



# 1992 Annual Report of the American Association of Poison Control Centers Toxic Exposure Surveillance System

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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
Total			12,513,460	



FIGURE 1. Sixty-eight poison centers participated in the Toxic Exposure Surveillance System in 1992. The shaded areas denote regions served by reporting centers.

This report marks the 10th anniversary of nationwide poisoning surveillance by the American Association of Poison Control Centers (AAPCC). In view of the remarkable increase in use of the data and the magnitude of the database, the system has been renamed to more accurately reflect its mission. Thus the former AAPCC National Data Collection System is now titled the AAPCC Toxic Exposure Surveillance System (TESS).

Additionally, the 10th anniversary year has brought a flurry of critical re-evaluation of the data collection methodology, and effective January 1, 1993, several substantial revisions in the format and extent of data collected have been implemented. The most significant of these changes is the implementation of a system to record specific clinical effects manifested in each poison exposure case. The implications of these changes will be evident in the 1993 Annual Report.

TESS data have been used as evidence supporting product reformulations, repackaging, recalls, and bans. Applications for conversion from prescription to over-the-counter status have been supported with TESS safety data, and TESS has been used for postmarketing surveillance of newly released drugs and products.

Since its inception in 1983, TESS has grown steadily, with increases in the number of participating poison centers, population served by those centers, and reported human exposures (Table 1).<sup>1-9</sup> The cumulative AAPCC database now contains 12.5 million human poison exposure cases. This report includes 1,864,188 human exposure cases reported by

68 participating poison centers during 1992, an atypically small increase of only 1.4% over 1991 poisoning reports. The slowing of database growth and the small decrease in the number of reporting centers undoubtedly mirrors the present instability of our nation's poison centers. No progress has been made toward our national goal of providing access by all United States (US) citizens to certified regional poison centers. Indeed, only 52% of the US is currently served by the nation's 38 certified regional poison centers, a decrease from 59% just 1 year ago. Furthermore, the tenuous funding base of those centers that remain operational has, in some cases, led to impaired service, decreased surveillance efforts, and a decrease in poison prevention activity. Indeed, it is appalling that several of our nation's largest poison centers have been forced to limit their hours of operation and/or

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

	Site of Caller (%)	Site of Exposure (%)
Residence	80.8	92.1
Workplace	1.5	2.5
Health Care Facility	15.5	0.6
School	0.7	1.0
Other	1.1	2.1
Unknown	0.4	1.7

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

Age (years)	Male		Female		Unknown		Total		Cumulative Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
< 1	72,051	3.9	65,706	3.5	1,275	0.1	139,032	7.5	139,032	7.5
1	177,758	9.5	156,052	8.4	1,753	0.1	335,563	18.0	474,595	25.5
2	187,517	10.1	162,018	8.7	1,735	0.1	351,270	18.8	825,865	44.3
3	88,178	4.7	72,910	3.9	843	0.0	161,931	8.7	987,796	53.0
4	37,769	2.0	30,298	1.6	406	0.0	68,473	3.7	1,056,269	56.7
5	20,103	1.1	15,957	0.9	239	0.0	36,299	1.9	1,092,568	58.6
6-12	59,113	3.2	44,950	2.4	1154	0.1	105,217	5.6	1,197,785	64.3
13-19	44,130	2.4	63,029	3.4	417	0.0	107,576	5.8	1,305,361	70.0
20-29	58,350	3.1	69,787	3.7	324	0.0	128,461	6.9	1,433,822	76.9
30-39	49,047	2.6	63,845	3.4	217	0.0	113,109	6.1	1,546,931	83.0
40-49	25,640	1.4	36,337	1.9	94	0.0	62,071	3.3	1,609,002	86.3
50-59	11,109	0.6	17,377	0.9	56	0.0	28,542	1.5	1,637,544	87.8
60-69	7,437	0.4	12,415	0.7	22	0.0	19,874	1.1	1,657,418	88.9
70-79	4,990	0.3	9,289	0.5	17	0.0	14,296	0.8	1,671,714	89.7
80-89	2,403	0.1	5,393	0.3	10	0.0	7,806	0.4	1,679,520	90.1
90-99	420	0.0	1,152	0.1	11	0.0	1,583	0.1	1,681,103	90.2
Unknown	72,706	3.9	101,655	5.5	8,724	0.5	183,085	9.8	1,864,188	100.0
Total	918,721	49.3	928,170	49.8	17,297	0.9	1,864,188	100.0	1,864,188	100.0

abandon their data collection activities and poison prevention efforts. Noting the important role of poison centers in limiting health care expenditures through avoidance of unnecessary emergency department visits, as well as the role of poison centers in guiding the delivery of state-of-the-art poison treatment, stabilization of US poison centers is an urgent need.

**CHARACTERIZATION OF PARTICIPATING CENTERS**

Of the 68 reporting centers, 64 submitted data for the entire year. Thirty-seven of the 68 centers were certified as regional poison centers by the AAPCC. Annual center call volumes (human exposure cases only) ranged from 2,065 to 76,368 (mean, 28,952) for centers participating for the entire year. Penetrance, calculated by state or portion of the state served, ranged from 3.2 to 17.4 per 1,000 with a

mean of 9.5 reported exposures per 1,000 population. Penetrance is defined as the number of human poison exposure cases reported divided by the population served.

A total population of 196.7 million was served by the participating centers, including portions of 39 states and the District of Columbia (Figure 1). Noting the 252.2 million 1992 United States population, the data presented represent an estimated 78% of the human poison exposures that precipitated poison center contacts in the US during 1992. Extrapolating from the 1,864,188 human poison exposures reported in this database, 2.4 million human poison exposures are estimated to have been reported to all US poison centers in 1992. 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, as considerable variations in poison center penetrance were noted. Indeed, assuming all centers reached the penetrance level of 17.4 poisonings per 1,000 population re-

**TABLE 4.** Distribution of Age and Sex for 705 Fatalities

Age (years)	Male	Female	Unknown	Total	%	Cumulative Total	Cumulative %
< 1	3	1	0	4	0.6	4	0.6
1	6	3	0	9	1.3	13	1.8
2	3	2	0	5	0.7	18	2.6
3	2	3	0	5	0.7	23	3.3
4	3	2	0	5	0.7	28	4.0
5	1	0	0	1	0.1	29	4.1
6-12	3	2	0	5	0.7	34	4.8
13-19	30	28	0	58	8.2	92	13.1
20-29	60	45	0	105	14.9	197	27.9
30-39	96	78	0	174	24.7	371	52.6
40-49	52	60	0	112	15.9	483	68.5
50-59	28	30	0	58	8.2	541	76.7
60-69	23	32	0	55	7.8	596	84.5
70-79	17	32	0	49	7.0	645	91.5
80-89	13	17	0	30	4.3	675	95.7
90-99	4	5	0	9	1.3	684	97.0
Unknown adult	14	6	0	20	2.8	704	99.9
Unknown age	1	0	0	1	0.1	705	100.0
Total	359	346	0	705	100.0		

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

No. of Substances	No. of Cases	% of Cases
1	1,739,060	93.3
2	95,372	5.1
3	18,575	1.0
4	5,977	0.3
5	2,329	0.1
6	1037	0.1
7	433	0.0
8	234	0.0
9	148	0.0
≥ 10	423	0.0
Unknown	600	0.0
Total	1,864,188	100.0

**TABLE 6.** Reason for Human Poison Exposure Cases

	Reason	No.	%
<i>Accidental</i>	General	1,446,251	77.6
	Misuse*	106,108	5.7
	Occupational	37,419	2.0
	Environmental	31,996	1.7
	Unknown	2,650	0.1
	Total	1,624,424	87.1
<i>Intentional</i>	Suicidal	133,822	7.2
	Misuse†	29,544	1.6
	Abuse‡	20,808	1.1
	Unknown	15,776	0.8
	Total	199,950	10.7
<i>Adverse Reaction</i>	Drug	20,432	1.1
	Food	7,775	0.4
	Other	3,817	0.2
	Total	32,024	1.7
<i>Unknown</i>		7,790	0.4
Total		1,864,188	100.0

\* Improper use of a substance in which therapeutic or beneficial results were intended, eg, an overdose occurring because both parents gave the same medication to a child and neither was aware (at the time) of the other's action or a case in which misreading the label of a product results in an unintended exposure.

† Intentional incorrect use of a substance in which psychotropic effect was not sought, eg, intentional excessive dosing to obtain a more rapid or superior pharmacological effect for presumed "therapeutic" purposes.

‡ Improper use of a substance in which the patient was seeking a psychotropic effect.

**TABLE 7.** Distribution of Reason for Exposure by Age

Reason	<6 Years		6-12 Years		13-17 Years		18-64 Years		>64 Years		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Accidental	1,088,540	58.4	95,996	5.1	42,543	2.3	234,377	12.6	27,620	1.5	135,348	7.3	1,624,424	87.1
Intentional	2,474	0.1	6,755	0.4	40,694	2.2	118,447	6.4	3,266	0.2	28,314	1.5	199,950	10.7
Adverse reaction	3,572	0.2	1,888	0.1	1,689	0.1	15,172	0.8	1,527	0.1	8,176	0.4	32,024	1.7
Unknown	772	0.0	578	0.0	869	0.0	3,209	0.2	438	0.0	1,924	0.1	7,790	0.4
Total	1,095,358	58.8	105,217	5.6	85,795	4.6	371,205	19.9	32,851	1.8	173,762	9.3	1,864,188	100.0

ported for one state, 4.4 million poisonings would have been reported to poison centers in 1992. Because of the annual growth of this data collection system and changing center participation from year to year, the data do not directly identify a trend in the overall incidence of poisonings in the US. However, an analysis of data from 63 centers that participated for the entirety of both 1991 and 1992 indicates a 3.5% increase in reported poison exposures from 1991 to 1992 within the regions served by these 63 centers. This increase may actually reflect greater public awareness of poison center services rather than an increase in poisonings.

## REVIEW OF THE DATA

Of the 1,864,188 human exposures reported in 1992, 92.1% occurred in the home (Table 2). Two unlikely sites of poisonings, health care facilities and schools, accounted for 11,971 (0.6%) and 17,981 (1.0%) poison exposures, respectively. Poison center peak-call volumes were noted from 4 to 10 pm, although call frequency remained consistently high between 9 AM and 11 PM, with 85% of calls logged during this 14-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 44% of cases; and 59% occurred in children younger than 6 years. A male predominance is found among poison exposure victims younger than 13 years, but the gender distribution is reversed in teenagers and adults. Table 4 presents the age and gender distribution for the 705 reported fatalities. Although responsible for the majority of poisoning reports, children younger than 6 years of age comprised only 4.1% (29) of the fatalities. Fifty-six percent of poisoning fatalities occurred in 20- to 49-year-old individuals.

A single substance was implicated in 93.3% 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 (97.8%) compared with only 83.1% of poison-related fatal exposures. (Chronic exposures were arbitrarily defined as repeated exposures to the same toxic substance or a single exposure lasting longer than 8 hours.)

The vast majority (87.1%) of poison exposures were accidental; suicidal intent was present in 7.2% of cases (Table 6). Accidental poisonings outnumbered intentional poisonings in all age groups (Table 7). In contrast, of the 705 human poisoning fatalities reported, 80% of adult deaths (older than 17 years) were intentional (Table 8).

Ingestions accounted for 75.4% of exposure routes (Table 9), followed in frequency by dermal, ophthalmic, and inhalation exposures, bites and stings, and parenteral exposures. For the 705 fatalities, ingestion and inhalation were the predominant exposure routes.

Table 10 lists the symptom assessment at the time of the initial call to the participating poison center. In addition to the 29.4% of patients with initial symptoms clearly related to the exposure, symptoms developed during the subsequent course in 24,324 initially asymptomatic patients. Thus symptoms definitely related to the exposure eventually developed in at least 30.7% of patients.

