	14	0	0
Matches	1,532	1,378	81	49	1,512	13	5	1	45	402	37	4	1	0
Other	51	19	11	10	49	2	0	0	20	16	11	4	0	0
Unknown	6	5	1	0	6	0	0	0	2	4	1	1	0	0
*Category totals	2,376	1,906	238	127	2,138	37	13	7	238	690	168	39	3	0
Moth repellants														
Naphthalene	1,877	1,523	77	206	1,856	17	3	0	373	979	129	15	1	0
Paradichlorobenzene	207	152	9	37	201	1	4	1	17	77	22	1	0	0
Other	24	17	1	3	22	2	0	0	10	9	1	0	0	0
Unknown	2,811	2,173	189	325	2,752	40	14	4	571	1,199	209	27	3	0
*Category totals	4,919	3,865	276	571	4,831	60	21	5	971	2,264	361	43	4	0
Mushrooms														
Coprine	14	8	1	5	12	0	0	2	3	9	3	2	0	0
Cyclopeptide	50	12	8	27	42	7	1	0	41	8	10	14	5	1
Gastrointestinal irritants	226	103	31	79	189	35	0	2	99	62	56	28	1	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
Hallucinogenic	418	62	182	132	105	310	1	1	259	65	84	115	6	0
Ibotenic acid	22	4	6	10	14	8	0	0	14	2	2	10	2	0
Miscellaneous, nontoxic	182	95	24	50	171	0	0	9	37	62	27	5	1	0
Monomethylhydrazine	35	1	3	29	28	4	0	3	17	3	7	11	0	0
Muscarine	22	5	2	12	16	6	0	0	14	4	6	6	0	1
Orellanine	2	0	0	2	2	0	0	0	1	1	1	0	0	0
Other potentially toxic	45	28	6	8	39	6	0	0	20	23	3	2	0	0
Unknown	8,311	6,454	971	711	7,779	458	5	56	2,068	5,008	815	208	9	0
*Category totals	9,327	6,772	1,234	1,065	8,397	834	7	73	2,573	5,247	1,014	401	24	2
Paints and stripping agents														
Paint: antialgae	21	1	1	14	21	0	0	0	12	0	7	1	0	0
Paint: anticorrosion	83	25	10	37	81	2	0	0	22	13	28	5	0	0
Paint: oil-base	3,906	1,271	834	1,344	3,652	219	15	12	885	661	1,305	243	13	1
Paint: water-base	4,052	3,018	240	550	4,016	18	1	14	311	869	396	64	3	0
Stains	1,079	451	132	372	1,055	14	4	6	205	222	284	48	1	0
Stripping agents														
Methylene chloride	1,367	244	133	730	1,309	41	3	13	451	119	669	132	7	0
Other	721	126	44	370	701	12	0	7	263	56	310	102	2	0
Unknown	430	133	39	190	413	11	1	4	136	80	148	32	3	0
Varnishes, lacquers	962	352	97	368	935	17	3	6	204	178	257	57	2	0
Wood preservatives	430	89	46	207	417	4	0	8	103	56	137	25	0	0
Other paint/varnish lacquer	1,326	582	156	442	1,282	26	5	13	283	232	352	76	2	0
Unknown paint/varnish lacquer	10,495	6,307	1,061	2,307	10,143	264	20	60	1,587	1,871	1,464	268	18	1
*Category totals	24,872	12,599	2,793	6,931	24,025	628	52	143	4,462	4,357	5,357	1,053	51	2
Photographic products														
Developers/fixing/stop baths	470	64	145	187	461	6	0	3	159	59	180	28	1	0
Photographic coating fluids	4	1	1	1	3	0	1	0	3	1	1	1	0	0
Other	297	184	42	53	291	4	2	0	25	57	40	6	0	0
Unknown	11	4	1	4	11	0	0	0	5	1	5	1	0	0
*Category totals	782	253	189	245	766	10	3	3	192	118	226	36	1	0
Plants														
Amygdalin/cyanogenic glycosides	3,138	2,330	504	222	3,061	31	4	39	164	884	120	28	0	0
Anticholinergic	1,261	289	646	226	643	590	18	4	715	200	251	359	26	0
Cardiac glycosides	2,564	1,834	364	235	2,474	73	4	9	537	1,068	208	18	3	0
Colchicine	14	8	1	5	14	0	0	0	3	5	1	0	0	0
Depressants	56	30	4	18	42	10	0	4	17	18	11	4	0	0
Dermatitis	19,152	9,702	2,897	4,576	18,333	182	107	504	1,453	2,774	5,132	509	5	0
Gastrointestinal irritants	18,205	14,679	1,736	1,372	17,734	300	18	139	1,143	6,018	1,542	143	10	3
Hallucinogenic	297	155	84	39	200	87	0	7	93	99	21	21	1	0
Nicotine	285	98	73	93	270	8	1	6	110	78	102	17	4	0
Nontoxic plant	20,039	17,004	1,728	867	19,734	126	13	153	468	3,119	783	55	4	0
Oxalate	14,548	12,669	1,138	534	14,380	129	8	30	538	5,295	2,128	72	3	0
Solanine	1,950	1,604	152	136	1,909	20	0	16	272	976	147	11	0	0
Stimulants	496	298	68	96	423	44	1	26	144	185	72	26	3	2
Toxalbumins	228	143	36	32	213	13	1	0	103	104	42	14	1	0
Other	2,652	1,951	341	267	2,500	68	2	80	252	731	294	48	2	1
Unknown	18,731	13,533	2,421	1,953	18,223	229	56	206	1,457	5,747	1,752	201	7	0
*Category totals	103,616	76,327	12,193	10,671	100,153	1,910	233	1,223	7,469	27,301	12,606	1,526	69	6
Polishes and waxes	8,073	6,281	558	819	7,860	140	27	38	963	3,048	1,426	136	5	0
Radioisotopes	192	15	21	89	181	1	3	3	74	22	17	1	1	0
Rodenticides														
ANTU	14	7	2	2	7	7	0	0	10	3	2	0	0	0
Anticoagulant: standard	1,333	1,166	60	86	1,271	57	3	2	472	501	32	6	2	1
Anticoagulant: long-acting	12,868	11,546	465	624	12,400	372	78	7	5,112	5,746	301	54	16	1
Barium carbonate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyanide	3	0	1	2	3	0	0	0	0	0	0	0	0	0
Monofluoroacetate	8	3	0	5	6	2	0	0	4	2	3	0	0	0
Strychnine	186	34	27	86	87	61	22	2	107	40	23	21	5	0
Vacor	1	0	0	1	0	0	1	0	1	0	0	0	0	0
Other	773	544	60	132	706	51	9	3	326	268	65	15	3	1
Unknown	1,292	1,002	55	163	1,140	110	31	0	625	520	60	21	2	1
*Category totals	16,478	14,302	670	1,101	15,620	660	144	14	6,657	7,080	486	117	28	4
Sporting equipment														
Fishing bait	126	98	18	4	125	0	1	0	21	40	13	0	0	0
Fishing products, other	33	26	2	4	32	0	0	0	4	12	2	1	0	0
Golf balls	86	8	54	15	79	7	0	0	26	9	34	10	0	0
Golf products, other	1	1	0	0	1	0	0	0	0	1	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
Gun bluing	52	28	4	13	51	1	0	0	24	19	14	6	0	0
Hunting products, other	410	257	67	66	377	14	13	2	125	162	52	6	1	0
Other	106	64	34	5	100	3	3	0	14	26	3	1	0	0
Unknown	5	5	0	0	5	0	0	0	1	3	1	0	0	0
*Category totals	819	487	179	107	770	25	17	2	215	272	119	24	1	0
Swimming pool/aquarium	6,708	3,386	1,068	1,639	6,582	64	5	51	1,147	1,468	1,979	366	7	0
Tobacco products	8,758	7,620	502	510	8,421	195	34	94	1,709	3,264	2,149	154	5	0
Other/unknown nondrug substances	15,574	5,527	2,459	5,268	13,231	621	927	301	4,545	2,730	2,881	666	77	0
Total number of nonpharmaceutical substances	1,210,835	641,275	151,769	310,560	1,139,905	47,912	8,593	11,857	220,228	252,984	275,666	46,880	2,744	288
% of nonpharmaceutical substances		53.0%	12.5%	25.6%	94.1%	4.0%	0.7%	1.0%	18.2%	20.9%	22.8%	3.9%	0.2%	0.0%
% of all substances	58.9%	31.2%	7.4%	15.1%	55.4%	2.3%	0.4%	0.6%	10.7%	12.3%	13.4%	2.3%	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	25,685	6,461	9,627	8,200	11,258	14,114	27	213	15,723	8,350	4,027	1,275	307	28
Pediatric formulation	34,046	31,456	2,171	336	33,523	380	14	107	4,351	9,704	754	61	10	0
Unknown formulation	8,765	2,707	2,825	2,746	3,823	4,787	5	86	5,426	2,657	1,353	586	166	31
Acetaminophen in combination with:														
Aspirin (with other ingredients)	2,291	844	663	659	1,234	980	2	72	1,118	704	472	101	7	0
Aspirin (no other ingredients)	42	15	11	16	19	22	0	1	20	11	8	2	0	0
Codeine	6,956	1,303	1,366	3,681	2,718	3,718	2	475	4,090	1,643	1,877	505	80	6
Oxycodone	2,708	394	337	1,634	984	1,440	1	258	1,538	522	725	217	56	8
Propoxyphene	4,824	614	642	3,095	1,493	3,090	3	203	3,333	1,060	1,385	507	101	15
Other narcotics	6,541	812	990	4,024	2,197	3,698	1	599	3,700	1,286	1,823	479	70	8
Other drugs, adult formulations	10,466	2,032	2,510	5,128	3,760	6,370	7	275	6,619	2,720	2,780	806	103	3
Other drugs, pediatric formulations	295	35	61	163	110	162	0	20	173	54	94	25	3	1
Aspirin alone														
Adult formulations	4,713	1,518	1,592	1,342	2,120	2,441	5	121	2,588	1,488	861	406	28	10
Pediatric formulation	534	453	55	22	493	32	0	6	118	231	36	6	1	0
Unknown formulation	10,643	2,295	3,971	3,653	3,651	6,764	8	172	7,249	2,732	2,399	1,231	114	30
Aspirin in combination with:														
Codeine	729	128	83	449	248	428	0	45	454	157	203	70	12	0
Oxycodone	360	47	50	213	113	205	1	37	211	55	96	20	4	0
Propoxyphene	58	7	6	39	23	32	0	2	38	5	24	8	0	0
Other narcotics/ analog	83	9	11	58	22	54	0	6	52	11	31	6	0	0
Other drugs (adult formulations)	2,670	480	547	1,401	879	1,666	4	104	1,747	627	785	255	33	2
Other drugs (pediatric formulations)	6	3	2	1	5	1	0	0	4	2	3	0	1	0
Narcotics														
Codeine	1,388	634	235	408	924	356	1	95	486	382	261	59	3	3
Meperidine	593	80	71	367	220	302	0	61	377	98	169	63	17	3
Methadone	434	56	33	288	141	249	0	30	333	43	91	84	30	8
Morphine	647	96	68	402	309	290	2	38	406	108	142	70	19	10
Oxycodone	140	13	20	82	46	79	0	15	82	29	37	9	0	1
Pentazocine	315	29	19	230	99	145	0	67	176	34	110	40	6	0
Propoxyphene	746	78	70	523	199	496	0	39	535	143	204	96	19	8
Other/unknown	1,910	369	219	1,076	847	779	5	241	1,014	306	486	199	81	19
Nonaspirin salicylates	1,041	486	144	351	684	304	1	50	423	366	179	61	10	2