**TABLE 8.** Distribution of Reason for Exposure and Age for 705 Fatalities

Reason	<6 Years	6-12 Years	13-17 Years	>17 Years	Unknown Age	Total
<i>Accidental</i>						
General	18	1	0	12	0	31
Environmental	4	2	0	5	0	11
Misuse	2	0	1	35	0	38
Occupational	0	0	3	20	0	23
Unknown	0	0	0	4	0	4
Total	24	3	4	76	0	107
<i>Intentional</i>						
Suicide	0	0	22	373	0	395
Misuse	3	0	0	26	0	29
Abuse	0	1	11	75	0	87
Unknown	0	0	0	30	0	30
Total	3	1	33	504	0	541
<i>Adverse Reaction</i>						
Unknown	0	1	0	4	0	5
Unknown	2	0	1	48	1	52
Total	29	5	38	632	1	705

**TABLE 9.** Distribution of Route of Exposure for Human Poison Exposure Cases and 705 Fatalities

Route	All Exposure Cases		Fatal Exposure Cases	
	No.	%	No.	%
Ingestion	1,478,838	75.4	582	78.3
Dermal	151,092	7.7	4	0.5
Ophthalmic	123,026	6.3	0	0.0
Inhalation	119,519	6.1	97	13.1
Bites and stings	70,272	3.6	4	0.5
Parenteral	5,450	0.3	34	4.6
Other	5,208	0.3	1	0.1
Unknown	7,256	0.4	21	2.8
Total	1,960,661	100.0	743	100.0

NOTE. Multiple routes of exposure were observed in many poison exposure victims. Percentage is based on the total number of exposure routes (1,960,661 for all patients, 743 for fatal cases) rather than the total number of human exposures (1,864,188) or fatalities (705).

**TABLE 10.** Symptom Assessment at Time of Initial Call to Poison Center

Symptom Assessment	No.	%
Asymptomatic	1,148,340	61.6
Symptomatic, related to exposure	547,924	29.4
Symptomatic, unrelated to exposure	33,841	1.8
Symptomatic, unknown if related	93,232	5.0
Unknown	40,851	2.2
Total	1,864,188	100.0

**TABLE 11.** Management Site of Human Poison Exposure Cases

Site	No.	%
Non-health care facility	1,329,481	71.3
Health care facility		
Already there when poison center called	246,373	13.2
Referred by poison center	239,244	12.8
Other/unknown	49,090	2.6
Total	1,864,188	100.0

**TABLE 12.** Medical Outcome of Human Poison Exposure Cases by Patient Age

Outcome	<6 Years		6-12 Years		13-17 Years		>17 Years		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No effect	364,060	19.5	20,060	1.1	15,000	0.8	61,411	3.3	2,049	0.1	462,580	24.8
Minor effect	148,910	8.0	30,625	1.6	31,977	1.7	210,335	11.3	3,232	0.2	425,079	22.8
Moderate effect	5,871	0.3	1,750	0.1	4,081	0.2	31,783	1.7	399	0.0	43,884	2.4
Major effect	490	0.0	108	0.0	415	0.0	4,722	0.3	74	0.0	5,809	0.3
Death	29	0.0	5	0.0	38	0.0	632	0.0	1	0.0	705	0.0
Unknown, nontoxic*	477,736	25.6	36,043	1.9	15,251	0.8	98,632	5.3	5,267	0.3	632,929	34.0
Unknown, potentially toxic†	79,890	4.3	13,302	0.7	16,620	0.9	124,861	6.7	6,116	0.3	240,789	12.9
Unrelated effect	17,693	0.9	3,260	0.2	2,349	0.1	27,099	1.5	382	0.0	50,783	2.7
Unknown	679	0.0	64	0.0	64	0.0	630	0.0	193	0.0	1,630	0.1
Total	1,095,358	58.8	105,217	5.6	85,795	4.6	560,105	30.0	17,713	1.0	1,864,188	100.0

\* No follow-up provided because exposure was assessed as nontoxic.

† Patient lost to follow-up. Exposure was assessed as potentially toxic.

**TABLE 13.** Distribution of Medical Outcome by Reason for Exposure for Human Poison Exposure Cases

Outcome	Accidental		Intentional		Adverse Reaction		Unknown		Total	
	No.	col%	No.	col%	No.	col%	No.	col%	No.	col%
No effect	426,640	26.3	34,484	17.2	750	2.3	706	9.1	462,580	24.8
Minor effect	339,571	20.9	70,668	35.3	13,153	41.1	1,687	21.7	425,079	22.8
Moderate effect	24,562	1.5	16,813	8.4	1,979	6.2	530	6.8	43,884	2.4
Major effect	1,362	0.1	4,128	2.1	130	0.4	189	2.4	5,809	0.3
Death	107	0.0	541	0.3	5	0.0	52	0.7	705	0.0
Unknown, nontoxic	613,854	37.8	14,213	7.1	3,999	12.5	863	11.1	632,929	34.0
Unknown, potentially toxic	175,155	10.8	55,054	27.5	7,692	24.0	2,888	37.1	240,789	12.9
Unrelated effect	41,886	2.6	3,755	1.9	4,288	13.4	854	11.0	50,783	2.7
Unknown	1,287	0.1	294	0.1	28	0.1	21	0.3	1,630	0.1
Total	1,624,424	100.0	199,950	100.0	32,024	100.0	7,790	100.0	1,864,188	100.0

The majority of cases reported to poison centers were managed in a non-health care facility (71.3%), usually at the site of exposure, the patient's own home (Table 11). Treatment in a health care facility was rendered or recommended in 26.0% of cases, and of these, 50.7% involved treatment and release, 18.2% involved admission for medical care, and 3.7% involved admission for psychiatric treatment; 7.9% refused referral, and 19.5% were lost to follow-up.

Table 12 displays the medical outcome of the human poison exposure cases distributed by age, emphasizing the more severe outcome observed in the older age groups. Table 13 compares medical

outcome and reason for exposure, and demonstrates the greater frequency of serious outcome in intentional exposures.

Table 14 outlines the use of initial 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 4.3% of cases. In children, ipecac syrup was most often administered outside a health care facility (Table 15). This pattern was reversed in adults.

Extracorporeal elimination (hemodialysis or hemoperfusion) was reported in 785 poison exposure cases. Of these, 621 patients received hemodialysis, 145 received charcoal or resin hemoperfusion, and 19 were treated with both hemoperfusion and hemodialysis. Outcomes in these cases were severe, including 67 fatalities (8.5% of patients receiving hemoperfusion or hemodialysis), 270 major outcomes (34.4%), and 221 moderate outcomes (28.2%). Table 16 shows the use of hemoperfusion and/or hemodialysis by substance implicated in the poisoning. Of patients receiving hemoperfusion and/or hemodialysis, 23 were children under 2 years of age, 40 were children age 2 to 5 years, nine were children age 6 to 12 years, 63 were 13 to 17 years of age, 647 were older than 17 years of age, and three were of unknown age.

A summary of the 705 fatal exposures is presented in Table 17. Each of these cases was abstracted and verified by the reporting center, with only those exposures deemed "probably" or "undoubtedly" responsible for the fatality included in this compendium. Confirmation of the cause of death by a postmortem report was obtained in 26% of cases. The highest blood level of implicated substances is provided where available to the reporting poison center. Prehospital cardiac and/or respiratory arrests occurred in 32% of all fatalities, and these are indicated in Table 17. Selected abstracts are provided in the appendix.

**TABLE 14.** Therapy Provided in Human Exposure Cases

Therapy	No.
<b>Initial Decontamination</b>	
Dilution	618,674
Irrigation/washing	377,503
Activated charcoal	135,805
Cathartic	110,167
Ipecac syrup	79,582
Gastric lavage	61,286
Other emetic	4,347
<b>Measures to Enhance Elimination</b>	
Alkalinization (with or without diuresis)	7,194
Hemodialysis	640
Forced diuresis	354
Acidification (with or without diuresis)	200
Hemoperfusion (charcoal or resin)	164
Exchange transfusion	115
Peritoneal dialysis	24
<b>Specific Antidote Administration</b>	
N-acetylcysteine (oral)	7,456
Naloxone	7,045
Deferoxamine	916
Atropine	852
Antivenin	655
Hydroxocobalamin	539
Ethanol	511
N-acetylcysteine (IV)	385
Physostigmine	248
Fab fragments	228
Pyridoxine	226
Pralidoxime (2-PAM)	212
Dimercaprol (BAL)	153
Methylene blue	153
Cyanide antidote kit	93
EDTA	93
Penicillamine	74

**TABLE 15.** Ipecac Administration by Site and Age

Age (years)	Non-Health Care Facility		Health Care Facility		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%
< 1	898	1.1	992	1.2	5	0.0	1,895	2.4
1	10,308	13.0	5,719	7.2	51	0.1	16,078	20.2
2	18,072	22.7	9,303	11.7	96	0.1	27,471	34.5
3	8,387	10.5	4,013	5.0	28	0.0	12,428	15.6
4	2,826	3.6	1,210	1.5	11	0.0	4,047	5.1
5	1,011	1.3	432	0.5	8	0.0	1,451	1.8
6-12	1,052	1.3	824	1.0	5	0.0	1,881	2.4
13-17	220	0.3	3,802	4.8	3	0.0	4,025	5.1
> 17	707	0.9	9,195	11.6	16	0.0	9,918	12.5
Unknown	174	0.2	209	0.3	5	0.0	388	0.5
Total	43,655	54.9	35,699	44.9	228	0.3	79,582	100.0

**TABLE 16.** Use of Hemoperfusion and Hemodialysis in Human Exposure Cases

Substance Implicated in the Exposure	Hemodialysis	Hemoperfusion*	Hemodialysis and Hemoperfusion	Total	
				No.	col%
Lithium	132	0	0	132	13.5
Aminophylline/theophylline	55	47	10	112	11.4
Ethylene glycol	98	0	0	98	10.0
Aspirin (formulated alone)	68	4	0	72	7.4
Methanol	46	0	0	46	4.7
Ethanol	34	5	0	39	4.0
Acetaminophen (formulated alone)	27	4	0	31	3.2
Benzodiazepines	22	8	1	31	3.2
Barbiturates, long acting	14	10	3	27	2.8
Antidepressants, cyclic	18	4	1	23	2.3
Carbamazepine	7	7	0	14	1.4
Muscle relaxants	10	2	1	13	1.3
Other substances	249	83	9	341	34.8
Total	780	174	25	979	100.0

NOTE. 979 substances were coded in 785 patients (two substances were coded in each of 194 patients). Identification of the substance that served as the stimulus for initiating hemoperfusion or hemodialysis was not possible in cases where more than one substance was implicated in the poisoning. Column percentages (col%) reflect the percent of the total number of substances implicated, not the total number of patients.

\* Hemoperfusion includes both charcoal and resin hemoperfusion.

Again in 1992, iron poisoning remained a leading cause of pediatric accidental poisoning ingestion fatalities. Six fatal iron poisonings in children younger than 2 years of age were reported to TESS; four of these cases involved prenatal vitamins with iron. Four fatal iron poisonings were reported elsewhere in 1992.<sup>10</sup> Two of the pediatric iron poisonings reported to TESS (cases 579A and 580) have ages and dates substantially similar to those reported in two of the other four cases, suggesting that these two cases may have been reported in both summaries. Pesticides were responsible for seven pediatric deaths reported to TESS.

Tables 18A and 18B provide comprehensive demographic data on patient age, reason for exposure, medical outcome, and use of a health care facility for all 1,864,188 exposures, presented by category. Table 18A focuses on nonpharmaceuticals; Table 18B presents drugs. Of the 1,966,002 substances logged in Tables 18A and 18B, 57.8% were nonpharmaceuticals and 42.2% were pharmaceuticals. The reason for the exposure was intentional for 25.9% of pharmaceutical substances implicated compared to only 4.0% of nonpharmaceutical substances. Correspondingly, treatment in a health care facility was provided in a higher percentage of pharmaceutical substances (39.6%) compared with nonpharmaceutical substances (20.5%). Pharmaceutical exposures also had more severe outcomes. Of substances implicated in fatal cases, 77.7% were pharmaceuticals (compared with only 42.2% in nonfatal cases). Similarly, 77.3% of substances implicated in major outcomes were pharmaceuticals.