(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
Other nonsteroidal anti-inflammatory drugs														
Colchicine	125	39	25	47	82	36	0	7	74	46	26	10	5	4
Ibuprofen, OTC	16,958	9,554	3,997	2,859	11,359	5,318	6	245	5,791	6,132	1,795	330	23	1
Ibuprofen, R_x	9,120	5,029	1,420	2,234	6,248	2,698	3	150	3,060	3,058	1,030	217	20	1
Ibuprofen, unknown if OTC or R_x	9,625	3,279	2,877	2,886	4,678	4,707	4	204	4,715	3,158	1,577	348	33	1
Indomethacin	775	218	137	352	377	329	0	66	369	217	170	41	3	0
Other	14,036	4,821	2,559	5,579	7,502	5,598	7	877	6,149	4,691	2,397	535	57	1
Unknown	8	1	0	4	2	6	0	0	4	2	1	0	0	0
Phenacetin	3	0	1	2	2	1	0	0	1	0	1	0	0	0
Phenazopyridine	705	525	60	99	585	81	0	38	239	307	112	21	0	0
Salicylamide	94	74	11	7	80	8	0	5	31	47	4	3	1	0
Other analgesic	89	30	12	36	55	27	0	6	33	18	14	8	2	1
Unknown analgesic	166	31	55	66	46	111	0	8	114	42	31	8	1	0
*Category totals	181,333	77,055	39,553	54,758	103,158	72,304	109	5,044	82,964	53,246	28,573	8,768	1,426	205
Anesthetics														
Inhalation anesthetics														
Nitrous oxide	160	13	60	65	69	59	0	30	56	7	37	19	0	1
Other/unknown	181	22	23	99	149	24	5	1	65	20	68	11	1	1
Ketamine and analogs	36	1	4	25	11	24	0	0	28	1	7	14	1	0
Local and topical anesthetic	4,988	3,673	450	651	4,651	130	12	186	983	2,104	678	92	19	3
Other anesthetic	24	8	2	10	17	1	0	6	13	1	5	3	0	0
Unknown anesthetic	5	1	3	1	3	2	0	0	0	1	4	0	0	0
*Category totals	5,394	3,718	542	851	4,900	240	17	223	1,145	2,134	799	139	21	5
Anticholinergic drugs	4,000	1,080	519	2,108	1,857	1,867	7	233	2,535	1,031	960	595	92	3
Anticoagulants														
Heparin	56	12	2	34	48	2	1	5	26	11	14	4	2	0
Warfarin (excluding rodenticides)	979	481	49	399	750	189	3	32	472	368	64	66	20	1
Other	90	40	2	45	79	5	0	6	24	32	9	2	0	0
Unknown	21	16	0	4	18	3	0	0	11	7	0	0	0	0
*Category totals	1,146	549	53	482	895	199	4	43	533	418	87	72	22	1
Anticonvulsants														
Carbamazepine	6,179	1,970	1,272	2,578	3,502	2,380	3	232	4,175	1,594	1,665	938	251	15
Phenytoin	4,170	930	439	2,406	2,253	1,532	2	300	2,791	1,044	1,010	558	77	3
Succinimides	93	47	33	12	79	11	0	3	33	43	15	2	0	0
Valproic acid	2,717	598	541	1,323	1,413	1,167	1	115	1,614	831	596	250	69	4
Other	580	145	99	286	395	104	1	75	242	145	125	39	8	0
Unknown	17	1	2	12	6	9	0	2	9	3	5	1	0	0
*Category totals	13,756	3,691	2,386	6,617	7,648	5,203	7	727	8,864	3,660	3,416	1,788	405	22
Antidepressants														
Cyclic antidepressants														
Amitriptyline	7,328	950	865	4,866	1,968	5,153	6	154	5,947	1,127	1,833	1,590	773	50
Amoxapine	135	19	14	88	36	94	0	3	115	25	38	26	9	1
Desipramine	1,318	230	331	649	494	759	2	50	991	328	322	203	100	12
Doxepin	2,765	184	247	2,035	561	2,124	1	55	2,277	360	777	605	272	22
Imipramine	3,523	673	1,073	1,526	1,448	1,918	5	134	2,487	896	880	532	189	25
Maprotiline	76	12	8	52	24	49	0	1	63	17	21	8	8	2
Nortriptyline	2,379	216	447	1,492	650	1,613	2	97	1,786	465	627	388	152	10
Protriptyline	51	12	7	25	23	27	0	1	36	13	19	10	0	0
Other cyclic antidepressant	1,184	71	157	841	260	866	1	46	908	233	358	208	67	5
Unknown cyclic antidepressant	299	11	44	205	34	250	1	3	275	23	70	98	56	4
Cyclic antidepressant formulated with benzodiazepine	173	28	15	117	47	119	1	3	135	24	48	38	16	1
Cyclic antidepressant formulated with a phenothiazine	624	98	62	423	183	425	1	10	514	102	174	140	53	0
Lithium	5,341	402	1,055	3,327	1,622	3,213	6	375	4,138	1,303	1,370	823	171	13
MAO inhibitors	438	44	18	320	158	202	0	72	336	76	96	103	38	1
Trazodone	5,188	331	660	3,610	1,112	3,903	0	151	3,989	1,041	1,875	577	104	1
Other antidepressants	18,664	2,133	4,014	10,444	4,861	12,539	18	1,145	13,348	5,403	4,904	1,741	303	11
Unknown antidepressant	47	5	3	27	7	39	0	1	38	4	6	7	2	0
*Category totals	49,533	5,419	9,020	30,047	13,528	33,293	44	2,301	37,383	11,440	13,418	7,097	2,313	17
Antihistamines														
H_2 receptor antagonists	3,811	1,576	629	1,323	2,414	1,171	3	212	1,451	1,298	478	104	18	

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
Diphenhydramine, unknown if OTC or R_x	5,846	1,924	1,164	2,404	2,845	2,816	2	159	3,193	1,457	1,466	668	65	9
Diphenhydramine, R_x	216	81	37	84	119	81	1	14	110	59	50	26	3	0
Diphenhydramine, OTC	14,376	7,286	2,172	4,314	9,133	4,897	10	305	6,222	4,296	3,342	1,126	88	3
Other	14,232	5,673	3,256	4,463	8,988	4,683	8	505	6,418	4,753	2,760	965	109	10
*Category totals	38,481	16,540	7,258	12,588	23,499	13,648	24	1,195	17,394	11,863	8,096	2,889	283	23
Antimicrobials														
Antibiotics: systemic	40,581	23,221	6,574	8,601	30,228	6,041	17	4,207	8,692	10,080	4,667	877	54	3
Antibiotics: topical	5,808	4,518	412	638	5,655	44	5	100	237	1,247	273	23	3	0
Antibiotics: unknown	1,802	539	501	591	961	554	2	278	679	347	370	57	4	1
Antifungals: systemic	893	507	89	215	723	97	0	73	204	260	71	20	3	0
Antifungals: topical	7,017	5,516	362	839	6,794	48	7	160	342	1,660	540	24	0	0
Antifungals: unknown	20	14	2	3	20	0	0	0	2	1	3	0	0	0
Anthelmintics: diethylcarbamazine	764	521	28	177	755	8	0	0	30	254	20	4	0	0
Anthelmintics: piperazine	584	456	46	63	568	15	1	0	51	183	39	2	0	0
Anthelmintic: other	727	364	79	226	683	8	0	36	201	163	144	29	0	0
Anthelmintics: unknown	30	22	4	2	30	0	0	0	3	11	0	0	0	0
Antiparasitics: antimalarial	221	78	29	89	144	57	0	20	129	75	39	18	5	0
Antiparasitics: metronidazole	1,078	309	188	464	590	276	1	209	368	254	192	52	3	0
Antiparasitics: other	288	178	31	59	242	24	0	22	53	88	26	8	1	0
Antituberculars: isoniazid	458	83	163	177	178	255	0	23	360	112	86	58	59	2
Antituberculars: rifampin	54	21	13	18	34	9	0	9	24	17	6	2	2	0
Antituberculars: other	25	5	4	13	14	11	0	0	16	6	7	1	0	0
Antituberculars: unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antivirals: systemic	777	310	88	310	478	220	1	75	320	241	117	22	5	1
Antivirals: topical	58	33	2	17	51	2	0	5	14	13	8	1	1	0
Antivirals: unknown	67	26	8	27	47	16	0	4	25	22	6	0	0	0
Other antimicrobial	63	46	4	8	56	6	0	1	18	22	5	0	0	0
Unknown antimicrobial	7	4	2	0	5	2	0	0	2	5	0	0	0	0
*Category totals	61,322	36,771	8,629	12,537	48,256	7,693	34	5,222	11,770	15,061	6,619	1,198	140	7
Antineoplastic	791	323	50	314	656	70	0	62	303	272	96	34	3	0
Asthma therapies														
Aminophylline/ theophylline	4,033	926	1,001	1,896	2,380	1,387	3	209	2,539	990	897	717	91	35
Terbutaline and other beta-2 agonists	11,043	8,557	1,406	873	9,855	730	109	330	4,269	4,206	2,198	860	17	0
Other beta agonists	1,625	430	605	509	637	939	7	36	1,072	363	487	256	5	1
Other	889	577	168	120	683	183	3	12	257	314	130	43	5	0
Unknown	29	6	9	8	12	15	1	1	12	1	5	3	0	0
*Category totals	17,619	10,496	3,189	3,406	13,567	3,254	123	588	8,149	5,874	3,717	1,879	118	36
Cardiovascular drugs														
Alpha blockers	231	89	15	106	162	46	0	22	123	103	39	20	2	0
Antiarrhythmics	1,015	246	54	610	862	111	0	37	393	426	95	54	22	11
Antihypertensives	7,886	3,507	1,187	2,808	6,084	1,509	4	249	4,093	3,296	1,259	758	129	2
Beta blockers	5,768	1,776	673	2,930	3,895	1,681	4	156	3,337	2,421	699	554	114	12
Calcium antagonists	7,767	2,188	567	4,496	5,712	1,803	4	215	4,400	3,248	922	735	215	45
Cardiac glycosides	2,308	965	138	1,094	1,884	267	0	122	1,296	994	203	254	63	20
Hydralazine	201	80	21	93	161	39	0	1	89	80	42	12	2	0
Long-acting nitrates	728	336	35	319	644	73	0	10	237	349	66	21	4	0
Nitroglycerin	2,086	1,446	120	450	1,843	220	4	18	642	1,127	172	45	4	0
Nitroprusside	35	6	4	22	17	1	0	15	32	8	6	5	2	0
Other vasodilator	475	273	32	155	410	55	0	7	173	228	52	17	3	0
Unknown types of vasodilators	4	1	0	1	2	2	0	0	3	2	0	0	0	0
Vasopressor	39	19	3	12	31	5	0	3	14	2	10	2	0	0
Other cardiovascular drug	729	228	178	272	637	66	2	23	264	191	174	62	2	0
Unknown cardiovascular drug	53	27	4	19	42	11	0	0	21	24	6	0	0	0
*Category totals	29,325	11,187	3,031	13,387	22,386	5,889	18	878	15,117	12,499	3,745	2,539	562	90
Cough and cold preparations	100,347	68,376	15,469	13,704	85,997	11,525	41	2,614	23,557	32,190	20,645	2,842	136	10
Diagnostic agents	440	104	38	192	351	20	1	64	201	74	119	19	3	0
Diuretics														
Furosemide	1,273	677	116	407	1,061	185	0	20	466	436	234	61	5	0
Thiazide	1,277	636	110	470	1,023	213	0	37	477	517	164	48	2	1
Other	1,464	767	144	474	1,148	243	0	72	520	605	177	56	4	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
Unknown	264	139	32	81	211	48	0	5	106	105	38	11	0	0
*Category totals	4,278	2,219	402	1,432	3,443	689	0	134	1,569	1,663	613	176	11	1
Electrolytes and minerals														
Calcium	1,678	1,307	106	192	1,568	53	1	53	151	362	117	27	2	0
Fluoride	3,544	3,159	262	91	3,487	30	0	24	240	1,224	489	22	1	0
Iron	4,758	3,104	760	764	3,680	1,002	5	62	2,426	1,920	867	242	30	3
Magnesium	318	115	55	113	263	24	9	22	99	79	67	18	5	0
Potassium	951	533	86	275	795	124	0	28	277	364	86	37	3	0
Sodium	2,357	1,601	390	267	2,243	74	14	17	405	637	423	38	1	0
Zinc	1,060	608	101	268	996	32	1	26	192	239	174	43	1	0
Other	145	88	12	29	120	5	1	19	22	27	18	0	0	0
Unknown	31	30	1	0	31	0	0	0	1	7	2	0	0	0
*Category totals	14,842	10,545	1,773	1,999	13,183	1,344	31	251	3,813	4,859	2,243	427	43	3
Eye/ear/nose/throat preparations														
Nasal preparations														
Tetrahydrazoline	136	38	8	56	130	2	0	4	19	31	88	1	0	0
Other decongestant	2,484	1,417	238	604	2,328	72	3	78	526	1,021	419	34	1	0
Other	405	297	31	64	396	2	0	6	20	72	72	4	0	0
Unknown	20	9	4	6	15	2	0	2	5	3	7	0	0	0
Ophthalmic preparations														
Contact lens products	3,773	2,165	275	943	3,726	31	0	15	526	674	798	153	4	0
Glaucoma therapies	139	49	12	65	122	5	1	11	36	34	27	4	0	0
Tetrahydrazoline	1,575	1,165	142	198	1,460	40	52	18	743	879	140	47	2	0
Other ophthalmic sympathomimetics	239	156	16	42	217	3	1	18	96	114	32	11	0	0
Other	630	346	64	159	574	13	3	39	81	105	77	23	3	0
Unknown	19	5	3	10	13	1	1	4	4	2	5	2	0	0
Otic preparations														
Combination products	896	659	80	122	882	7	1	5	96	316	185	11	0	0
Other	1,638	961	167	389	1,616	10	0	12	149	344	429	26	0	0
Unknown	38	18	3	14	38	0	0	0	4	3	15	0	0	0
Steroids-topical for eye/nose/throat	922	515	139	202	828	28	1	64	74	153	156	15	0	0
Throat preparations														
Lozenges without local anesthetics	642	502	67	56	608	18	1	15	39	185	59	2	1	0
Lozenges with local anesthetics	595	352	88	98	574	11	0	10	30	111	250	3	0	0
Other	467	272	80	84	429	28	0	9	114	164	105	13	0	0
Unknown	7	2	2	1	7	0	0	0	0	2	2	0	0	0
*Category totals	14,625	8,928	1,419	3,113	13,963	273	64	310	2,562	4,213	2,866	349	11	0
Gastrointestinal preparations														
Antacids:salicylate-containing	2,682	2,177	180	210	2,566	49	1	65	203	778	465	17	1	2
Antacids: other	17,959	16,350	714	687	17,651	171	16	110	484	3,477	472	55	6	0
Antidiarrheals: diphenoxylate	1,533	839	178	436	1,164	264	1	97	745	594	295	73	10	1
Antidiarrheals: nonnarcotic	596	483	42	46	564	14	0	7	56	124	24	5	0	0
Antidiarrheals: paregoric	124	93	13	16	110	7	0	5	41	48	25	3	1	0
Antidiarrheals: other narcotic	54	8	4	26	54	0	0	0	3	4	49	0	0	0
Antispasmodics: anticholinergic	1,592	656	274	567	942	556	1	87	849	521	364	133	24	0
Antispasmodics: other	15	6	2	6	8	6	0	1	7	5	4	1	0	0
Laxatives	13,172	9,713	1,289	1,735	11,986	771	123	255	2,098	2,648	2,735	253	8	3
Other	3,943	2,898	279	572	3,497	297	2	140	730	998	459	125	8	0
Unknown	617	318	37	208	481	86	0	50	147	208	58	12	1	0
*Category totals	42,277	33,541	3,012	4,509	39,023	2,221	144	817	5,363	9,405	4,950	677	59	6
Hormones and hormone antagonists														
Androgens	165	39	31	71	88	71	0	5	50	23	17	6	0	1
Corticosteroids	5,682	3,407	618	1,286	4,882	362	5	422	712	1,183	380	71	7	0
Estrogens	2,450	1,825	164	361	2,218	156	3	65	289	656	91	20	1	0
Insulin	989	88	70	699	683	266	2	29	452	342	106	163	18	0
Oral contraceptives	8,450	7,232	698	381	7,869	483	8	78	667	1,831	286	15	1	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
Oral hypoglycemics	2,482	1,246	192	930	1,945	479	1	53	1,814	1,140	342	409	30	8
Progestins	1,156	655	181	253	970	101	2	78	186	268	57	12	0	0
Thyroid preparations	4,917	3,276	416	1,031	4,457	390	1	59	1,101	1,536	230	79	6	0
Other hormones	390	188	59	107	298	58	0	33	167	131	94	18	0	0
Other hormone antagonists	202	83	28	69	164	29	0	8	63	69	18	4	0	0
Unknown hormone or antagonists	12	4	1	3	9	1	0	2	3	2	0	0	0	0
*Category totals	26,895	18,043	2,458	5,191	23,583	2,396	22	832	5,504	7,181	1,621	797	63	9
Miscellaneous drugs														
Allopurinol	293	187	16	77	263	24	0	4	57	109	15	5	2	0
L-dopa and related drugs	435	187	13	208	367	48	0	17	156	158	56	31	2	0
Disulfiram	555	35	25	391	159	323	2	64	354	70	124	78	11	2
Ergot alkaloids	643	287	88	222	403	173	0	65	376	243	124	48	5	1
Homeopathic preparations	2,365	1,513	262	471	1,870	276	7	203	595	738	323	55	5	0
Methylsergide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Neuromuscular blocking agent	14	0	0	12	6	4	0	4	9	1	3	3	2	0
Other	7,960	3,839	806	2,713	6,373	1,027	38	490	1,984	2,068	1,734	341	46	4
*Category totals	12,265	6,048	1,210	4,094	9,441	1,875	47	847	3,531	3,387	2,379	561	73	7
Muscle relaxants														
Cyclobenzaprine	3,441	660	561	1,936	1,141	2,181	5	90	2,538	818	1,021	515	91	2
Methocarbamol	1,170	142	202	687	357	760	2	37	812	293	348	104	19	3
Other	4,881	552	576	3,269	1,334	3,322	3	176	3,461	805	1,684	571	140	7
Unknown	67	8	13	40	13	52	0	1	40	9	18	1	0	0
*Category totals	9,559	1,362	1,352	5,932	2,845	6,315	10	304	6,851	1,925	3,071	1,191	250	12
Narcotic antagonist	46	4	4	29	21	13	0	11	28	4	10	7	1	0
Radiopharmaceuticals	12	2	2	6	4	0	1	7	5	0	3	0	0	0
Sedative/hypnotics/ antipsychotics														
Barbiturates: long-acting	3,428	799	375	1,978	1,729	1,559	6	87	2,167	782	866	413	168	7
Barbiturates: short-acting	1,238	140	140	804	381	792	1	51	900	217	411	132	50	9
Barbiturates: unknown type	18	0	6	10	1	16	1	0	17	0	8	2	4	0
Benzodiazepines	34,940	4,414	2,813	23,783	8,672	25,307	30	655	26,195	6,044	12,083	3,954	818	47
Chloral hydrate	492	124	43	278	168	285	2	34	361	60	188	72	36	2
Ethchlorvynol	144	12	9	104	31	108	1	2	113	11	40	18	16	3
Glutethimide	18	0	2	13	2	15	0	0	16	2	3	2	2	0
Meprobamate	322	48	29	213	104	205	0	11	232	48	95	49	16	1
Methaqualone	77	4	11	47	13	60	2	1	58	3	25	11	5	1
Phenothiazines	11,506	1,503	1,683	7,288	3,743	7,022	14	622	8,838	2,577	3,247	2,085	326	24
Sleep aids (OTC)	2,965	178	546	1,926	509	2,422	1	25	2,358	559	922	384	43	0
Other	3,805	379	421	2,595	995	2,527	5	250	2,753	796	1,318	399	73	4
Unknown	579	31	79	377	95	424	1	53	453	95	154	84	13	1
*Category totals	59,532	7,632	6,157	39,416	16,443	40,742	64	1,791	44,461	11,194	19,360	7,605	1,570	99
Serum, toxoids, vaccines	1,297	337	158	551	908	15	2	360	448	118	313	82	6	0
Stimulants and street drugs														
Amphetamines	10,180	2,980	3,707	2,791	5,752	4,088	66	204	5,690	2,660	2,140	1,394	149	16
Amyl/butyl nitrites	74	11	13	38	31	42	1	0	41	15	0	8	0	0
Caffeine	7,020	1,237	3,803	1,603	2,429	4,306	15	218	3,430	1,028	2,356	864	11	3
Cocaine	3,888	122	461	2,838	350	3,444	25	16	3,458	454	839	946	254	56
Diet aids: phenyl-propanolamine	1,868	581	781	428	838	963	1	58	1,150	574	412	232	16	1
Diet aids: phenyl-propanolamine and caffeine	265	71	99	81	113	145	0	6	182	71	57	42	1	0
Diet aids: other, OTC	209	102	41	59	131	56	1	21	78	76	49	10	0	0
Diet aids: other, R_x	76	41	8	25	47	24	0	5	48	33	19	7	0	0
Diet aids: unknown	202	51	72	54	77	106	0	18	136	51	41	28	0	0
Heroin	926	28	51	715	81	833	1	5	819	70	157	248	112	11
LSD	1,087	16	704	270	104	915	57	1	784	64	221	328	21	0
Marijuana	1,435	119	705	449	283	1,098	20	24	957	112	347	267	29	1
Mescaline/peyote	181	46	57	57	112	64	2	2	74	12	51	24	4	0
Phencyclidine	343	27	119	170	70	254	10	3	280	24	76	118	25	3
Phenylpropanolamine look-alike drugs	167	18	92	50	29	137	0	0	133	22	60	33	2	0
Other stimulants	1,067	208	451	350	278	763	4	16	772	206	323	193	8	0
Other hallucinogens	3	0	1	2	0	3	0	0	3	0	1	0	0	0
Unknown hallucinogens	8	0	4	3	1	7	0	0	8	0	2	5	0	0
Other street drugs	30	5	9	13	6	20	1	3	24	3	9	4	1	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
Unknown stimulant/ street drugs	95	3	47	37	5	83	2	2	73	4	27	26	2	0
*Category totals	29,124	5,666	11,225	10,033	10,737	17,351	206	602	18,140	5,479	7,203	4,777	635	91
Topical preparations														
Acne preparations	2,002	785	666	364	1,827	38	4	133	165	302	548	59	1	0
Boric acid/borates	341	226	27	80	328	8	1	3	44	104	44	4	0	0
Calamine	5,177	4,195	285	583	5,105	42	2	23	347	1,239	322	30	0	0
Camphor	8,196	6,458	502	964	7,989	145	14	42	1,407	3,428	1,311	77	9	1
Camphor/methyl salicylate	1,249	973	79	157	1,196	15	0	37	215	468	261	13	2	0
Diaper products	18,455	17,234	611	491	18,387	37	6	19	267	3,441	668	22	0	0
Hexachlorophene antiseptic	154	83	24	39	144	4	0	6	31	39	39	3	0	0
Hydrogen peroxide	7,797	4,257	785	2,112	7,594	156	12	30	450	1,580	1,542	66	1	0
Iodine or iodide antiseptics	1,757	694	271	602	1,508	190	9	40	422	529	377	46	4	0
Mercury antiseptics	515	419	32	53	500	10	1	2	50	164	29	6	0	0
Methyl salicylate	9,387	6,741	816	1,416	9,225	65	13	84	933	2,881	2,002	77	3	1
Podophyllin	73	23	12	27	58	10	0	5	26	17	15	9	0	0
Silver nitrate	151	14	57	60	134	8	1	8	39	9	45	6	0	0
Topical steroids	6,473	4,839	326	995	6,375	42	1	51	181	1,035	422	32	1	0
Topical steroid with antibiotics	1,435	1,144	91	148	1,408	6	0	18	0	317	130	10	1	0
Wart preparations	2,334	1,700	221	306	2,268	37	2	25	298	683	545	54	0	0
Other liniment	1,815	1,042	145	469	1,707	22	3	80	171	431	497	26	2	1
Other topical antiseptic	3,991	2,697	443	653	3,841	91	7	47	418	1,395	549	45	2	0
*Category totals	71,302	53,524	5,393	9,519	69,594	926	76	653	5,556	18,062	9,346	585	26	3
Veterinary drugs	3,004	1,782	255	743	2,944	47	4	8	318	841	478	52	1	0
Vitamins														
Multiple vitamins tablets: adult formulations														
No iron, no fluoride	2,123	1,463	230	340	1,773	176	3	165	278	567	216	28	0	0
With iron, no fluoride	4,518	3,147	504	684	3,703	591	3	210	1,179	1,667	483	68	0	0
With iron, with fluoride	100	85	7	6	92	7	1	0	27	45	9	0	0	0
No iron, with fluoride	138	131	5	2	136	2	0	0	3	50	7	0	0	0
Multiple vitamin tablets: pediatric formulations														
No iron, no fluoride	8,373	7,489	810	51	8,239	94	2	35	310	2,603	322	7	0	0
With iron, no fluoride	13,963	12,636	1,218	80	13,725	174	2	56	2,187	5,949	1,164	96	2	0
With iron, with fluoride	664	640	21	2	661	2	0	1	60	167	28	3	0	0
No iron, with fluoride	1,766	1,696	55	12	1,757	9	0	0	59	451	76	2	0	0
Multiple vitamins liquids: adult formulations														
No iron, no fluoride	172	106	26	31	134	30	1	6	85	32	10	8	1	0
With iron, no fluoride	84	42	13	22	66	12	0	6	18	30	7	1	0	0
With iron, with fluoride	6	6	0	0	6	0	0	0	1	2	0	0	0	0
No iron, with fluoride	2	2	0	0	2	0	0	0	0	1	0	0	0	0
Multiple vitamins liquids: pediatric formulations														
No iron, no fluoride	264	253	8	1	259	0	1	4	12	65	19	0	0	0
With iron, no fluoride	373	366	7	0	368	2	0	3	31	129	35	3	0	0
With iron, with fluoride	99	96	2	1	95	0	1	3	7	26	6	0	0	0
No iron, with fluoride	561	542	15	4	555	1	0	5	20	153	26	1	0	0
Multiple vitamins, unspecified adult formulations														
No iron, no fluoride	39	26	7	6	34	2	0	3	2	9	4	0	0	0
With iron, no fluoride	1,795	1,388	234	132	1,602	162	1	27	470	768	177	26	1	0
With iron, with fluoride	6	5	0	1	5	1	0	0	3	2	2	0	0	0
No iron, with fluoride	7	4	1	2	7	0	0	0	0	1	1	0	0	0
Multiple vitamins, unspecified pediatric formulations														
No iron, no fluoride	52	44	7	1	51	1	0	0	4	26	0	0	0	0
With iron, no fluoride	85	78	5	1	83	1	0	1	10	28	9	0	0	0
With iron, with fluoride	11	9	2	0	10	1	0	0	4	5	1	0	0	0
No iron, with fluoride	19	18	1	0	19	0	0	0	4	7	1	0	0	0
Other vitamins														
Vitamin A	1,026	778	74	131	932	53	4	34	113	264	58	12	1	0
Niacin (B_3)	2,005	435	192	1,075	1,002	113	1	887	203	93	900	55	0	0
Pyridoxine (B_6)	299	191	35	64	235	40	0	23	61	78	19	11	4	0