Accidental exposures in children younger than 6 years of age are presented by substance category for nonpharmaceuticals (Table

19A) and pharmaceuticals (Table 19B), allowing an assessment of the severity of this subset of exposure cases. Of the 1,104,494 substances logged in Tables 19A and 19B, 59.3% were nonpharmaceuticals and 40.7% were pharmaceuticals. Treatment in a health care facility was provided much less frequently in these pediatric accidental exposure cases, but again a higher percentage of exposures to pharmaceutical substances (18.4%) were treated in a health care facility compared with nonpharmaceutical substances (11.0%).

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

Table 21 presents the most common substance categories listed by frequency of exposure. Table 22 lists the substance categories with the largest number of reported deaths; antidepressants and analgesics led this list.

Table 23 demonstrates a continued decrease in the use of ipecac-induced emesis in the treatment of poisoning, and corresponding increase in the use of activated charcoal. A remarkable chronological constancy of selected demographic data elements is demonstrated in Table 24, despite the considerable growth of this poisoning surveillance system over the past 10 years.

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 17.** Summary of Fatal Exposures

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
Adhesives/glues					
1 <sup>P</sup>	29 yr	Contact cement (trichloroethane)	Inhalation	Acc occup	
2 <sup>P</sup>	33 yr	Contact cement (trichloroethane)	Inhalation	Acc misuse	
3 <sup>P</sup>	19 yr	Glue activator	Inhalation	Int abuse	
4	14 yr	Model glue (toluene/xylene) nail polish	Inhalation	Int abuse	
5 <sup>AP</sup>	21 yr	Rubberized glue (toluene/methyl ethyl ketone/isopropanol)	Inhalation	Acc occup	

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
6 <sup>ap</sup>	39 yr	Rubberized glue (toluene/methyl ethyl ketone/isopropanol)	Inhalation	Acc occup	
7 <sup>ap</sup>	52 yr	Rubberized glue (toluene/methyl ethyl ketone/isopropanol)	Inhalation	Acc occup	
<b>Alcohols</b>					
8 <sup>c</sup>	28 yr	Ethanol	Ingestion	Int abuse	540 mg/dL
9 <sup>c</sup>	41 yr	Ethanol	Ingestion	Int abuse	
10 <sup>p</sup>	43 yr	Ethanol	Ingestion	Int abuse	420 mg/dL
11 <sup>c</sup>	56 yr	Ethanol	Ingestion	Int abuse	506 mg/dL
12 <sup>cp</sup>	76 yr	Ethanol	Ingestion	Int abuse	
13 <sup>c</sup>	36 yr	Ethanol	Ingestion	Acc misuse	
14 <sup>c</sup>	50 yr	acetaminophen Ethanol	Ingestion	Unknown	81 µg/mL
15	57 yr	acetaminophen Ethanol	Ingestion	Int suicide	
16 <sup>cp</sup>	58 yr	carisoprodol Ethanol	Ingestion	Int unknown	133 mg/dL
		isopropanol			14 mg/dL
		methanol			3 mg/dL
17	46 yr	Ethanol	Ingestion	Int suicide	
		unknown antidepressants			
18	42 yr	Methanol	Ingestion	Int unknown	
19	48 yr	Methanol	Ingestion	Int suicide	166 mg/dL
20	49 yr	Methanol	Ingestion	Int suicide	180 mg/dL
21 <sup>p</sup>	56 yr	Methanol	Ingestion	Int abuse	57 mg/dL
22 <sup>p</sup>	57 yr	Methanol	Ingestion	Int suicide	654 mg/dL
<i>See also cases 40, 103, 107, 108, 124, 198, 202, 204, 205, 206, 209, 256, 265, 270, 278, 280, 285, 288, 329, 330, 339, 340, 341, 342, 343, 351, 360, 380, 382, 387, 398, 401, 402, 403, 406, 425, 426, 451, 509, 510, 533, 553, 559, 560, 561, 572, 586, 597, 616, 625, 631, 634, 669, 670, 671, 672, 673, 674, 675, 676, 681, 691, 692 (ethanol); 16, 138, 509 (isopropanol); 16 (methanol).</i>					
<b>Arts/crafts/office supplies</b>					
23	>17 yr	Copier fluid (methanol 50%)	Ingestion	Int abuse	109 mg/dL
<b>Automotive products</b>					
24	22 yr	Antifreeze (ethylene glycol)	Ingestion	Int suicide	>300 mg/dL§
25	27 yr	Antifreeze (ethylene glycol)	Ingestion	Int suicide	25 mg/dL
26	36 yr	Antifreeze (ethylene glycol)	Ingestion	Int suicide	10 mg/dL
27	79 yr	Antifreeze (ethylene glycol)	Ingestion	Int suicide	197 mg/dL
28	89 yr	Antifreeze (ethylene glycol)	Ingestion	Int suicide	40 mg/dL
29 <sup>p</sup>	16 yr	Brake cleaner (trichloroethane)	Inhalation	Int abuse	
30	60 yr	Brake fluid	Ingestion	Unknown	
31 <sup>p</sup>	16 yr	Starter fluid (ether)	Inhalation	Int abuse	
32	21 yr	Windshield washer solvent (methanol)	Ingestion	Int suicide	176 mg/dL
33	76 yr	Windshield washer solvent (methanol 38%)	Ingestion	Int suicide	615 mg/dL
34	78 yr	Windshield washer solvent (methanol)	Ingestion	Acc gen	473 mg/dL
35	29 yr	Windshield washer solvent (methanol)	Ingestion	Int suicide	226 mg/dL
		antifreeze (ethylene glycol)			>12 h
		unknown analgesic			>20 h
36	44 yr	Windshield washer solvent (methanol)	Ingestion	Int suicide	170 mg/dL
		mouthwash			
		hydrogen peroxide			
<i>See also case 35 (antifreeze [ethylene glycol]).</i>					
<b>Batteries</b>					
<i>See case 84 (AA battery).</i>					
<b>Bites and envenomations</b>					
37 <sup>ap</sup>	25 yr	Black Indian Cobra	Bite/sting	Acc gen	
38 <sup>p</sup>	35 yr	Hymenoptera	Bite/sting	Acc gen	
39	86 yr	Hymenoptera	Bite/sting	Acc gen	
40 <sup>a</sup>	20 yr	Northern Pacific Rattlesnake	Bite/sting/ing	Int unknown	
		ethanol			207 mg/dL
<b>Chemicals</b>					
41 <sup>a</sup>	22 yr	Acrylamide (electrophoresis gel)	Ingestion	Int suicide	
42 <sup>ap</sup>	18 mo	Cyanide	Ingestion	Acc gen	5.3 µg/mL§
43 <sup>p</sup>	19 yr	Cyanide	Ingestion	Int suicide	2.2 µg/mL
44	27 yr	Cyanide	Ingestion	Int suicide	8.1 µg/mL
45 <sup>p</sup>	30 yr	Cyanide (silver cleaner)	Ingestion	Int suicide	0.5 µg/mL
46 <sup>p</sup>	37 yr	Cyanide, potassium	Ingestion	Int suicide	<2 µg/mL
47 <sup>p</sup>	55 yr	Cyanide	Ingestion	Int suicide	
48 <sup>p</sup>	28 yr	Cyanide, potassium	Ingestion	Int suicide	10 µg/mL§
		hydrochloric acid			
49 <sup>a</sup>	50 yr	Diethylene glycol (canned fuel)	Ingestion	Int abuse	

(Continued on following page)



**TABLE 17. Summary of Fatal Exposures (Cont'd)**

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
50 <sup>a</sup>	56 yr	Etching cream (ammonium bifluoride 20%/ sodium bifluoride 13%)	Ingestion	Acc gen	
51	62 yr	Ethylene glycol	Ingestion	Int unknown	153 mg/dL
52	86 yr	Ethylene glycol	Ingestion	Int suicide	287 mg/dL§
53	27 yr	Formaldehyde	Ingestion	Int suicide	
		pseudoephedrine			
54	60 yr	Formalin	Other	Adv rxn	
55 <sup>P</sup>	20 yr	Methyl ethyl ketone	Inhalation	Acc occup	
		argon			
56	27 yr	Strychnine sulfate	Ingestion	Int suicide	
57 <sup>P</sup>	33 yr	Strychnine	Ingestion	Int suicide	
58 <sup>P</sup>	52 yr	Strychnine sulfate	Ingestion	Int suicide	
59	71 yr	Sulfuric acid	Ingestion	Int suicide	
See also cases 104, 105, 106 (cyanide); 48 (hydrochloric acid); 116 (sulfuric acid).					
<b>Cleaning substances</b>					
60	84 yr	Automatic dishwasher detergent (sodium silicate/sodium carbonate/sodium dichloroisocyanurate)	Ing/Inh	Acc gen	
61	90 yr	Deodorant cleaner (cationic)	Ingestion	Int suicide	
62	60 yr	Drain cleaner (alkaline)	Ingestion	Int suicide	
63 <sup>P</sup>	61 yr	Drain cleaner (NaOH 54%/sodium nitrate 30%)	Ingestion	Int suicide	
64	67 yr	Drain cleaner (NaOH)	Ingestion	Int suicide	
65	49 yr	Drain cleaner (NaOH 54%/sodium nitrate 30%)	Ingestion	Int suicide	
		anticoagulant rodenticide (long-acting)			
66 <sup>P</sup>	42 yr	Dry cleaning agent (perchloroethylene)	Inhalation	Int abuse	
67 <sup>P</sup>	75 yr	Household cleaners, unspecified	Ingestion	Acc gen	
68	85 yr	Liquid drain cleaner (hydroxide/hypochlorite)	Ingestion	Int suicide	
69	84 yr	Oven and grill cleaner (NaOH 4%/KOH 4.5%/ tetrapotassium pyrophosphate 4%)	Ingestion	Acc gen	
70	95 yr	Pine oil disinfectant	Ing/Inh	Acc gen	
71 <sup>P</sup>	96 yr	Pine oil disinfectant (pine oil 70%)	Ing/Inh	Int suicide	
72	41 yr	Toilet bowl cleaner (HCl 15%)	Ingestion	Int suicide	
73	55 yr	Toilet bowl cleaner (HCl)	Ingestion	Int suicide	
74	60 yr	Toilet bowl cleaner (HCl 15%)	Ingestion	Int suicide	
75	62 yr	Toilet bowl cleaner (HCl 15%)	Ingestion	Int suicide	
76	65 yr	Toilet bowl cleaner (HCl 8%)	Ingestion	Int suicide	
77	76 yr	Toilet bowl cleaner (HCl 9%)	Ingestion	Int suicide	
See also cases 697 (drain cleaner); 470 (household bleach).					
<b>Cosmetics and personal care products</b>					
78 <sup>a</sup>	2 yr	Hair weave remover (mineral oil 20%/mineral spirits 30%)	Ing/Inh	Acc gen	
79 <sup>a</sup>	3 yr	Mouthwash (ethanol)	Ingestion	Acc gen	504 mg/dL
80 <sup>CP</sup>	43 yr	Mouthwash (ethanol 29%)	Ingestion	Int abuse	
81 <sup>AP</sup>	4 yr	Throat spray (phenol 1.4%/ethanol 12.5%)	Ingestion	Acc gen	ethanol 20 mg/dL§
See also cases 36 (mouthwash); 4 (nail polish).					
<b>Fertilizers</b>					
82 <sup>P</sup>	44 yr	Liquid nitrogen fertilizer	Derm/Inh	Acc occup	
<b>Foreign bodies, toys and miscellaneous</b>					
83	67 yr	Activated charcoal	Ing/Inh	Acc gen	
		povidone-iodine antiseptic			
84	27 yr	Plastic 35mm film canister	Ing/Inh	Acc gen	
		AA battery			
See also cases 223, 506, 507 (activated charcoal).					
<b>Fumes, gases and vapors</b>					
85 <sup>P</sup>	16 yr	Carbon dioxide	Inhalation	Acc occup	
86 <sup>P</sup>	35 yr	Carbon dioxide	Inhalation	Acc occup	
87 <sup>P</sup>	12 mo	Carbon monoxide/smoke inhalation	Inhalation	Acc environ	
88 <sup>AP</sup>	3 yr	Carbon monoxide	Inhalation	Acc environ	
89 <sup>P</sup>	4 yr	Carbon monoxide/smoke inhalation	Inhalation	Acc environ	41%
90 <sup>CP</sup>	10 yr	Carbon monoxide	Inhalation	Acc environ	51%
91 <sup>P</sup>	19 yr	Carbon monoxide	Inhalation	Acc environ	48%§
92 <sup>P</sup>	21 yr	Carbon monoxide	Inhalation	Unknown	
93 <sup>P</sup>	22 yr	Carbon monoxide/smoke inhalation	Inhalation	Acc occup	33%
94 <sup>P</sup>	30 yr	Carbon monoxide	Inhalation	Int suicide	57%
95 <sup>P</sup>	32 yr	Carbon monoxide	Inhalation	Unknown	69%
96 <sup>P</sup>	32 yr	Carbon monoxide	Inhalation	Int suicide	75%
97 <sup>P</sup>	32 yr	Carbon monoxide	Inhalation	Acc occup	35%§
98 <sup>P</sup>	35 yr	Carbon monoxide	Inhalation	Acc occup	>50%§
99 <sup>P</sup>	40 yr	Carbon monoxide/smoke inhalation	Inhalation	Acc environ	52%
100 <sup>P</sup>	43 yr	Carbon monoxide	Inhalation	Int suicide	17%
101 <sup>P</sup>	52 yr	Carbon monoxide	Inhalation	Int suicide	77%