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ILE 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
Other B complex vitamins	1,191	782	96	244	976	110	2	102	172	271	142	18	1	0
Vitamin C	1,993	1,592	208	154	1,853	102	0	36	153	531	124	7	0	0
Vitamin D	159	114	13	24	142	9	0	8	29	52	8	2	0	0
Vitamin E	1,127	928	61	111	1,055	41	1	29	74	308	30	4	0	0
Other	527	385	40	77	464	31	1	31	97	178	48	9	0	0
Unknown	691	466	93	90	570	75	3	40	151	223	61	13	2	0
Category totals	44,238	35,943	3,990	3,349	40,611	1,842	27	1,715	5,827	14,781	3,993	374	12	0
Known drugs	8,564	2,921	1,827	2,866	4,554	3,199	200	389	5,004	2,188	1,449	658	132	2
Total number of pharmaceutical substances	845,347	423,806	130,374	243,773	577,995	234,453	1,327	28,225	318,895	235,062	150,188	48,177	8,417	810
% of pharmaceutical substances		50.1%	15.4%	28.8%	68.4%	27.7%	0.2%	3.3%	37.7%	27.8%	17.8%	5.7%	1.0%	0.1%
% of all substances	41.1%	20.6%	6.3%	11.9%	28.1%	11.4%	0.1%	1.4%	15.5%	11.4%	7.3%	2.3%	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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APPENDIX

Drug and chemical levels provided in these abstracts were obtained on blood, serum, or plasma unless otherwise indicated.

Case 57. A 37-year-old man presented to the emergency department (ED) 2 days after accidentally ingesting 2 to 3 mouthfuls of brake fluid containing glycol ethers. He was acidotic and complained of abdominal pain. Initial laboratory test results were as follows: blood urea nitrogen, 39 mg/dL; creatinine, 6.8 mg/dL; aspartate transaminase (AST), 264 IU/L; alanine transaminase (ALT), 297 IU/L; lactic dehydrogenase (LDH), 3,761 IU/L; anion gap, 38 mEq/L; and ethylene glycol, <1 mg/dL. Intravenous ethanol therapy was started but discontinued when the ethylene glycol level was reported. The patient's vital signs were normal, and he was oriented. His condition continued to deteriorate, and 2 days after admission, he was dialyzed. Predialysis renal studies showed blood urea nitrogen (BUN), 64 mg/dL, and creatinine, 10.2 mg/dL. Four days after admission, the patient was lethargic and ataxic. His condition deteriorated, and he remained oliguric. Seven days after admission, he complained of loss of vision and hearing. His pupils were nonreactive. He had respiratory depression and was intubated. He died 11 days after admission.

Case 60. A 79-year-old beekeeper fell into his beehive and sustained over 2,000 bee stings. He was brought to a local hospital where he received diphenhydramine, steroids, and epinephrine for presumed anaphylaxis. He was transported to another hospital where he was awake and alert, with a blood pressure of 240/160 mm Hg, a pulse rate of 178 beats/min, and a respiratory rate of 36 breaths/min. His temperature was normal. He had multiple necrotic dermal lesions, coagulopathy (prothrombin time [PT], 17 seconds; partial thromboplastin time [PTT], 76 seconds), and bleeding. The patient was given fluids and steroids, but developed rhabdomyolysis and anuric renal failure. Coagulopathy continued, and he required blood products. His last recorded potassium level was 5.6 mEq/L. Several hours after that, the patient had a cardiac arrest and died.

Case 62. A 40-year-old man was bitten while working in bushes. About 20 minutes later, he collapsed. In the ED about 4.5 hours later, he was comatose and in atrial fibrillation with widely fluctuating blood pressure. He was intubated for poor respiratory effort. Muscle fasciculations and metabolic acidosis were also present. On a careful search for puncture wounds, 2 small puncture wounds 1 cm apart on the forearm and 2 similar wounds on the lower leg were noted that had initially been overlooked. The presumptive diagnosis of Mohave Green Rattlesnake (*Crotalus scutulatus scutulatus*) envenomation was made, and antivenom was administered. Despite dopamine and cardioversion to sinus tachycardia, he remained hypotensive. He subsequently developed disseminated intravascular coagulopathy and died on the eighth hospital day.

Case 63. A 34-year-old, 89-kg man handled snakes as a hobby. He was driving when he stopped to pick up a rattlesnake in the road, and the snake bit him on the hand while he was holding it. He collapsed

10 minutes after the bite, and family members began cardiopulmonary resuscitation (CPR). A paramedic unit arrived 30 minutes later. CPR was continued in the ambulance for 30 minutes. In the ED, the patient was comatose, in asystole and had no spontaneous respirations. Treatment included intubation, intravenous fluids, dopamine, antivenin, and hydrocortisone. CPR was unsuccessful. He died within three hours of the bite. Postmortem evaluation showed three linear incisions (10 mm, 13 mm, and 23 mm in length) consistent with fang marks on the dorsal left hand, adjacent to the base of the thumb. The longest of the incisions penetrated the subcutis, whereas the other two incisions were more superficial. The myocardium showed focal subendocardial hemorrhage. Multiple lung sections showed patchy pulmonary edema and intra-alveolar hemorrhage. Several smaller airways contained material consistent with food particles. Pancreatic sections demonstrated intraparenchymal and peripancreatic hemorrhage. Renal pelvices showed petechial hemorrhages. The laryngeal mucosa and epiglottis were markedly edematous but the airway was patent. He had 75% atherosclerotic narrowing of the right coronary artery. Postmortem toxicological analysis showed femoral blood ethanol, 118 mg/dL.

Case 69. A 44-year-old man collapsed after drinking approximately 30 mL of a cyanide-containing jewelry cleaner in a suicide attempt. CPR was initiated. When the paramedics arrived, he was in ventricular fibrillation. A precordial thump converted him to a sinus rhythm. Oxygen and atropine for bradycardia were administered. On arrival at the ED about 30 minutes after exposure, he was unresponsive and in respiratory arrest. Physical examination demonstrated hypotension, sluggish 6-mm pupils, the absence of a gag reflex, bilateral ankle clonus, and a doll's eye response. He appeared dusky although acyanotic. Amyl nitrite, sodium nitrite, and sodium thiosulfate were administered. Continuous infusions of sodium bicarbonate, dobutamine, and dopamine were initiated after an initial fluid bolus. Activated charcoal was also administered via nasogastric tube. On 100% oxygen, arterial blood gases were pH, 7.12; Po_2, 62 mm Hg; Pco_2, 57 mm Hg; bicarbonate, 18 mEq/L; oxygen saturation, 72%; hemoglobin, 11.4 g/dL; carboxyhemoglobin, 13%; methemoglobin, 2.3%; and base deficit, 12 mEq/L. Other laboratory study results included sodium, 146 mEq/L; potassium, 4.4 mEq/L; chloride, 109 mEq/L; bicarbonate, 17 mEq/L; glucose, 233 mg/dL; anion gap, 24 mEq/L; BUN, 10 mg/dL; creatinine, 1.5 mg/dL; and blood cyanide, 8.8 μg/mL (approximately 1 hour after the ingestion). He was admitted to the intensive care unit (ICU), where a continuous infusion of sodium nitrite was begun at 1 mg/min. Hypothermia was corrected using a warming blanket. Hyperbaric oxygen was administered at 2-hour intervals. Despite these measures, he remained unresponsive. His serial blood cyanide and thiocyanate levels were 1.0 and 33 μg/mL, respectively, at 12 hours after exposure, 0.3 and 15 μg/mL at 50 hours, and 0.2 and 16 μg/mL at 62 hours. Methemoglobin peaked at 22%, 54 hours after exposure. On the fourth hospital day, he was declared clinically brain dead and expired. His organs were harvested for transplantation.

Case 78. A 37-year-old man presented to the ED shortly after ingesting a "gulp" of 31% hydrochloric acid in a suicide attempt. On presentation he was confused, hallucinating, and complaining of epigastric pain. Vital signs were as follows: blood pressure, 136/92 mm Hg; pulse, 72 beats/min; respirations, 28 breaths/min; and rectal temperature, 35°C. His medical history showed that he was taking warfarin sodium for unknown reasons. His mouth and throat appeared black, and his initial arterial blood gas showed a pH of 7.31, a Pco_2 of 26 mm Hg, and a Po_2 of 136 mm Hg. A calculated serum bicarbonate was 13 mEq/L, and his serum salicylate level was 32 mg/dL. No further therapy was administered, and the patient became hypotensive and suffered a cardiac arrest about 7 hours after ingestion. Postmortem examination found perforation of the esophagus with necrosis of the distal esophagus, stomach, proximal small bowel, and liver.

Case 79. A 46-year-old man with a history of 3 prior suicide attempts (in the previous 3 weeks) ingested hydrochloric acid. He presented with severe abdominal pain, sweating, cyanosis, and a heart rate of 131 beats/min. There was no evidence of oral burns. Four hours later, his blood pressure was 150/90 mm Hg; pulse, 170 beats/min; and respirations, 27 breaths/min. Laboratory results included hematocrit, 38%; white blood cells, 16,000/μL; blood glucose, 229 mg/dL; and an arterial pH that decreased from 7.40 to 7.12. Urinalysis showed 2+ protein, moderate blood, and traces of ketones. Twelve hours after admission, severe gastrointestinal bleeding developed, leading to death.

Case 97. An 18-year-old, 88-kg man was observed by rescue personnel to drink approximately 720 mL of 93% sulfuric acid drain cleaner. Before arriving at the hospital, the patient vomited several times, had dysphagia, and was in extreme pain. Oral dilution was performed in the ED. Initial physical examination found burns of the chin, lower lip, oral cavity, tongue, and hard palate. The patient was intubated, paralyzed, and sedated. Admission laboratory values showed metabolic acidosis and hematuria. Laboratory values six hours after ingestion showed an anion gap metabolic acidosis, with a pH of 7.2, and gross hematuria. Endoscopy performed eight hours after ingestion showed an avascular esophagus with eschar at the lower esophageal sphincter and stomach. Ten minutes after endoscopy, the patient's extremities became cool, his abdomen was rigid, and he became hypotensive. An abdominal X-ray showed free air under the right diaphragm. Laparotomy was considered but not performed. The patient's condition deteriorated, and he died 11 hours after the ingestion. Postmortem examination showed chemical burns of the face and mouth; hemorrhagic necrosis of the distal esophagus, stomach, small bowel, and liver; acute peritonitis; and multiple intestinal perforations.

Case 100. A 13-month-old boy fell into a bucket of disinfectant cleaner containing pine oil and isopropanol. He presented coughing and crying, and rapidly developed decreased mental status and respiratory distress requiring intubation, 100% oxygen and positive end-expiratory pressure. A copious amount of the cleaner was suctioned from his airway. Two doses of surfactant were administered without success. One month later, the patient was transferred and placed on extracorporeal membrane oxygenation (ECMO) therapy. A lung biopsy was performed showing total fibrosis; a pulmonary hemogram showed 75% occlusion of the left lung. The patient never regained consciousness. Two weeks after being placed on ECMO therapy, it was discontinued and the patient expired.

Case 103. This 49-year-old man with history of alcoholism, depression, and metastatic colon cancer ingested approximately 240 mL of 35% hydrogen peroxide in an apparent suicide attempt. Shortly after the ingestion, the patient vomited blood and went to a local ED. On arrival approximately 1 hour after ingestion, the patient was noted to be agitated and hyperventilating, with vital signs as follows: temperature, 38.1°C; respirations, 28 breaths/min; pulse, 120 beats/min; blood pressure, 158/80 mm Hg; and oxygen saturation (room air), 96% to 97%. Hyperventilation, hoarseness, an active gag reflex, and oral mucosal edema were evident, although the patient was able to swallow sips of water without difficulty. He was given hydroxyzine and admitted for observation approximately 2 hours after ingestion. Esophagoscopy was deferred. Shortly after admission, the patient was given an H_2 blocker and corticosteroids. No hematemesis was noted. By 30 hours postingestion, swallowing had become increasingly difficult, and oral diphenhydramine and viscous lidocaine were administered. At 50 hours after ingestion chest X-ray showed diffuse pulmonary infiltrates, and shortly thereafter respiratory distress developed. Arterial blood gas showed a pH of 7.29 mm Hg, a Po_2 of 55 mm Hg, and a Pco_2 of 15 mm Hg. Sodium bicarbonate was administered for metabolic acidosis. The patient's metabolic and respiratory status continued to deteriorate until he suffered a cardiopulmonary arrest and died 78 hours postingestion.

Case 104. A 13-year-old girl collapsed after inhaling an aerosol air freshener. Paramedics found her in ventricular fibrillation. Despite endotracheal intubation in the field and three attempts at defibrillation, she could not be resuscitated.

Case 143. A 3-year-old boy was found in full cardiopulmonary arrest in a house fire. He was resuscitated for approximately 30 minutes before he regained a spontaneous cardiac rhythm. The patient remained unresponsive. The initial carboxyhemoglobin level was 75% but decreased to 19% after administration of 100% oxygen. He received 30 mL thiosulfate in the ED for possible **cyanide** toxicity. A cyanide level was later reported as 3.1 μg/mL. The **carbon monoxide** exposure was treated with hyperbaric oxygen for 90 minutes within 1 hour of arrival to ED. The patient was maintained on ventilatory support in the pediatric ICU for 2 days where he was determined to be brain dead. Support was withdrawn and the patient expired.

Case 148. A 25-year-old man was found unresponsive in the tank of a tanker truck that he had been cleaning. He had not used protective breathing apparatus despite advice to do so by the company's safety officer. On the scene, paramedics were unable to intubate him because of jaw spasms and clenched teeth. A "rotten egg" odor was described in the tank; **hydrogen sulfide** was the suspected toxin. Diazepam was administered, followed by repeated efforts at intubation. Aspiration of gastric contents was suspected. He was unresponsive on arrival at the initial ED, and was transported by air to a tertiary care center. He remained unresponsive. His pupils were reactive; his color was mottled and cyanotic, and his skin was cool. He was normotensive, with normal sinus rhythm. He had occasional spontaneous respiratory effort, and his lung sounds were clear. Chest X-ray showed diffuse bilateral infiltrates and pulmonary edema. He was flaccid, with decreased reflexes; gaze was upward and dysconjugate. Pulse oximetry showed a 20% to 30% oxygen saturation value. Sodium nitrite 3%, 10 mL, was administered intravenously, with temporary increase in his oxygen saturation (by pulse oximetry) to 100%; it then declined to 30% to 40% and a second dose produced no change. His systolic blood pressure gradually decreased, and was accompanied by bradycardia leading to asystole. Resuscitative efforts including dopamine, atropine, and epinephrine were unsuccessful. Laboratory studies reported posthumously included an arterial blood gas with Po_2, 25 mm Hg; Pco_2, 73 mm Hg; pH, 7.01; and oxygen saturation, 29%. Methemoglobinemia of 11.3% had presumably been induced by the administered sodium nitrite.

Case 154. A 25-year-old man farmer working in a manure pit with presumed **methane** and **hydrogen sulfide** gases was apparently overcome by fumes and collapsed. Paramedics retrieved him from the pit approximately 45 minutes later, unconscious and in asystolic arrest. Resuscitation was achieved with intubation, five doses of epinephrine, cardioversion, and intravenous fluids. In the ED he had fixed, midline pupils with 5-mm diameter; warm, dry skin; blood pressure, 177/112 mm Hg; pulse, 98 beats/min; respirations, 21 breaths/min; and rectal temperature, 32.8°C. Initial arterial blood gases showed a pH of 6.99, a Pco_2 of 80 mm Hg, and a Po_2 of 12 mm Hg. Carboxyhemoglobin and methemoglobin levels were unremarkable, and a serum potassium level was 2.1 mEq/L. Computed tomography (CT) showed significant cerebral edema and electroencephalogram (EEG) showed changes compatible with severe anoxic encephalopathy, approaching brain death. Over the next 24 hours, his body temperature was erratic, and vasopressors were required to support an unstable blood pressure. He died approximately 26 hours after being found in the pit.

Case 155. A 32-year-old man was discovered unresponsive about 15 minutes after he entered an enclosed area containing a high concentration of **nitrogen gas** without using his self-contained breathing apparatus. He received cardiopulmonary resuscitation, and mechanical ventilation through an endotracheal tube. He remained unresponsive until his demise some 15 hours later.