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
102 <sup>P</sup>	Unk	Carbon monoxide	Inhalation	Unknown	78%
103 <sup>P</sup>	31 yr	Carbon monoxide	Ing/Inh/Unk	Int suicide	32%§
		cocaine			0.15 µg/mL
		ethanol			56 mg/dL
104 <sup>P</sup>	4 yr	Carbon monoxide	Inhalation	Acc environ	41%
		cyanide			0.06 µg/mL
105 <sup>P</sup>	11 yr	Carbon monoxide	Inhalation	Acc environ	30%
		cyanide			2.8 µg/mL
106 <sup>P</sup>	19 yr	Carbon monoxide	Inhalation	Acc environ	53%
		cyanide			3.6 µg/mL
107	46 yr	Carbon monoxide	Ing/Inh	Int suicide	37%
		ethanol			245 mg/dL
108 <sup>P</sup>	46 yr	Carbon monoxide	Ing/Inh	Int suicide	56%
		ethanol			89 mg/dL§
109 <sup>P</sup>	45 yr	Hydrogen sulfide	Inhalation	Acc occup	
110 <sup>AP</sup>	17 yr	Hydrogen sulfide	Inhalation	Acc occup	thiosulfate 20 µg/mL
		methane			6 ppm
111 <sup>AP</sup>	17 yr	Hydrogen sulfide	Inhalation	Acc occup	thiosulfate 15 µg/mL
		methane			
112 <sup>P</sup>	30 yr	Hydrogen sulfide	Inhalation	Acc occup	
		methane			
113 <sup>AP</sup>	44 yr	Hydrogen sulfide	Inhalation	Acc occup	thiosulfate 16 µg/mL
		methane			6 ppm
114 <sup>P</sup>	>17 yr	Methane	Inhalation	Acc occup	
115 <sup>P</sup>	>17 yr	Methane	Inhalation	Acc occup	
116 <sup>P</sup>	30 yr	Methane	Inhalation	Acc occup	
		sulfuric acid			
117 <sup>CP</sup>	18 yr	Propane	Inhalation	Int abuse	
118 <sup>P</sup>	54 yr	Propane	Inhalation	Int suicide	
119 <sup>P</sup>	35 yr	Smoke inhalation	Inhalation	Acc environ	
120	>17 yr	Welding fumes	Inhalation	Acc occup	
See also cases 55 (argon); 630 (carbon monoxide); 110, 111, 112, 113 (methane).					
Heavy metals					
121 <sup>AC</sup>	30 yr	Cadmium	Inhalation	Acc occup	42 ng/mL
122 <sup>AP</sup>	23 yr	Selenium/vitamin E	Parenteral	Int suicide	selenium >500 ng/mL§
123	34 yr	Sodium arsenate	Ingestion	Int suicide	
Herbicides					
124 <sup>A</sup>	35 yr	Moss killer (zinc chloride 30%) ethanol	Ingestion	Int suicide	14,853 µg/dL
125 <sup>AC</sup>	62 yr	Paraquat	Inh/Unk	Acc occup	200 mg/dL
Hydrocarbons					
126 <sup>P</sup>	15 yr	Butane	Inhalation	Int abuse	
127 <sup>P</sup>	16 yr	Butane	Inhalation	Int abuse	
128 <sup>P</sup>	16 yr	Butane	Inhalation	Int abuse	
129 <sup>P</sup>	16 yr	Butane	Inhalation	Int abuse	
130	17 yr	Butane	Inhalation	Unknown	
131 <sup>P</sup>	18 yr	Butane	Inhalation	Int abuse	
132 <sup>P</sup>	18 yr	Butane	Inhalation	Int abuse	
133 <sup>P</sup>	20 yr	Butane	Inhalation	Int abuse	
134 <sup>P</sup>	16 yr	Cleaner degreaser (freon 72%/ethanol 27%)	Inhalation	Int abuse	
135 <sup>P</sup>	16 yr	Contact cleaner (trichloroethane/ trifluoroethane)	Inhalation	Int abuse	
136	12 yr	Freon	Inhalation	Int abuse	
137 <sup>P</sup>	31 yr	Freon	Inhalation	Int unknown	
138 <sup>P</sup>	>17 yr	Freon isopropanol	Inhalation	Acc occup	
139 <sup>P</sup>	17 yr	Halon (keyboard cleaner)	Inhalation	Int abuse	
140 <sup>A</sup>	13 mo	Kerosene	Ing/Inh	Acc gen	
141	37 yr	Lighter fluid	Derm/Ing	Int suicide	
Insecticides/pesticides					
142	45 yr	Aldicarb	Ingestion	Unknown	
143 <sup>AP</sup>	18 mo	Diazinon	Ingestion	Acc gen	
144 <sup>AP</sup>	2 yr	Diazinon	Ingestion	Int misuse	
145 <sup>AP</sup>	4 yr	Diazinon	Ingestion	Int misuse	
146	46 yr	Diazinon (23%)	Unknown	Int unknown	
147	30 yr	Diazinon (0.5%)/pyrethrin	Ingestion	Int suicide	
148 <sup>AP</sup>	2 yr	Endosulfan	Derm/Ing	Acc gen	
149 <sup>A</sup>	2 yr	Flea and tick dip (rotenone 1%/pine oil 55%)	Ingestion	Acc gen	
150 <sup>P</sup>	52 yr	Flea fogger (methoprene 0.75%/permethrin 0.5%/ trichloroethane 99.4%)	Inhalation	Acc misuse	
151 <sup>A</sup>	80 yr	Lindane (20%)	Ingestion	Int suicide	

(Continued on following page)

**TABLE 17. Summary of Fatal Exposures (Cont'd)**

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
152	55 yr	Malathion	Ingestion	Int suicide	
153 <sup>P</sup>	>17 yr	Malathion	Ingestion	Unknown	
154	39 yr	Mange and ear mite treatment (lindane 0.1%/rotenone 0.12%)	Ingestion	Int suicide	
155 <sup>a</sup>	37 yr	Methyl bromide fumigant	Inhalation	Acc environ	bromide 12 mg/dL
156 <sup>BP</sup>	3 yr	Parathion	Ingestion	Acc gen	3 µg/dL§
157	5 yr	Propoxur 1%/pyrethrins 0.15%/piperonyl butoxide 1%	Inhalation	Acc gen	
158	38 yr	Unknown insecticide	Ingestion	Int suicide	
159 <sup>P</sup>	50 yr	Unknown pesticide endosulfan doxepin	Ingestion	Int suicide	
<i>See also case 159 (endosulfan).</i>					
<b>Mushrooms</b>					
160 <sup>a</sup>	76 yr	<i>Amanita bisporigera</i>	Ingestion	Acc misuse	
<b>Paints and stripping agents</b>					
161 <sup>P</sup>	46 yr	Automotive paint	Inhalation	Acc misuse	
<b>Rodenticides</b>					
162 <sup>a</sup>	72 yr	Brodifacoum (0.005%)	Ingestion	Acc gen	
<i>See also case 65 (anticoagulant rodenticide [long-acting]).</i>					
<b>Sporting equipment</b>					
163 <sup>a</sup>	44 yr	Gun bluing (selenious acid 5%/cupric nitrate 4%/nitric acid 4%/phosphoric acid 4%) heroin cocaine	Ingestion	Int suicide	
<b>Analgesics</b>					
164 <sup>c</sup>	13 yr	Acetaminophen	Ingestion	Acc misuse	
165	14 yr	Acetaminophen	Ingestion	Int suicide	99 µg/mL
166	16 yr	Acetaminophen	Ingestion	Int suicide	
167 <sup>c</sup>	21 yr	Acetaminophen	Ingestion	Int suicide	6.6 µg/mL
168	26 yr	Acetaminophen	Ingestion	Int suicide	6 µg/mL
169	28 yr	Acetaminophen	Ingestion	Int suicide	400 µg/mL
170	28 yr	Acetaminophen	Ingestion	Int suicide	53 µg/mL
171 <sup>c</sup>	30 yr	Acetaminophen	Ingestion	Int misuse	35 µg/mL
172 <sup>c</sup>	31 yr	Acetaminophen	Ingestion	Int misuse	132 µg/mL
173	32 yr	Acetaminophen	Ingestion	Int suicide	8 µg/mL
174	33 yr	Acetaminophen	Ingestion	Unknown	
175	33 yr	Acetaminophen	Ingestion	Int suicide	244 µg/mL
176	35 yr	Acetaminophen	Ingestion	Int suicide	8 µg/mL
177	36 yr	Acetaminophen	Ingestion	Int suicide	40 µg/mL
178	38 yr	Acetaminophen	Ingestion	Int suicide	46 µg/mL
179	39 yr	Acetaminophen	Ingestion	Unknown	39 µg/mL
180 <sup>c</sup>	39 yr	Acetaminophen	Ingestion	Acc misuse	60 µg/mL
181 <sup>c</sup>	39 yr	Acetaminophen	Ingestion	Int misuse	50 µg/mL
182 <sup>c</sup>	41 yr	Acetaminophen	Ingestion	Int misuse	33 µg/mL
183	41 yr	Acetaminophen	Ingestion	Int suicide	200 µg/mL
184	43 yr	Acetaminophen	Ingestion	Int unknown	25 µg/mL
185	54 yr	Acetaminophen	Ingestion	Int suicide	53 µg/mL
186	55 yr	Acetaminophen	Ingestion	Int suicide	
187 <sup>c</sup>	56 yr	Acetaminophen	Ingestion	Int misuse	73 µg/mL
188 <sup>c</sup>	61 yr	Acetaminophen	Ingestion	Int misuse	192 µg/mL
189	74 yr	Acetaminophen	Ingestion	Acc misuse	12 µg/mL
190 <sup>c</sup>	85 yr	Acetaminophen	Ingestion	Int misuse	25 µg/mL
191 <sup>c</sup>	41 yr	Acetaminophen	Ingestion	Int misuse	
192 <sup>c</sup>	>17 yr	acetaminophen/propoxyphene	Ingestion	Int misuse	150 µg/mL
193	25 yr	Acetaminophen acetaminophen/pyrilamine/pamabrom aspirin	Ingestion	Int suicide	173 µg/mL
194	35 yr	Acetaminophen aspirin	Ingestion	Int suicide	49 mg/dL
195 <sup>c</sup>	43 yr	Acetaminophen aspirin	Ingestion	Int misuse	130 µg/mL
196	48 yr	Acetaminophen aspirin	Ingestion	Int suicide	149 mg/dL
197	58 yr	Acetaminophen aspirin	Ingestion	Unknown	34 µg/mL
198	57 yr	Acetaminophen benzodiazepine ethanol	Ingestion	Int suicide	5 mg/dL

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
199	76 yr	Acetaminophen	Ingestion	Int suicide	325 µg/mL	>24 h
200	>17 yr	benzodiazepine propoxyphene	Ingestion	Int suicide		
201	27 yr	Acetaminophen carbamazepine	Ing/Unk	Int suicide	39 µg/mL	
202	30 yr	diphenhydramine/pseudoephedrine	Ingestion	Int suicide	350 µg/mL	18-24 h
203	72 yr	Acetaminophen cocaine	Ingestion	Int suicide	420 µg/mL	
204 <sup>c</sup>	33 yr	Acetaminophen diazepam	Ingestion	Unknown	49 µg/mL	
205	39 yr	ethanol	Ingestion	Int suicide		
206 <sup>c</sup>	57 yr	Acetaminophen ethanol	Ingestion	Int abuse	120 µg/mL	
207	40 yr	Acetaminophen ethinamate	Ingestion	Int suicide	61.5 µg/mL	
208	20 yr	Acetaminophen ibuprofen	Ingestion	Int suicide	59 µg/mL	30 h
209	28 yr	Acetaminophen propoxyphene	Ingestion	Int suicide	181 µg/mL 0.74 µg/mL§	
210	77 yr	ethanol	Ingestion	Int unknown	30 mg/dL 253 µg/mL	
211 <sup>c</sup>	38 yr	Acetaminophen salicylates	Ingestion	Acc misuse	24 mg/dL 26 µg/mL	>48 h
212	44 yr	Acetaminophen unknown decongestant	Ingestion	Int suicide	239 µg/mL <sup>  </sup>	
213	44 yr	Acetaminophen/butalbital/caffeine aspirin	Ingestion	Int suicide	37 µg/mL <sup>  </sup> 3.9 mg/dL	
214	26 yr	Acetaminophen/codeine	Ingestion	Int suicide	406 µg/mL <sup>  </sup>	
215 <sup>c</sup>	48 yr	Acetaminophen/codeine	Ingestion	Int abuse	105 µg/mL <sup>  </sup>	
216	65 yr	Acetaminophen/codeine	Ingestion	Int suicide	85 µg/mL <sup>  </sup>	12 h
217	28 yr	Acetaminophen/codeine	Ingestion	Int suicide		
218 <sup>c</sup>	67 yr	acetaminophen/oxycodone	Ingestion	Unknown	73 µg/mL <sup>  </sup>	
219	43 yr	aspirin/codeine/butalbital/caffeine	Ingestion	Int suicide	36 µg/mL <sup>  </sup>	24 h
220	30 yr	Acetaminophen/hydrocodone	Ingestion	Int suicide	271 µg/mL <sup>  </sup>	27 h
221 <sup>P</sup>	44 yr	Acetaminophen/propoxyphene	Ingestion	Unknown	27 µg/mL <sup>  </sup>	
222	36 yr	Acetaminophen/ propoxyphene	Ingestion	Int suicide	265 µg/mL§ 3.8 µg/mL§	
		acetaminophen/oxycodone			norpropoxyphene 0.8 µg/mL§	
223	67 yr	Acetaminophen/codeine amitriptyline	Ing/Inh	Int suicide	32 µg/mL	11 h
224 <sup>P</sup>	34 yr	activated charcoal	Ingestion	Int suicide		
225	50 yr	Acetaminophen/propoxyphene diazepam	Ingestion	Int suicide		
226	46 yr	Acetaminophen/propoxyphene lorazepam	Ingestion	Int abuse	177 µg/mL <sup>  </sup>	
227	18 yr	Acetaminophen/propoxyphene meperidine	Ingestion	Int suicide		
228	18 yr	Acetaminophen/propoxyphene triazolam	Ingestion	Int suicide		
229	22 yr	Aspirin	Ingestion	Int suicide	107 mg/dL	6.5 h
230	23 yr	Aspirin	Ingestion	Int suicide	150 mg/dL	7 h
231	24 yr	Aspirin	Ingestion	Int suicide	>100 mg/dL	
232	27 yr	Aspirin	Ingestion	Int suicide	116 mg/dL	
233	34 yr	Aspirin	Ingestion	Int suicide	149 mg/dL	>31 h
234 <sup>c</sup>	43 yr	Aspirin	Ingestion	Int suicide	136 mg/dL	
235	47 yr	Aspirin	Ingestion	Int misuse	56 mg/dL	
236 <sup>c</sup>	51 yr	Aspirin	Ingestion	Int suicide	76 mg/dL	
237	52 yr	Aspirin	Ingestion	Int misuse	118 mg/dL	
238 <sup>c</sup>	54 yr	Aspirin	Ingestion	Int suicide	192 mg/dL	
239 <sup>c</sup>	57 yr	Aspirin	Ingestion	Int suicide	132 mg/dL	
240	58 yr	Aspirin	Ingestion	Acc misuse	80 mg/dL	
241	69 yr	Aspirin	Ingestion	Int suicide	109 mg/dL	4.5-8.5 h
242	70 yr	Aspirin	Ingestion	Int suicide	109 mg/dL 97 mg/dL	12 h

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
243	76 yr	Aspirin	Ingestion	Int suicide	75 mg/dL	6 h
244 <sup>c</sup>	78 yr	Aspirin	Ingestion	Int misuse	70 mg/dL	
245	84 yr	Aspirin	Ingestion	Int suicide	79 mg/dL	>10 h
246	85 yr	Aspirin	Ingestion	Unknown	73 mg/dL	36 h
247 <sup>c</sup>	86 yr	Aspirin	Ingestion	Unknown	51 mg/dL	
248	16 yr	Aspirin	Ingestion	Int suicide	124 mg/dL	
		acetaminophen			371 µg/mL	
249	16 yr	Aspirin	Ingestion	Int suicide	63 mg/dL	6 h
		acetaminophen			765 µg/mL	1.5 h
250	18 yr	Aspirin	Ingestion	Int suicide	80 mg/dL	
		acetaminophen			247 µg/mL	
251	84 yr	Aspirin	Ingestion	Int suicide	75 mg/dL	4 h
		acetaminophen			90 µg/mL	4 h
252 <sup>c</sup>	36 yr	Aspirin	Ingestion	Int abuse	44 mg/dL	
		amitriptyline				
		opiates				
253	66 yr	Aspirin (sustained release)	Ingestion	Int suicide	67 mg/dL	
		amitriptyline/perphenazine				
		imipramine				
254 <sup>cp</sup>	29 yr	Aspirin	Ingestion	Int misuse	37 mg/dL	
		antidiarrheal preparation (bismuth subsalicylate)				
		acetaminophen				
255	41 yr	Aspirin	Ingestion	Int suicide	110 mg/dL	19 h
		diphenhydramine				
256	35 yr	Aspirin	Ingestion	Int suicide	257 mg/dL	<3 h
		ethanol			120 mg/dL	<3 h
257	23 yr	Aspirin	Ingestion	Unknown	754 mg/dL	
		methamphetamine				
		benztropine				
258	36 yr	Aspirin	Ingestion	Int unknown	74 mg/dL	
		propoxyphene				
259	49 yr	Aspirin	Ingestion	Int suicide	norpropoxyphene 0.64 µg/mL§	
		tricyclic antidepressant			116 mg/dL	
260 <sup>c</sup>	48 yr	Aspirin	Ingestion	Int misuse		
		unknown drug				
261	14 yr	Aspirin/butalbital/caffeine	Ingestion	Int suicide		
		dicyclomine				
262	17 yr	Aspirin/orphenadrine/caffeine	Ingestion	Int suicide	81 mg/dL¶	5 h
263	1 mo	Codeine	Ingestion	Unknown	0.34 µg/mL§	
					morphine 0.04 µg/mL§	
					total opiates 0.48 µg/mL§	
264	30 yr	Codeine	Ingestion	Int suicide		
		ephedrine				
		acetaminophen			5 µg/mL	
265 <sup>p</sup>	41 yr	Codeine	Ingestion	Int misuse	230 mg/dL§	
		ethanol				
		benzodiazepines				
266 <sup>p</sup>	35 yr	Codeine	Ingestion	Int suicide	3.8 µg/mL§	
		morphine				
267	55 yr	Colchicine	Ingestion	Int suicide		
268 <sup>ec</sup>	76 yr	Colchicine	Parenteral	Acc misuse		
269 <sup>p</sup>	45 yr	Hydromorphone	Unknown	Unknown		
		butalbital			7.3 µg/mL§	
		amphetamine				
270	23 yr	Ibuprofen	Ingestion	Int suicide		
		ethanol				
271	18 yr	Magnesium salicylate	Ingestion	Int abuse	281 mg/dL	7 h
272 <sup>c</sup>	76 yr	Magnesium salicylates	Ingestion	Acc misuse	23 mg/dL	
273	30 yr	Methadone	Ingestion	Int suicide	75 mg/dL	
274 <sup>c</sup>	37 yr	Methadone	Parenteral	Int abuse		
		meperidine				
		heroin				
275 <sup>p</sup>	43 yr	Morphine	Parenteral	Int suicide		
276	72 yr	Morphine (sustained release)	Ingestion	Int suicide		
277	>17 yr	Morphine	Ingestion	Unknown		
		alprazolam				
278 <sup>p</sup>	24 yr	Morphine	Ingestion	Int abuse		
		diazepam				
		ethanol				
279 <sup>p</sup>	28 yr	Morphine	Paren/Unk	Int suicide		
		fentanyl				
		homeopathic preparation (ethanol 60%)				
280 <sup>p</sup>	55 yr	Morphine	Ingestion	Int suicide		
		imipramine				
		ethanol				