Case 163. A 53-year-old man arrived in the ED unresponsive after ingesting one quart of a **lawn weed killer** containing **2,4-dichlorophenoxyacetic** acid. He developed hypotension, tachycardia and visible bleeding from his gastrointestinal and urinary tracts. Initial therapy included lavage, activated charcoal, norepinephrine, dopamine, and fresh frozen plasma. Initial laboratory results included a PT of 19.9 seconds and a PTT of 38.8 seconds. His hemoglobin and hematocrit remained within normal limits. Aspiration pneumonia was diagnosed within 4 hours of arrival. His condition remained unstable and, despite pressor therapy, he became severely hypotensive and had a cardiac arrest. Resuscitation was unsuccessful.

Case 164. A 68-year-old man intentionally ingested 1 liter of **glyphosate** (41%) herbicide at an unknown time. Soon after arrival at the ED, he suffered a cardiac arrest. Although resuscitation efforts restored his cardiac rhythm, he had periodic decorticate activity, hypotension despite dopamine infusion, and respiratory compromise. He died ten hours after presentation to the ED.

Case 168. A 45-year-old man presented to the ED approximately 4 hours after a subcutaneous or dermal injection of an estimated 3 mL of 20% **paraquat** and ingestion of 2 capfuls of an unknown strength **boric acid** solution. In the ED the patient was found to have only slight erythema/edema at the antecubital fossa injection site. There were no complaints of nausea or vomiting, and no physical or biochemical abnormalities noted on admission. After a 24-hour hospitalization the patient was sent to a psychiatric facility. Three days after the exposure, the patient was noted to be developing cellulitis at the injection site. Four days postexposure, the patient suddenly deteriorated and was admitted to the ICU. He was placed on a ventilator for respiratory insufficiency. Chest radiographic examination showed a complete "white out" of the lung fields. Significant abnormal laboratory values included BUN, 27 mg/dL; creatinine, 7.2 mg/dL; and oxygen saturation, 88%. Five days after the exposure, the patient remained alert and oriented. He was sedated and had decreased urine output. Significant abnormal laboratory values included BUN, 31 mg/dL, creatinine, 7.8 mg/dL; arterial blood gas pH, 7.29; Pco_2, 30 mm Hg; Po_2, 68.4 mm Hg; O_2 saturation, 90.2%; and bicarbonate, 17.7 mEq/L. Further therapy was withheld, the patient was extubated, and he died 6 days after the exposure.

Case 169. A 22-year-old man was exposed to **bromochlorodifluoromethane gas** after a small explosion occurred in the immediate area in which he was working. He collapsed soon thereafter in cardiac arrest. Resuscitative efforts on the scene and in the ED were unsuccessful. Autopsy showed evidence of pulmonary aspiration of gastric contents; the heart was normal anatomically and histologically. Lidocaine, which had been administered during resuscitation, and **bromochlorodifluoromethane** were the only toxins detected.

Case 170. A 15-year-old boy collapsed while inhaling **butane** at the home of relatives. EMS personnel found him in ventricular fibrillation, but he died despite resuscitative efforts. Postmortem evaluation included a blood ethanol level of 30 mg/dL and confirmed the presence of butane.

Case 178. A 19-year-old man with a previous history of **butane** abuse experienced a respiratory arrest while inhaling **butane** recreationally. The patient's girlfriend drove him immediately to the local ED. On arrival he was in cardiac arrest with ventricular fibrillation and no spontaneous respirations. He was defibrillated, intubated, and given oxygen, epinephrine and lidocaine. A second defibrillation was performed and the patient's rhythm converted to a wide idioventricular complex, with a rate of 80 beats/min but without evidence of perfusion. A bradydysrhythmia ensued requiring atropine. Normal saline, dopamine, sodium bicarbonate, and CPR were initiated. Tracheal hemorrhage occurred. Initial arterial blood gas results were pH, 6.89; Pco_2, 49.4 mm Hg; Po_2, 72.6 mm Hg; base excess, 20.7 mEq/L; O_2 saturation, 78% measured. An external pacemaker was inserted, and attempted resuscitation lasting two hours was unsuccessful.

Case 189. A 14-year-old boy ran inside a neighbor's house where he immediately gasped and collapsed to the floor. An ambulance was summoned. Police arrived on the scene quickly and initiated CPR. Paramedics placed him on a cardiac monitor, which showed ventricular fibrillation. Despite defibrillation, epinephrine, intravenous fluids, and glucose, a perfusing rhythm could not be obtained. Approximately one hour after collapse, resuscitative efforts were

discontinued and he was pronounced dead. In searching the area, investigators found a piece of cloth and an aerosol water and stain protector for leather containing 1,1,1-trichloroethane. Autopsy diagnoses were acute fatal cardiac arrhythmia, consistent with trichloroethane inhalation toxicity, and acute hemorrhagic pulmonary edema.

Case 195. A 10-year-old girl with autism ingested an unknown amount of mineral spirits, possibly 120 mL. She developed an aspiration pneumonitis with asymmetric bilateral pulmonary infiltrates shown on chest X-ray. She was admitted for observation and remained asymptomatic on oxygen, and was discharged after 24 hours. Forty-eight hours after ingestion, she became cyanotic and was brought back to the hospital. She was hypoxic, febrile, and had pancytopenia (white blood count, 500/μL; platelets, 3,000/μL; hematocrit, 27.8%). She also had metabolic acidosis and renal failure with BUN, 105 mg/dL, and creatinine, 4.8 mg/dL. Chest X-ray showed bilateral basilar infiltrates. Blood cultures were negative. Approximately 50 hours after ingestion, she developed profound myocardial depression and died despite aggressive resuscitation. Postmortem examination showed aspiration, chemical pneumonitis, and multisystem organ failure.

Case 199. A 39-year-old woman was suspected to have inhaled an entire can of an aerosol insecticide spray containing chlorpyrifos, hydrocarbons, and pyrethrins. She suffered a cardiac arrest during transport to the ED and was successfully resuscitated. On arrival at the ED, she was in normal sinus rhythm. She developed multiple seizures, which were controlled with benzodiazepines. Dermal decontamination was performed. Pralidoxime (2 g) and atropine (10 mg) were administered for neuromuscular abnormalities and excessive pulmonary secretions. She continued to deteriorate and died on the sixteenth hospital day.

Case 200. Through the day, this 26-year-old man liberally applied an insect repellent containing DEET (52%) from a pump spray. Approximately 10 minutes after the last application, he developed dyspnea, had a tonic/clonic seizure lasting 10 minutes, vomited, and became unresponsive. CPR was started immediately by the family. The patient was taken to the nearest ED, and the monitor showed ventricular fibrillation during transport. He did not respond to resuscitation and was pronounced dead approximately 1 to 2 hours after the initial seizure. Autopsy demonstrated aspiration of food contents. Toxicological screens on body fluids were negative except for DEET (gas chromatography, blood).

Case 205. A 38-year-old man mistakenly consumed several *Boletus pulcherrimus* mushrooms for dinner and developed extensive nausea, vomiting, and diarrhea about 3 hours later. He was admitted to a local hospital and hydrated with intravenous fluids. During his hospital stay, the systolic blood pressure was 80 to 90 mm Hg. He also developed a fever to 38.4°C and complained of worsening abdominal pain, which was treated with meperidine. About 22 hours postingestion, the patient was found in his hospital bed in cardiorespiratory arrest. An autopsy showed ischemic small bowel, bloody ascites, pulmonary edema, and normal kidneys. His wife also ingested the same mushroom during dinner and developed nausea, vomiting, and diarrhea, which promptly resolved during her hospitalization.

Case 211. A 24-year-old woman had been ingesting pennyroyal and black cohosh herbs over several days for their alleged abortifacient properties. She had developed nausea and vomiting 12 to 15 hours before presentation in the ED. On arrival at the ED, she was in cardiopulmonary arrest, and was resuscitated. An extrauterine pregnancy was found, and she was taken to the operating room. The laparotomy and right salpingectomy were complicated by massive bleeding and disseminated intravascular coagulopathy. Possible sepsis was treated with antibiotics. Despite dopamine and phenylephrine infusions and blood transfusions, she died on the second hospital day. Postmortem examination showed pulmonary edema with diffuse alveolar damage, visceral organ congestion, generalized edema and pleural and peritoneal effusions. Death was determined to be related to the ingested herbs.

Cases 212 and 213. A 20-year-old man and an 18-year-old woman had been camping in the wilderness with another couple and ran out of food. The leader of the group had a plant book, and collected plants to make a stew. The victims consumed much of this concoction, while the others reported that it burned their mouths and they spit it out immediately. Soon after eating the stew, the man and woman began to have violent vomiting. Stiffness progressed to tetany and opisthotonos. Seizures were noted. The couple who had not ingested the stew hiked to town for help. By the time medical rescuers arrived, the victims were dead and in rigor mortis. The plants were subsequently identified as water hemlock by a botanist.

Case 214. A 4-year-old girl could not be aroused in the morning. Other family members were symptomatic for headaches, nausea, and vomiting. The child's and family's carboxyhemoglobin levels were normal. When police searched the house they found aluminum phosphide pellets in the crawl space under the structure. Autopsy was significant for musocal hemorrhages of the stomach and small intestine as well as pulmonary edema. Phosphorous was found in the urine.

Case 215. A 32-year-old man treated 3 months earlier for a long-acting anticoagulant rodenticide ingestion developed headache, hematemesis, hematochezia, and epistaxis. On admission, the PT was 51.4 seconds (international normalized ratio [INR], 36.5 seconds), and CT showed right basal ganglion bleed with rupture into the right lateral ventricle. The PT corrected after fresh frozen plasma and vitamin K. However, the patient deteriorated neurologically and a follow-up scan showed blood in both ventricles, a right intraparenchymal bleed, and bilateral uncal herniation. Brain death was diagnosed 4 hours after arrival. There was insufficient information to determine whether a re-ingestion occurred.

Case 216. A 37-year-old man with a history of multiple suicide attempts involving rodenticides was found unresponsive by his family after ingesting an unknown type of anticoagulant rodenticide. Paramedics found the patient in respiratory arrest, intubated him, and administered $D_{50}W$, naloxone, thiamine, and epinephrine for ventricular fibrillation. The patient regained a spontaneous cardiac rhythm, with a blood pressure of 80/50 mm Hg and a pulse rate of 120 beats/min. In the ED, the patient was noted to have multiple bruises, guaiac-positive feces and gross hematuria. Notable laboratory values were arterial pH, 7.18; P_{CO_2}, 37 mm Hg; P_{O_2}, 280 mm Hg on 100% oxygen; white blood cell count, 21,000/μL; hemoglobin, 10 g/dL; hematocrit, 28%; platelets, 243,000/μL; PT, >30 seconds; and PTT, >120 seconds. CT indicated multiple intracerebral hemorrhages with edema and mass effect. Treatment over the next 24 hours included hyperventilation, mannitol, steroids, vitamin K, fresh frozen plasma, and packed red blood cells. The patient died despite resuscitative efforts.

Case 250. A 3-year-old girl was brought to an ED after a 5-day illness (cough, abdominal pain, vomiting) for which she was treated with a total of 8.5 grams of acetaminophen (500 mg tablet doses) and 225 mL of bismuth subsalicylate. The previous night the patient had rapid breathing and was lethargic, and on the morning of admission the child was disoriented. On ED arrival, the patient was obtunded, with tachypnea, rigid posturing, and poor perfusion. After intravenous fluids, she became combative. Admitting laboratory values showed glucose, 11 mg/dL; creatinine, 2.1 mg/dL; BUN, 19 mg/dL; total bilirubin, 2.6 mg/dL; alkaline phosphatase, 498 IU/L; AST and ALT both >22,000 IU/L; PT, 40 seconds; PTT, 60 seconds; and acetaminophen, 233 μg/mL. The patient was given N-acetylcysteine, dextrose, and 2 L intravenous fluid, but had no urine output. The patient was transferred to a pediatric hospital where she had a Glasgow Coma Score of 7. An initial chest X-ray showed bilateral upper lobe infiltrates consistent with infection. Arterial blood gases showed pH, 7.28; P_{CO_2}, 26 mm Hg; and P_{O_2}, 139 mm Hg. Dopamine and dobutamine were started. Salicylate concentration was 0.5 mg/dL. The patient was flown to another health care facility for consideration of a liver transplant but died shortly after admission. The postmortem examination found herniated brainstem, pulmonary

congestion, early bronchopneumonia, and acute centrilobular hepatic necrosis.

Case 259. A 53-year-old woman with a history of **ethanol** abuse and cirrhosis ingested 30 tablets of **acetaminophen** each day for one week for relief of "pleurisy." On arrival in the ED, the patient was icteric. Abnormal laboratory values were potassium, 6.3 mEq/L; glucose, 53 mg/dL; bicarbonate, 6 mEq/L; AST, 8,082 IU/L; total bilirubin, 4.6 mg/dL; PT, 28.8 seconds (control 11.8 seconds); PTT, 34.4 seconds (control 30 seconds); and WBC, 17,900/μL. An acetaminophen level 15 hours after arrival was 33 μg/mL. N-acetylcysteine therapy was started, along with supportive care, antibiotic therapy, and blood products. Hepatorenal failure, encephalopathy progressing to coma, and acute respiratory distress syndrome developed, and she died nine days after admission. Autopsy showed hepatic cirrhosis and necrosis, acute and chronic nonhemorrhagic pancreatitis, and evidence of acute respiratory distress syndrome.

Case 296. A 37-year-old man ingested approximately 125 tablets of 325 mg **aspirin.** About 12 hours later he was brought to the ED. On presentation he was lethargic, agitated, and diaphoretic. His vital signs included pulse, 140 beats/min; respirations, 48 breaths/min; and temperature, 37.1°C. An initial salicylate level of 126 mg/dL was obtained 14 hours after ingestion. Intravenous fluids with sodium bicarbonate were started, and activated charcoal was administered. Approximately 15 hours postingestion, he was transferred to another health care facility for hemodialysis. While he was being intubated and prepared for hemodialysis, he suddenly became very rigid and had a cardiac arrest. Resuscitation efforts were unsuccessful, and he died approximately 20 hours after ingestion. Postmortem examination found acute hemorrhagic pulmonary edema and congestion, acute centrilobular hepatic necrosis, and acute renal failure. Postmortem toxicological analysis of the serum showed a salicylate level of 54 mg/dl and diazepam level of 0.6 μg/ml.

Case 329. A 40-year-old woman ingested unknown amounts of **colchicine, diphenhydramine, indomethacin,** clarithromycin, and ethanol at an unknown time before arriving in an ED. She was lethargic with diarrhea on presentation. Vital signs were blood pressure, 161/95 mm Hg; pulse, 56 beats/min; respirations, 16 breaths/min; and temperature, 37.4°C. Her hospital course was complicated by leukocytosis (29,000 cells/μL), persistent diarrhea, increased ALT, and renal insufficiency. She later developed pulmonary complications requiring intubation, rhabdomyolysis, thrombocytopenia, and disseminated intravascular coagulation. Despite clotting factor and platelet supplementation, dialysis, and multidose activated charcoal, she died 13 days after ingestion.

Case 339. A 40-year-old woman with a history of chronic use of prescription pain medications intentionally ingested an unknown amount of **methadone.** She was comatose and hypotensive when the paramedics arrived. Therapy included naloxone (8-mg bolus followed by infusion) and intubation. Three hours later, she had improved and began responding appropriately, although she was still intubated. By the following day, she was more alert, the naloxone infusion was discontinued, and she was receiving intravenous nutrition. However, she required the placement of a chest tube for a spontaneous pneumothorax. Respiratory status deteriorated, a severe pneumonia developed, and bronchial washings were positive for mycoplasma pneumonia, which ultimately led to her demise on the 15th hospital day.

Case 364. An 18-month-girl was found with a 30-gram tube of **dibucaine** ointment in her mouth. It was later estimated that she had consumed approximately half the tube (approximately 150 mg of dibucaine). She was vomiting and cyanotic when EMS was called. When EMS arrived, she was unresponsive with a heart rate of 140 beats/minute, rhythmic seizures, and shallow respirations. In the ED approximately 25 minutes postingestion, she was apneic, cyanotic, with no palpable blood pressure, and an irregular heart rate of 60 beats/min. Her initial arterial blood gas showed pH, 6.6; Po_2, 125 mm Hg; Pco_2 36.7 mm Hg; and HCO_3, 14 mEq/L. After intubation and with the administration of oxygen, endotracheal atropine, and intraosseus epinephrine, the child had a palpable blood pressure of 40 mm Hg. Within 5 minutes, she began seizing and developed ventricular fibrillation. Further treatment included intravenous sodium bicarbonate, atropine, epinephrine, diazepam, dopamine, and methylene blue. Asystole ensued. The child was resuscitated but the subsequent clinical course was stormy, included tachyarrhythmias, wide complex bradycardia, hypotension, pulseless ventricular tachycardia, hypokalemia, hypocalcemia, and persistent seizures treated with multiple anticonvulsants. She died approximately seven hours postingestion after multiple arrhythmias accompanied by refractory hypotension progressed to ventricular fibrillation.

Case 380. A 33-year-old woman ingested a "handful" of **sodium valproate** sustained-release tablets, and 20 **clonazepam** 1-mg tablets in a suicide attempt. En route to the ED, she was drowsy but answered questions appropriately. In the ED, gastric lavage was followed by activated charcoal and a cathartic. Although initially cooperative, she suddenly became extremely combative, requiring management with haloperidol. Initial valproic acid level was 20 μg/mL, which increased to 114 μg/mL 4.5 hours after admission. A screen for drug abuse and an ethanol level were negative. She received multiple doses of activated charcoal. She developed supraventricular tachycardia and respiratory compromise approximately 22 hours after admission. Endotracheal intubation was complicated by multiple episodes of vomiting. She became comatose; her repeat valproic acid level obtained 24 hours after admission was 700 μg/mL. Hemodialysis was performed; her valproic acid level after dialysis (31 hours after admission) was 235 μg/mL. Her valproic acid levels subsequently were noted to be 155 μg/mL at 39 hours, and 89 μg/mL at 53 hours after admission. She continued to deteriorate and died 16 days after ingestion.

Case 405. A 33-year-old man was found unconscious. He had ingested at least five, 150-mg **amitriptyline** tablets and an unknown amount of **chromium picolinate.** On arrival at the ED, he was intubated and administered intravenous bicarbonate and activated charcoal. Status epilepticus unresponsive to lorazepam and phenytoin developed, and his temperature increased to 41.7°C. He was placed in a pentobarbital coma with continuous EEG monitoring. Recurrent episodes of ventricular tachycardia unresponsive to bicarbonate, hyperventilation, lidocaine, and phenytoin finally responded to 10 mg of intravenous physostigmine. He became progressively hypotensive and died on the third hospital day.

Case 484. A 25-year-old woman was brought to the ED after an overdose of **lithium,** paroxetine, and **theophylline.** She had vomited spontaneously at home with evidence of pill fragments in the emesis. On arrival in the ED, she was hypotensive with a heart rate of 140 to 180 beats/min. Intravenous fluids were administered. After gastric lavage and the administration of **activated charcoal,** she lost consciousness, became hypoxic, and had a cardiopulmonary arrest. She was resuscitated with atropine and epinephrine. She subsequently had a seizure, which resolved with anticonvulsants. A chest X-ray showed an air pocket in the mediastinum. The Ewald tube had apparently perforated the esophagus on insertion, causing a pneumomediastinum. Surgery was performed to repair the esophagus and activated charcoal was found in the mediastinum. Initial laboratory studies showed theophylline, 31.4 μg/mL, and lithium, 2.51 mEq/L. She remained comatose and required mechanical ventilation. She became septic, and antibiotics were administered. Repeat lithium and theophylline levels, obtained about 24 hours after arrival, were 1.15 mEq/L and 21 μg/mL, respectively. Over the next several days, her condition deteriorated, with hemodynamic instability, renal failure, and disseminated intravascular coagulation. She died on the 14th hospital day.

Case 505. A 41-year-old woman with a history of eight previous suicide attempts ingested an unknown amount of **tranylcypromine** and **fluoxetine** 12 hours before arriving in the ED. She experienced hypotension, refractory seizures, and fever to 40.6°C, which were treated with vecuronium, dantrolene, external cooling, and dopamine to maintain a blood pressure of 100/60 mm Hg. A lumbar

puncture showed normal cerebrospinal fluid. Over the first hospital day, she developed hepatorenal failure and died approximately 36 hours after the ingestion.

Case 516. A 16-month-old boy ingested an unknown number of **diphenhydramine** tablets that had been left in an open container by his 3-year-old sister. Fifteen minutes after ingestion, the child was noted to be seizing, and the open bottle of pills was discovered by their mother (who had been working in another room). Diazepam was administered by paramedics. The child sustained a cardiopulmonary arrest and could not be resuscitated. Autopsy found aspiration of gastric material containing pale blue granules. Other autopsy findings included a dilated right ventricle, otherwise normal myocardium, and diffuse mild ischemic neuronal injury.

Case 522. A 21-year-old man with a history of congenital prolonged QT syndrome was using **terfenadine** and inhaled epinephrine for allergies. According to a friend, the patient felt "bad" and took four extra 60-mg terfenadine tablets for his allergies. Shortly thereafter, the patient collapsed suddenly at home. Paramedics found the patient unresponsive and noted ventricular tachycardia and ventricular fibrillation. The patient was cardioverted several times, and a pulse and blood pressure were restored, but the patient did not regain consciousness. In the ED, the patient continued to experience ventricular arrhythmias, including torsades de pointes, and required cardioversion, resuscitation, and mechanical ventilation. A drug screen found only terfenadine. On the third day after admission, after several resuscitations, the patient was declared brain dead. Life support was discontinued and the patient expired.

Case 527. A 6-year-old boy who was ventilator-dependent and who had a mitochondrial DNA depletion disorder developed tachycardia and hypotension after 3 doses of **theophylline**. Activated charcoal, cathartic, and verapamil were given. His theophylline level was 47 μg/ml. Despite use of adenosine in an attempt to control the tachycardia, as well as dopamine and intravenous fluid loading, he progressed to ventricular bigeminy, then to a wide complex bradycardia. He then died.

Case 560. A 4-month-old boy with aortic and mitral valvular stenosis, subaortic stenosis, reactive airway disease, and gastroesophageal reflux developed decreased left ventricular function and hypotension after surgery for valve replacement and gastric tube placement. He was treated with amrinone, **procainamide**, atenolol, and cardiac pacing. He developed elevated liver enzymes that were attributed to an idiosyncratic reaction to **amrinone**, which was then discontinued. N-acetylcysteine was administered. After one day of N-acetylcysteine therapy, his AST had decreased from more than 8,500 U/L to 1,696 U/L, and his prothrombin time had improved from more than 60 seconds to 40 seconds. However, he developed bradycardia, hypotension, and bleeding from a chest tube. He exsanguinated despite administration of blood products.