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
281 <sup>P</sup>	36 yr	Opiates	Parenteral	Int suicide	
282 <sup>P</sup>	41 yr	Pentazocine	Ingestion	Int unknown	
283	42 yr	Pentazocine/naloxone	Ingestion	Int suicide	
284 <sup>P</sup>	51 yr	Propoxyphene benzodiazepines codeine	Ingestion	Int suicide	
285	62 yr	Propoxyphene carisoprodol ethanol	Ingestion	Int abuse	
286	35 yr	Propoxyphene clomipramine chlorpromazine	Ing/Paren	Int suicide	
287 <sup>P</sup>	33 yr	Propoxyphene clonazepam diazepam	Ingestion	Int suicide	
288 <sup>P</sup>	42 yr	Propoxyphene ethanol	Ingestion	Int suicide	
289 <sup>P</sup>	29 yr	Propoxyphene	Ingestion	Int misuse	0.48 µg/mL§ norpropoxyphene 1.08 µg/mL§ 0.51 µg/mL§
290 <sup>P</sup>	50 yr	thioridazine Propoxyphene trazodone oxazepam	Ingestion	Int suicide	
291 <sup>C</sup>	77 yr	Salicylate	Ingestion	Acc misuse	30 mg/dL
292	40 yr	Salicylate	Ingestion	Int suicide	117 mg/dL
293	70 yr	opiates Salicylates trazodone hydroxyzine	Ingestion	Int suicide	63 mg/dL 300 ng/mL§ 141 µg/mL§
294 <sup>C</sup>	84 yr	Salsalate	Ingestion	Acc unknown	45 mg/dL
295 <sup>C</sup>	41 yr	Salsalate acetaminophen	Ingestion	Unknown	57 mg/dL 97 µg/mL
See also cases 13, 14, 248, 249, 250, 251, 254, 264, 295, 363, 454, 469, 540, 579, 611, 619, 626 (acetaminophen); 219, 222, 399, 553, 564, 585 (acetaminophen/codeine); 505 (acetaminophen/hydrocodone); 217, 222, 337, 349, 476 (acetaminophen/oxycodone); 191, 346, 446, 447, 461, 612 (acetaminophen/propoxyphene); 192 (acetaminophen/pyrilamine/pamabrom); 193, 194, 195, 196, 197, 213, 410, 475 (aspirin); 634 (aspirin/carisoprodol); 217 (aspirin/codeine/butalbital/caffeine); 284 (codeine); 407 (colchicine); 279 (fentanyl); 208, 583, 612 (ibuprofen); 588 (ketoprofen); 226, 274 (meperidine); 347, 348, 349, 589, 605, 608, 677 (methadone); 266, 536, 678 (morphine); 410, 576 (naproxen); 252, 292, 366, 679, 680, 681 (opiates); 199, 209, 258, 396, 407, 586 (propoxyphene); 210, 454 (salicylates); 35 (unknown analgesic).					
<b>Anticholinergic drugs</b>					
296	48 yr	Amantadine	Ingestion	Int suicide	
297 <sup>C</sup>	35 yr	Benztropine	Ingestion	Int suicide	
298	61 yr	Benzotropine amitriptyline	Ingestion	Unknown	
See also cases 358, 365, 408 (amantadine); 257 (benztropine); 579 (hyoscyamine).					
<b>Anticoagulants</b>					
299 <sup>C</sup>	70 yr	Warfarin	Ingestion	Acc misuse	
299A <sup>C</sup>	75 yr	Warfarin	Ingestion	Acc misuse	
See also case 525 (warfarin).					
<b>Anticonvulsants</b>					
300 <sup>A</sup>	2 yr	Carbamazepine	Ingestion	Acc gen	39 µg/mL 24 h
301	35 yr	Carbamazepine	Ingestion	Int suicide	67 µg/mL
302	51 yr	Carbamazepine	Ingestion	Int suicide	72 µg/mL >12 h
303,	17 yr	Carbamazepine	Ingestion	Int suicide	78 µg/mL
304 <sup>C</sup>	18 yr	chlorpromazine Carbamazepine phenytoin	Ingestion	Int suicide	45 µg/mL 21 µg/mL
305 <sup>P</sup>	78 yr	Carbamazepine terfenadine alprazolam	Ingestion	Int suicide	
306	22 yr	Carbamazepine valproic acid	Ingestion	Int suicide	48 µg/mL 146 µg/mL
307	32 yr	Phenytoin phenobarbital	Ingestion	Int suicide	76 µg/mL 58 µg/mL 3 d 6 h
308	44 yr	Valproate, sodium fluphenazine temazepam	Ingestion	Int suicide	1,944 µg/mL
See also cases 200, 330, 364, 397, 628 (carbamazepine); 304, 351, 535, 567, 626, 628 (phenytoin); 563 (valproate, sodium); 306 (valproic acid).					
<b>Antidepressants</b>					
309 <sup>A</sup>	9 mo	Amitriptyline	Ingestion	Int misuse	10,800 ng/mL§ nortriptyline 1,800 ng/mL§
310	23 yr	Amitriptyline	Ingestion	Int suicide	170 ng/mL§ nortriptyline 1,070 ng/mL§

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
311	27 yr	Amitriptyline	Ingestion	Int suicide		
312	27 yr	Amitriptyline	Ingestion	Int suicide		
313 <sup>P</sup>	30 yr	Amitriptyline	Ingestion	Int suicide	7,648 ng/mL§	
314 <sup>P</sup>	32 yr	Amitriptyline	Ingestion	Int suicide	nortriptyline 3,184 ng/mL§	
					430 ng/mL§	
					nortriptyline 380 ng/mL§	
315	35 yr	Amitriptyline	Ingestion	Int suicide		
316 <sup>P</sup>	37 yr	Amitriptyline	Ingestion	Int suicide		
317	37 yr	Amitriptyline	Ingestion	Int suicide		
318 <sup>P</sup>	37 yr	Amitriptyline	Ingestion	Int suicide	233 ng/mL	>48 h
					nortriptyline 97 ng/mL	>48 h
319	38 yr	Amitriptyline	Ingestion	Int suicide	21,100 ng/mL	
320	41 yr	Amitriptyline	Ingestion	Int suicide	2,284 ng/mL	
321	52 yr	Amitriptyline	Ingestion	Int unknown		
322	53 yr	Amitriptyline	Ingestion	Int suicide		
323 <sup>P</sup>	54 yr	Amitriptyline	Ingestion	Int suicide		
324	63 yr	Amitriptyline	Ingestion	Int suicide		
325	68 yr	Amitriptyline	Ingestion	Int suicide		
326	83 yr	Amitriptyline	Ingestion	Unknown		
327	44 yr	Amitriptyline	Ingestion	Int suicide		
		alprazolam				
328	52 yr	Amitriptyline	Ingestion	Int suicide		
		alprazolam				
329	41 yr	Amitriptyline	Ingestion	Int suicide	1,100 ng/mL#	>12 h
		amphetamine				
		ethanol				
330 <sup>P</sup>	48 yr	Amitriptyline	Ingestion	Int suicide	2,700 ng/mL§	
					nortriptyline 910 ng/mL§	
		carbamazepine			14.42 µg/mL§	
		ethanol				
331	41 yr	Amitriptyline	Ingestion	Int suicide		
		carisoprodol				
		chlordiazepoxide				
332	47 yr	Amitriptyline	Ingestion	Int suicide		
		chlordiazepoxide				
		haloperidol				
333	35 yr	Amitriptyline	Ingestion	Int suicide		
		clonazepam				
334 <sup>P</sup>	28 yr	Amitriptyline	Ingestion	Int unknown	935 ng/mL§	
					nortriptyline 778 ng/mL§	
		cocaine				
335 <sup>P</sup>	43 yr	Amitriptyline	Ingestion	Int suicide		
		cocaine				
336 <sup>P</sup>	25 yr	Amitriptyline	Ingestion	Int suicide		
		cocaine				
		glyburide				
337 <sup>P</sup>	26 yr	Amitriptyline	Ingestion	Int suicide	450 ng/mL§	
					nortriptyline 40 ng/mL§	
		cyclobenzaprine			960 ng/mL§	
		acetaminophen/oxycodone			66 µg/mL§	
					2.05 µg/mL§	
338	67 yr	Amitriptyline	Ingestion	Int unknown		
		diazepam				
		nortriptyline				
339	28 yr	Amitriptyline	Ingestion	Int suicide		
		ethanol				
340	32 yr	Amitriptyline	Ingestion	Int suicide		
		ethanol				
341	33 yr	Amitriptyline	Ingestion	Int suicide		
		ethanol				
342 <sup>P</sup>	35 yr	Amitriptyline	Ingestion	Int suicide		
		ethanol				
343	88 yr	Amitriptyline	Ingestion	Int suicide	946 ng/mL	
					nortriptyline 182 ng/mL	
					420 mg/dL	
344 <sup>P</sup>	29 yr	Amitriptyline	Ingestion	Int suicide		
		lorazepam				
345 <sup>P</sup>	37 yr	Amitriptyline	Ingestion	Int suicide		
		lorazepam				
346	66 yr	Amitriptyline	Ingestion	Int suicide		
		meclizine				
347 <sup>P</sup>	19 yr	Amitriptyline	Ingestion	Int suicide	264 µg/mL <sup>¶</sup>	>5 h
		acetaminophen/propoxyphene				
		methadone				
348	32 yr	Amitriptyline	Ingestion	Int suicide	1,121 ng/mL	24 h
					nortriptyline 565 ng/mL	24 h
		methadone				

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
349 <sup>P</sup>	35 yr	Amitriptyline methadone	Ingestion	Int suicide		
350	19 yr	acetaminophen/oxycodone Amitriptyline	Ingestion	Int suicide	1,581 ng/mL§ nortriptyline 319 ng/mL§ 3.5 ng/mL	
351 <sup>P</sup>	25 yr	perphenazine Amitriptyline	Ingestion	Int suicide		
352	>17 yr	phenytoin ethanol Amitriptyline	Ingestion	Int unknown		
353	55 yr	thiothixene Amitriptyline	Ingestion	Int suicide		
354	32 yr	unknown drug Amitriptyline	Ingestion	Int suicide		
355 <sup>P</sup>	63 yr	verapamil (sustained release) Amitriptyline/chlordiazepoxide	Ingestion	Int suicide		
356	27 yr	Amitriptyline/perphenazine	Ingestion	Int suicide		
357 <sup>P</sup>	32 yr	Amitriptyline/perphenazine alprazolam	Ingestion	Int suicide		
358	42 yr	Amitriptyline/perphenazine amantadine	Ingestion	Int suicide		
359	32 yr	Amoxapine	Ingestion	Int suicide	676 ng/mL	
360 <sup>C</sup>	41 yr	Amoxapine ethanol	Ingestion	Int suicide	3,873 ng/mL§ 157 mg/dL	
361	30 yr	Amoxapine haloperidol	Ingestion	Int suicide		
362 <sup>P</sup>	34 yr	Bupropion	Ingestion	Int suicide	1,950 µg/mL§	
363	28 yr	Clomipramine acetaminophen alprazolam	Ingestion	Int suicide	78 µg/mL	
364	41 yr	Clomipramine	Ingestion	Int suicide	1,856 ng/mL desmethylclomipramine 619 ng/mL 28.9 µg/mL	6 h 6 h 6 h
365	26 yr	carbamazepine fluoxetine Clomipramine thiothixene amantadine	Ingestion	Adv rxn		
366	47 yr	Cyclic antidepressants opiates barbiturates	Ingestion	Int unknown		
367 <sup>CP</sup>	7 yr	Desipramine	Ingestion	Adv rxn		
368 <sup>P</sup>	15 yr	Desipramine	Ingestion	Int suicide	750 ng/mL	
369	15 yr	Desipramine	Ingestion	Int suicide		
370	18 yr	Desipramine	Ingestion	Int suicide	5,080 ng/mL§	
371	18 yr	Desipramine	Ingestion	Int suicide	1,700 ng/mL	
372 <sup>P</sup>	23 yr	Desipramine	Ingestion	Int suicide		
373	32 yr	Desipramine	Ingestion	Int suicide	15,100 ng/mL	
374	35 yr	Desipramine	Ingestion	Int suicide		
375	53 yr	Desipramine	Ingestion	Int suicide		
376	55 yr	Desipramine	Ingestion	Int suicide		
377	44 yr	Desipramine alprazolam	Ingestion	Int suicide		
378	37 yr	Desipramine chloral hydrate clonazepam	Ingestion	Int suicide		
379	38 yr	Desipramine clonazepam lithium	Ingestion	Int suicide	1,380 ng/mL	
380 <sup>P</sup>	35 yr	Desipramine cocaine ethanol	Ingestion	Int suicide		
381 <sup>P</sup>	58 yr	Desipramine cyclobenzaprine	Ingestion	Int suicide		
382	17 yr	Desipramine ethanol	Ingestion	Int suicide		
383 <sup>P</sup>	29 yr	Desipramine haloperidol	Ingestion	Int suicide		
384	33 yr	Desipramine lorazepam chloral hydrate	Ingestion	Int suicide		
385 <sup>P</sup>	29 yr	Desipramine nortriptyline haloperidol	Ingestion	Int suicide	1,510 ng/mL§ 6 ng/mL§	
386 <sup>P</sup>	>17 yr	Desipramine terfenadine	Ingestion	Int suicide		

(Continued on following page)



TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
387 <sup>P</sup>	52 yr	Desipramine terfenadine/pseudoephedrine ethanol	Ingestion	Int suicide	538 ng/mL 300 mg/dL
388	61 yr	Desipramine thioridazine	Ingestion	Int suicide	
389	17 yr	Doxepin	Ingestion	Int suicide	
390 <sup>P</sup>	27 yr	Doxepin	Ingestion	Int suicide	
391	35 yr	Doxepin	Ingestion	Unknown	
392	42 yr	Doxepin	Ingestion	Int suicide	
393	71 yr	Doxepin	Ingestion	Int suicide	
394	83 yr	Doxepin	Ingestion	Int suicide	
395 <sup>P</sup>	>17 yr	Doxepin	Ingestion	Int suicide	
396	36 yr	Doxepin alprazolam propoxyphene	Ingestion	Int suicide	1,244 ng/mL
397 <sup>P</sup>	37 yr	Doxepin carbamazepine	Ingestion	Int suicide	
398 <sup>P</sup>	41 yr	Doxepin clonazepam ethanol	Ingestion	Int suicide	
399	26 yr	Doxepin cyclobenzaprine	Ingestion	Int suicide	
400 <sup>P</sup>	47 yr	Doxepin acetaminophen/codeine	Ingestion	Int suicide	3,000 ng/mL§
401	23 yr	Doxepin enalapril lithium	Ingestion	Int suicide	2,930 ng/mL§ 110 mg/dL§
402	35 yr	Doxepin	Ingestion	Int suicide	1,719 ng/mL desmethyldoxepin 327 ng/mL 310 mg/dL
403	69 yr	ethanol Doxepin ethanol hydroxyzine	Ingestion	Int suicide	
404 <sup>P</sup>	32 yr	Doxepin hyoscyamine/atropine/scopolamine/ phenobarbital chlordiazepoxide/clidinium	Ingestion	Int suicide	
405 <sup>P</sup>	88 yr	Doxepin lorazepam quazepam	Ingestion	Int suicide	
406	32 yr	Doxepin phenelzine ethanol	Ingestion	Int suicide	
407 <sup>P</sup>	30 yr	Doxepin propoxyphene colchicine	Ingestion	Int suicide	
408 <sup>P</sup>	45 yr	Doxepin propranolol amantadine	Ingestion	Int suicide	
409	38 yr	Doxepin sertraline flurazepam	Ingestion	Int suicide	
410	45 yr	Fluoxetine naproxen aspirin	Ingestion	Int suicide	52 mg/dL
411	13 yr	Imipramine	Ingestion	Int suicide	
412	29 yr	Imipramine	Ingestion	Int unknown	1,396 ng/mL desipramine 397 ng/mL
413	33 yr	Imipramine	Ingestion	Int suicide	
414	34 yr	Imipramine	Ingestion	Int suicide	1,982 ng/mL
415	36 yr	Imipramine	Ingestion	Int suicide	6,130 ng/mL desipramine 988 ng/mL
416	38 yr	Imipramine	Ingestion	Int suicide	1,334 ng/mL
417 <sup>P</sup>	41 yr	Imipramine	Ingestion	Int suicide	3,500 ng/mL
418	43 yr	Imipramine	Ingestion	Int suicide	
419	46 yr	Imipramine	Ingestion	Int suicide	
420 <sup>P</sup>	48 yr	Imipramine alprazolam	Ingestion	Int suicide	3,190 ng/mL§ 230 ng/mL§
421	32 yr	Imipramine cyclobenzaprine doxepin	Ingestion	Int suicide	
422 <sup>P</sup>	16 yr	Imipramine desipramine	Ingestion	Int suicide	
423	32 yr	Imipramine diphenhydramine	Ingestion	Int suicide	

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
424	19 yr	Imipramine doxepin trifluoperazine	Ingestion	Int suicide	
425	23 yr	Imipramine	Ingestion	Int suicide	3,070 ng/mL desipramine 234 ng/mL
426 <sup>P</sup>	40 yr	ethanol Imipramine	Ingestion	Int suicide	
427 <sup>P</sup>	46 yr	Lithium	Ingestion	Int suicide	5.6 mEq/L
428 <sup>C</sup>	69 yr	Lithium	Ingestion	Acc misuse	2.4 mEq/L
429 <sup>P</sup>	27 yr	Lithium	Ingestion	Int suicide	
430	36 yr	amitriptyline clonazepam Lithium	Ingestion	Int suicide	3.3 mEq/L
431	41 yr	nifedipine (sustained release) captopril Lithium	Ingestion	Unknown	5.2 mEq/L
432 <sup>P</sup>	>17 yr	perphenazine amitriptyline Loxapine	Ingestion	Acc unknown	nortriptyline 350 ng/mL§
433 <sup>P</sup>	76 yr	diazepam Maprotiline clonazepam alprazolam	Ingestion	Int suicide	
434	25 yr	Nortriptyline	Ingestion	Int suicide	7,680 ng/mL
435 <sup>P</sup>	30 yr	Nortriptyline	Ingestion	Int suicide	
436 <sup>P</sup>	31 yr	Nortriptyline	Ingestion	Int suicide	
437 <sup>P</sup>	32 yr	Nortriptyline	Ingestion	Int suicide	
438	38 yr	Nortriptyline	Ingestion	Int suicide	
439	39 yr	Nortriptyline	Ingestion	Int suicide	450 ng/mL
440	39 yr	Nortriptyline	Ingestion	Int suicide	1,391 ng/mL
441 <sup>P</sup>	40 yr	Nortriptyline	Ingestion	Int suicide	605 ng/mL
442	45 yr	Nortriptyline	Ingestion	Int suicide	
443	64 yr	Nortriptyline	Ingestion	Int misuse	356 ng/mL
444	78 yr	Nortriptyline	Ingestion	Int suicide	
445	89 yr	Nortriptyline	Ingestion	Int suicide	
446	31 yr	Nortriptyline	Ingestion	Int suicide	
447	42 yr	acetaminophen/propoxyphene Nortriptyline	Ingestion	Int suicide	200 µg/mL <sup>  </sup> 1 h
448	40 yr	acetaminophen/propoxyphene hyoscyamine/atropine/scopolamine/ phenobarbital Nortriptyline	Ingestion	Int suicide	
449 <sup>P</sup>	15 yr	alprazolam fluoxetine Nortriptyline	Ingestion	Int suicide	
450 <sup>P</sup>	39 yr	clonazepam Nortriptyline	Ingestion	Int suicide	
451	43 yr	diazepam Nortriptyline	Ingestion	Int suicide	2,460 ng/mL§ 270 mg/dL 0.9 µg/mL§
452	20 yr	ethanol diphenhydramine Nortriptyline	Ingestion	Int suicide	
453	30 yr	famotidine Nortriptyline	Ingestion	Int suicide	321 ng/mL
454	31 yr	fluoxetine Nortriptyline	Ingestion	Int suicide	548 ng/mL§ 47 mg/dL
455 <sup>C</sup>	39 yr	salicylates acetaminophen Phenelzine	Ingestion	Unknown	20 µg/mL§
456 <sup>P</sup>	37 yr	benzodiazepines fluoxetine Phenelzine	Ingestion	Int suicide	
457	43 yr	doxepin alprazolam Phenelzine	Ingestion	Int suicide	
458	33 yr	imipramine diphenhydramine Sertraline	Ingestion	Int suicide	
459 <sup>P</sup>	31 yr	omeprazole (sustained release) Tranlycypromine	Ingestion	Unknown	
460	86 yr	Tranlycypromine	Ingestion	Int suicide	15.9 µg/mL
461	61 yr	Tranlycypromine acetaminophen/propoxyphene trazodone	Ingestion	Int suicide	20 µg/mL <sup>  </sup>

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**TABLE 17. Summary of Fatal Exposures (Cont'd)**

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
462	27 yr	Tranlycypromine chlorpromazine hydroxyzine	Ingestion	Int unknown	
463	34 yr	Tranlycypromine fluoxetine clonazepam	Ingestion	Int suicide	
464	14 yr	Tricyclic antidepressant	Ingestion	Int suicide	
465 <sup>P</sup>	26 yr	Tricyclic antidepressant	Ingestion	Int suicide	
466	33 yr	Tricyclic antidepressant	Ingestion	Int suicide	
467 <sup>P</sup>	35 yr	Tricyclic antidepressant	Ingestion	Unknown	
468	49 yr	Tricyclic antidepressant	Ingestion	Int suicide	
469 <sup>P</sup>	27 yr	Tricyclic antidepressant diphenhydramine acetaminophen	Ingestion	Int unknown	
470	34 yr	Tricyclic antidepressants fluoxetine household bleach (sodium hypochlorite 5%)	Ingestion	Int suicide	
471	40 yr	Tricyclic antidepressant sleep aid (doxylamine) caffeine	Ingestion	Int suicide	
<p>See also cases 223, 252, 298, 429, 431, 569, 610, 616, 624, 667 (amitriptyline); 253 (amitriptyline/perphenazine); 286, 566 (clomipramine); 422, 617 (desipramine); 159, 421, 424, 456, 558, 678 (doxepin); 364, 448, 453, 455, 463, 470, 603 (fluoxetine); 253, 280, 457, 600 (imipramine); 379, 400, 601, 636 (lithium); 338, 385, 525, 609 (nortriptyline); 406 (phenelzine); 409 (sertraline); 290, 293, 461 (trazodone); 259, 698 (tricyclic antidepressant); 17 (unknown antidepressants).</p>					
<b>Antihistamines</b>					
472 <sup>AP</sup>	3 yr	Diphenhydramine	Ingestion	Unknown	2.5 µg/mL
473	67 yr	Diphenhydramine	Ingestion	Int suicide	
474 <sup>P</sup>	25 yr	Diphenhydramine cyclobenzaprine haloperidol	Ingestion	Int suicide	
475	13 yr	Diphenhydramine theophylline aspirin	Ingestion	Int suicide	
<p>See also cases 538 (cimetidine); 203, 255, 423, 451, 457, 469, 541 (diphenhydramine); 452 (famotidine); 293, 403, 462, 563 (hydroxyzine); 346 (meclizine); 534 (promethazine); 538 (ranitidine); 305, 386 (terfenadine).</p>					
<b>Antimicrobials</b>					
476 <sup>C</sup>	63 yr	Acyclovir acetaminophen/oxycodone	Ingestion	Acc misuse	
477	4 mo	Cefotaxime	Parenteral	Acc misuse	
478	23 yr	Isoniazid	Ingestion	Int unknown	
<b>Asthma therapies</b>					
479 <sup>C</sup>	55 yr	Oxtriphylline	Ingestion	Acc misuse	
480	86 yr	Pentoxifylline theophylline	Ingestion	Int suicide	65 µg/mL
481 <sup>A</sup>	4 yr	Theophylline (sustained release)	Ingestion	Acc gen	262 µg/mL
482	17 yr	Theophylline	Ingestion	Int suicide	64 µg/mL
483 <sup>P</sup>	33 yr	Theophylline	Ingestion	Int suicide	137 µg/mL
484 <sup>CP</sup>	43 yr	Theophylline (sustained release)	Ingestion	Int misuse	45 µg/mL
485	47 yr	Theophylline	Ingestion	Int suicide	208 µg/mL
486 <sup>C</sup>	51 yr	Theophylline (sustained release)	Ingestion	Acc misuse	66 µg/mL
487	56 yr	Theophylline	Ingestion	Int suicide	58 µg/mL
488 <sup>C</sup>	58 yr	Theophylline	Ingestion	Unknown	54 µg/mL
489	60 yr	Theophylline	Ingestion	Int unknown	119 µg/mL
490 <sup>C</sup>	60 yr	Theophylline	Ingestion	Int misuse	165 µg/mL
491	67 yr	Theophylline	Ingestion	Int suicide	96 µg/mL
492 <sup>C</sup>	69 yr	Theophylline	Ingestion	Acc misuse	76 µg/mL
493 <sup>C</sup>	70 yr	Theophylline	Ingestion	Int misuse	46 µg/mL
494 <sup>C</sup>	72 yr	Theophylline	Ingestion	Acc misuse	64 µg/mL
495 <sup>C</sup>	73 yr	Theophylline	Ingestion	Acc misuse	55 µg/mL
496 <sup>C</sup>	74 yr	Theophylline	Ingestion	Acc misuse	150 µg/mL
497 <sup>C</sup>	75 yr	Theophylline (sustained release)	Ingestion	Int suicide	42 µg/mL
498 <sup>C</sup>	79 yr	Theophylline	Ingestion	Acc misuse	56 µg/mL
499 <sup>C</sup>	79 yr	Theophylline	Ingestion	Acc unknown	38 µg/mL
500 <sup>C</sup>	80 yr	Theophylline	Ingestion	Unknown	176 µg/mL
501 <sup>C</sup>	84 yr	Theophylline	Ingestion	Unknown	114 µg/mL
502 <sup>C</sup>	88 yr	Theophylline	Ingestion	Unknown	34 µg/mL
503 <sup>C</sup>	91 yr	Theophylline (sustained release)	Ingestion	Acc misuse	70 µg/mL
504 <sup>C</sup>	91 yr	Theophylline	Ingestion	Acc misuse	59 µg/mL
505 <sup>C</sup>	77 yr	Theophylline acetaminophen/hydrocodone	Ingestion	Int misuse	116 µg/mL
506 <sup>C</sup>	63 yr	Theophylline activated charcoal	Ing/Inh	Int misuse	102 µg/mL 60 µg/mL