Case 582. A 45-year-old woman had ingested 30 180-mg **diltiazem** sustained-release tablets approximately 8 hours earlier. In the ED, she was alert, with blood pressure of 90/50 mm Hg and a prolonged PR interval on electrocardiogram. Activated charcoal was administered, and she was transferred to a tertiary care hospital. Soon after arrival, hypotension developed that was unresponsive to glucagon, dopamine, norepinephrine, amrinone, and cardiac pacing. She died about 22 hours after ingestion.

Case 595. A 14-month-old girl was ataxic after she ingested approximately 20 **nifedipine** tablets. EMS found the patient conscious with a weak pulse. In the ED, she had tachycardia with no audible blood pressure, lethargy, a generalized seizure, pulmonary edema, and bradycardia with electromechanical dissociation. She was treated with gastric lavage, charcoal, whole bowel irrigation, intravenous fluids, external pacing, calcium chloride, glucagon, epinephrine, aminophylline, amrinone, norepinephrine, and isoproterenol. The patient expired within 12 hours of ingestion.

Case 596. A 30-year-old suicidal paramedic ingested 90 10-mg **nifedipine** capsules. During transport to the ED, he suffered a cardiac arrest and was resuscitated. Initial evaluation in the ED demonstrated hypotension and a prolonged QRS duration. Norepinephrine, sodium bicarbonate, activated charcoal, and naloxone were administered. A 10-mg/h glucagon infusion was initiated in an attempt to reverse persistent hypotension. He had multiple seizures that were unresponsive to phenytoin and diazepam. He expired on the tenth hospital day.

Case 605. A 47-year-old woman ingested an unknown amount of **propafenone** and **ethanol** in a suicide attempt. En route to the ED, she developed seizure activity. She was treated with diazepam, intubated, and placed on a ventilator. Hypotension and bradycardia required dopamine and atropine. Four hours later, she deteriorated further and could not be resuscitated.

Case 637. A 19-year-old woman ingested about 30 100-mg **benzonatate** perles in a suicide attempt. En route to the ED, she sustained a cardiac arrest requiring endotracheal intubation. In the ED, she was unresponsive, with fixed and dilated pupils. She was given a single dose of activated charcoal. Her subsequent hospital course was marked by continued coma with frequent decorticate posturing. She died on the fourth hospital day.

Case 638. A 41-year-old woman mistakenly took two tablets of a nonprescription antihistamine/decongestant product containing **clemastine fumarate** (1.34 mg) and **phenylpropanolamine** (75 mg) at dinner and two more at bedtime. She developed a severe headache and presented to the ED 8 hours later with a blood pressure of 190/110 mm Hg. Her condition deteriorated; she was intubated and given pancuronium and narcotics. Her blood pressure stabilized at 110/70 mm Hg. Lumbar puncture showed numeorus red blood cells, and CT demonstrated a large left basal ganglion hemorrhage. Her toxicological screen was positive for sympathomimetic amines. She died 17 hours after ingestion.

Case 639. A 18-month-boy ingested an entire bottle of 300-mg **ferrous sulfate** tablets. Ten minutes after ingestion, the child was noted to be vomiting blood. The poison center was notified and recommended immediate transport to a hospital. The family refused treatment for the child until the child stopped breathing. The child expired en route to the hospital, nine hours postingestion.

Case 640. A 12-month-old, 10-kg girl was brought to the ED about 12 hours after ingesting an unknown quantity of **ferrous sulfate** tablets. At home she had been lethargic and had vomited bloody material. She was transferred to a tertiary care pediatric hospital, where she was normotensive, with tachycardia and a pH of 7.13. Laboratory study results included serum iron, 972 μg/dL; glucose, 166 mg/dL; BUN, 29 mg/dL; serum creatinine, 0.6 mg/dL; and white blood count, 21,800 cells/μL. An abdominal radiograph showed 45 tablets in the stomach; 32 of these were removed endoscopically, and additional tablets were noted to be in the small intestine and colon. Whole bowel irrigation, a bicarbonate infusion, and deferoxamine (15 mg/kg/h) were initiated. Dopamine and, later, dobutamine infusions were required for hypotension. Abdominal distention was noted about 12 hours after admission and bowel obstruction was suspected. Whole bowel irrigation was tapered, then discontinued. Deferoxamine was increased to 40 mg/kg/h (serum iron at this time was 561 μg/dL). An **ibuprofen** level was noted to be 105 μg/mL, although no history of ingestion or use was evident. Despite continuing efforts, including surgical relief of the bowel obstruction, the child died approximately 66 hours after ingestion.

Case 649. A 40-year-old man ingested an unknown quantity of **quinine** sulfate in a suicide attempt. On arrival at the ED, he was stuporous, with blood pressure, 112/70 mm Hg; pulse, 78 beats/min; and respirations, 28 breaths/min. Soon thereafter, he developed bifascicular bundle branch block, hypotension, and bradycardia. Cardiopulmonary resuscitation restored his cardiac rhythm but he remained unresponsive with fixed and dilated pupils. He died on the second hospital day. Postmortem toxicology studies showed a blood quinine level of 25.1 μg/mL; benzoylecgonine, 0.22 μg/mL; diphenhydramine, 0.5 μg/mL; and the total diazepam and nordiazepam, >5 μg/mL.

Case 651. An 80-year-old man with a history of multiple sclerosis

was found unresponsive in bed approximately two hours after ingesting 100 **baclofen**. On arrival in the ED, he was intubated, lavaged, and given activated charcoal. Blood pressure was 190/80 mm Hg with normal sinus rhythm and a rate of 80 beats/min. He experienced two grand mal seizures and was given phenytoin. Over the next seven hours numerous seizures occurred and were treated with large doses of phenobarbital. His baclofen level was reported as 32,931 ng/mL. He remained unresponsive and died after supportive measures were discontinued.

Case 669. A 2-year-old, 10.5-kg girl was found chewing one 100-mg **clozapine** tablet. The child care provider was able to retrieve part of the tablet from her mouth but was unconcerned until the child became ataxic an hour later. En route to the ED, the patient vomited while being held in an upright position. On arrival she was barely responsive, became apneic and vomited again. She was intubated and placed on a ventilator. Activated charcoal was administered, and she was transferred to a pediatric ICU in a tertiary care hospital. A chest X-ray showed a unilateral aspiration pneumonitis. The child was febrile (40°C), and antibiotic therapy was instituted. Serum clozapine levels of 218 ng/mL (day one) and 14 ng/mL (day two) were reported. Fentanyl and midazolam infusions were administered to facilitate adequate ventilation, but high ventilator settings were needed. By the third day postingestion, she was septic, severely anemic (hemoglobin 8.4 g/dL, treated with packed cells), and in profound acute respiratory distress. Sixteen days after the ingestion she had a cardiac arrest secondary to respiratory failure.

Case 670. A 35-year-old man with a history of schizophrenia presented to the hospital about 5 hours after an ingestion of 90 100-mg **clozapine** pills. A possible history of paroxetine and pimozide ingestion was also obtained. On presentation, he was unconscious and rigid with a blood pressure of 80/40 mm Hg, a pulse rate of 120/min, and a temperature, 41.7°C. Hyperthermia lasted more than 5 hours and the creatine phosphokinase level increased to 10,000 U/L. The creatinine level was 3.9 mg/dL; BUN was 51 mg/dL. The patient was paralyzed, intubated, and cooled slowly. A postintubation arterial blood gas showed pH, 7.25; Pco_2, 34 mm Hg; and Po_2, 108 mm Hg on 100% oxygen. Despite this therapy, the patient became hypotensive, requiring a norepinephrine infusion. Liver failure and disseminated intravascular coagulation developed, and the patient died.

Case 710. A 29-year-old man was transported to the ED after swallowing 7 grams of **cocaine** and having a cardiac arrest. In the ED the patient's vital signs were a blood pressure of 120/50 mm Hg, a pulse of 128 beats/min, and a temperature of 38.9°C. He was comatose with seizure activity and posturing, fixed and dilated pupils, and episodes of bradycardia and tachycardia. Pertinent initial laboratory tests included: pH, 6.9; Po_2, 259 mm Hg; Pco_2, 40.2; HCO_3, 8.6 mEq/L; and cocaine blood level, 24 μg/mL. Management consisted of endotracheal intubation with assisted ventilation, gastrointestinal decontamination with activated charcoal and cathartic, intravenous fluids, epinephrine, sodium bicarbonate, dopamine, and naloxone (8 mg without response). Over the next 3 days, the patient remained unresponsive with fixed and dilated pupils and episodes of generalized muscle twitching. CT showed evidence of a brain stem infarct. His creatinine phosphokinase increased to 2,403 IU/L on the second day of admission, with an MB fraction of 15%. On the fourth hospital day, two EEGs and cerebral blood flood studies indicated brain death. On the fifth hospital day, the patient had a cardiopulmonary arrest and died.

Case 759. A 33-year-old man ingested, and placed in his rectum, packets of an unknown drug in an attempt to avoid detection. Approximately 10 hours later he presented to an ED with abdominal pain and dark urine. Lavage was done and pieces of the packets were noted. The patient was admitted to the ICU with a diagnosis of rhabdomyolysis and renal failure. Admission serum drug screen was positive for **methamphetamine** and negative for cocaine. The patient was intubated, comatose, and hypotensive 34 hours postingestion, with minimal urine output on furosemide and mannitol. Over the next 5 days the patient remained comatose with no urine output. Pulmonary edema and disseminated intravascular coagulation also developed. Treatment included norepinephrine and dopamine infusions for blood pressure maintenance, hemodialysis, blood products, and sodium polystyrene sulfonate enemas for hyperkalemia. The patient expired 132 hours postingestion.

Case 766. A 45-year-old woman was brought to the ED four hours after ingesting 60 mL of **oil of wintergreen** recommended by a friend for aches and pains. The bottle was marked "POISON". EMS reported the patient to be restless, with a pulse of 140 beats/min and a blood pressure of 162/100 mm Hg. She continued to have tachycardia, hypertension, and agitation over a two-hour period in the ED, pulling out her nasogastric tube and an inflated urinary catheter. Her initial arterial blood gases were pH, 7.47; Pco_2, 23.6 mm Hg; Po_2, 110 mm Hg; and bicarbonate, 17.4 mEq/L. Electrolyte levels were within normal limits except for a serum bicarbonate level of 18 mEq/L. She had more bleeding than was expected at a venipuncture site. Her salicylate level drawn shortly after arrival in the ED was 108 mg/dL. Two hours after ED admission, the patient had a single seizure lasting approximately one minute, then became unresponsive with snoring respirations. She received a bolus of sodium bicarbonate intravenously and had additional bicarbonate added to her intravenous fluids. Fifteen minutes after the seizure (6 hours after admission), the patient developed asystole, was intubated, and had a venous blood gas of pH, 6.56; Pco_2, 95 mm Hg; Po_2 17 mm Hg; and bicarbonate, 8.7 mEq/L. Despite 35 minutes of resuscitative effort, the patient never regained any cardiac rhythm.