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TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
507 <sup>c</sup>	91 yr	Theophylline activated charcoal	Ing/Inh	Acc misuse	39 µg/mL	
508 <sup>c</sup>	61 yr	Theophylline digoxin	Ingestion	Unknown	52 µg/mL	
509 <sup>c</sup>	75 yr	Theophylline isopropanol ethanol	Ingestion	Acc unknown	66 µg/mL	
510	31 yr	Theophylline pseudoephedrine ethanol	Ingestion	Int suicide	220 µg/mL	>15 h
					215 mg/dL	
<i>See also cases 475, 480, 527, 528 (theophylline).</i>						
Cardiovascular drugs						
511	16 yr	Acebutolol	Ingestion	Int suicide		
512	48 yr	Alteplase	Parenteral	Adv rxn		
513 <sup>P</sup>	67 yr	Digoxin	Ingestion	Unknown	8.8 ng/mL	
514 <sup>c</sup>	68 yr	Digoxin	Ingestion	Acc misuse	14 ng/mL	
515 <sup>c</sup>	72 yr	Digoxin	Ingestion	Acc misuse	21.1 ng/mL	
516 <sup>c</sup>	76 yr	Digoxin	Ingestion	Unknown	4.1 ng/mL	
517 <sup>c</sup>	77 yr	Digoxin	Ingestion	Acc misuse	5 ng/mL	
518	77 yr	Digoxin	Parenteral	Acc misuse	>10 ng/mL	
519 <sup>c</sup>	77 yr	Digoxin	Ingestion	Acc misuse	5.6 ng/mL	
520 <sup>c</sup>	79 yr	Digoxin	Ingestion	Acc misuse	5.0 ng/mL	
521 <sup>c</sup>	79 yr	Digoxin	Ingestion	Acc misuse	2.2 ng/mL	
522	82 yr	Digoxin	Ingestion	Int suicide	7.8 ng/mL	
523 <sup>c</sup>	86 yr	Digoxin	Ingestion	Acc misuse	5.7 ng/mL	
524	92 yr	Digoxin	Ingestion	Int suicide		
525 <sup>P</sup>	60 yr	Digoxin	Ingestion	Int suicide	35 ng/mL	
		nortriptyline warfarin				
526	79 yr	Digoxin propranolol hydrochlorothiazide/triamterene	Ingestion	Int suicide	22.2 ng/mL	
527 <sup>c</sup>	70 yr	Digoxin theophylline	Ingestion	Unknown	4.0 ng/mL	
528 <sup>c</sup>	88 yr	Digoxin theophylline (sustained release)	Ingestion	Acc misuse	40 µg/mL	
					7.4 ng/mL	
					30.6 µg/mL	
529	39 yr	Diltiazem	Ingestion	Int suicide	0.37 mg/dL§	
530	33 yr	Diltiazem atenolol glipizide	Ingestion	Int suicide		
531	43 yr	Diltiazem benzodiazepines	Ingestion	Int suicide		
532	49 yr	Diltiazem metoprolol	Ingestion	Int suicide		
533	20 yr	Guanfacine ethanol	Ingestion	Int suicide		
534	42 yr	Hydralazine diazepam promethazine	Ingestion	Int suicide		
535	68 yr	Metoprolol digoxin phenytoin	Ingestion	Int suicide		
536	43 yr	Nadolol diazepam morphine	Ingestion	Int suicide		
537	47 yr	Nadolol verapamil minoxidil	Ingestion	Int suicide		
538	19 yr	Nadolol/bendroflumethiazide cimetidine ranitidine	Ingestion	Int suicide		
539 <sup>a</sup>	11 mo	Nifedipine	Ingestion	Acc gen		
540	40 yr	Nifedipine acetaminophen	Ingestion	Int unknown		
540A*	54 yr	Nifedipine (sustained release) thioridazine	Ingestion	Int suicide		
541	29 yr	Propranolol nitroglycerin diphenhydramine	Ingestion	Int suicide		
542	40 yr	Propranolol temazepam cocaine	Ingestion	Int suicide		
543	14 yr	Quinidine	Ingestion	Int suicide		
544	15 yr	Verapamil (sustained release)	Ingestion	Int suicide	4.61 µg/mL	
					norverapamil 1.47 µg/mL	

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TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels	
545	28 yr	Verapamil (sustained release)	Ingestion	Int suicide	2.0 µg/mL	
546	30 yr	Verapamil (sustained release)	Ingestion	Int suicide		
547	34 yr	Verapamil (sustained release)	Ingestion	Int suicide		
548	50 yr	Verapamil (sustained release)	Ingestion	Int suicide		
549	61 yr	Verapamil	Ingestion	Int suicide		
550	72 yr	Verapamil	Ingestion	Int suicide		
551	93 yr	Verapamil (sustained release)	Ingestion	Int suicide		
552	>17 yr	Verapamil (sustained release)	Ingestion	Int suicide		
553	33 yr	Verapamil (sustained release) acetaminophen/codeine ethanol	Ingestion	Int suicide	300 mg/dL	
554 <sup>P</sup>	42 yr	Verapamil atenolol	Ingestion	Int suicide		
555	35 yr	Verapamil benzodiazepines	Ingestion	Unknown		
556	67 yr	Verapamil captopril	Ingestion	Int suicide		
557	26 yr	Verapamil chlorpropamide chlorthalidone	Ingestion	Int suicide		
558 <sup>P</sup>	36 yr	Verapamil (sustained release) doxepin	Ingestion	Int suicide		
559	26 yr	Verapamil ethanol	Ingestion	Int unknown		
560	39 yr	Verapamil ethanol	Ingestion	Int suicide		
561	29 yr	Verapamil (sustained release) ferrous sulfate ethanol	Ingestion	Int suicide	20 µg/dL	4 h
562	25 yr	Verapamil (sustained release) glyburide	Ingestion	Int suicide		
563	31 yr	Verapamil (sustained release) hydroxyzine valproate, sodium	Ingestion	Int suicide		
564	61 yr	Verapamil lorazepam acetaminophen/codeine	Ingestion	Int suicide	57 µg/mL <sup>II</sup>	5.5 h
565 <sup>P</sup>	20 yr	Verapamil methocarbamol	Ingestion	Int suicide		
566	28 yr	Verapamil (sustained release) pergolide clomipramine	Ingestion	Int suicide		
567	52 yr	Verapamil phenobarbital phenytoin	Ingestion	Int suicide	29.2 µg/mL	
568	65 yr	Verapamil propranolol	Ingestion	Int suicide		
569 <sup>P</sup>	52 yr	Verapamil propranolol amitriptyline	Ingestion	Int suicide	2.85 µg/mL <sup>§</sup> 0.27 µg/mL <sup>§</sup>	
570	33 yr	Verapamil propranolol chlordiazepoxide	Ingestion	Int suicide	20.9 µg/mL <sup>§</sup> 3.15 µg/mL 0.24 µg/mL <sup>§</sup>	
571	24 yr	Verapamil unknown diuretic	Ingestion	Int unknown		
<p>See also cases 530, 554 (atenolol); 430, 556 (captopril); 508, 535, 624 (digoxin); 613 (diltiazem); 400 (enalapril); 532 (metoprolol); 537 (minoxidil); 613 (nadolol); 430, 588 (nifedipine); 541 (nitroglycerin); 408, 526, 568, 569, 570 (propranolol); 354, 537 (verapamil).</p>						
Cough and cold preparations						
572	27 yr	Acetaminophen/diphenhydramine ethanol	Ingestion	Int suicide	89 µg/mL <sup>II</sup>	7-13 h
573	27 yr	Cough and cold preparations (acetaminophen, chlorpheniramine, dextromethorphan, doxylamine, pseudoephedrine)	Ingestion	Int suicide	79 µg/mL <sup>II</sup>	
574 <sup>P</sup>	33 yr	Cough and cold preparation (hydrocodone/ phenyltoloxamine)	Ingestion	Int suicide		
575 <sup>C</sup>	53 yr	Cough and cold preparations (acetaminophen, chlorpheniramine, dextromethorphan, ethanol, pseudoephedrine)	Ingestion	Int misuse	30 µg/mL <sup>II</sup>	
576 <sup>C</sup>	39 yr	Cough and cold preparation (dextromethorphan/pseudoephedrine/ chlorpheniramine) naproxen	Ingestion	Int abuse		
577	15 yr	Pseudoephedrine	Ingestion	Int suicide		
578	40 yr	Pseudoephedrine ephedrine	Ingestion	Unknown		

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TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
<i>See also cases 200 (diphenhydramine/pseudoephedrine); 264, 578 (ephedrine); 583 (phenylpropanolamine/brompheniramine); 53, 510 (pseudoephedrine); 387 (terfenadine/pseudoephedrine); 211 (unknown decongestant).</i>					
<b>Diuretics</b>					
<i>See cases 557 (chlorthalidone); 581 (furosemide); 526, 681a (hydrochlorothiazide/triamterene); 571 (unknown diuretic).</i>					
<b>Electrolytes and minerals</b>					
579	21 yr	Ferrous sulfate acetaminophen hyoscyamine	Ingestion	Int suicide	176 µg/mL >16 h
579A**	12 mo	Iron tablets	Ingestion	Acc gen	5,000 µg/dL 11 h
580*	19 mo	Iron tablets	Ingestion	Acc gen	19,000 µg/dL
581 <sup>P</sup>	74 yr	Potassium furosemide	Ingestion	Int suicide	6.6 mEq/L
<i>See also case 561 (ferrous sulfate).</i>					
<b>Gastrointestinal preparations</b>					
<i>See cases 254 (antidiarrheal preparation (bismuth subsalicylate)); 261 (dicyclomine); 404, 447 (hyoscyamine/atropine/scopolamine/phenobarbital); 458 (omeprazole).</i>					
<b>Hormones and Hormone Antagonists</b>					
<i>See cases 557 (chlorpropamide); 530 (glipizide); 336, 562 (glyburide).</i>					
<b>Miscellaneous drugs</b>					
582	32 yr	Quinine	Ingestion	Int suicide	
583 <sup>P</sup>	13 yr	Quinine cough and cold preparation (phenylpropanolamine/brompheniramine) ibuprofen	Ingestion	Int suicide	
<i>See also cases 279 (homeopathic preparation); 566 (pergolide).</i>					
<b>Muscle relaxants</b>					
584 <sup>P</sup>	37 yr	Carisoprodol	Ingestion	Int suicide	
585	62 yr	Carisoprodol acetaminophen/codeine meprobamate	Ingestion	Int suicide	
586 <sup>P</sup>	35 yr	Carisoprodol	Ingestion	Int suicide	2.96 µg/mL§ meprobamate 16.1 µg/mL§ 205 mg/dL 0.26 µg/mL§
587 <sup>c</sup>	67 yr	ethanol propoxyphene Chlorzoxazone	Ingestion	Adv rxn	
588	22 yr	Cyclobenzaprine nifedipine ketoprofen	Ingestion	Int suicide	300 ng/mL
<i>See also cases 15, 219, 285, 331, 604 (carisoprodol); 337, 381, 399, 421, 474 (cyclobenzaprine); 565 (methocarbamol).</i>					
<b>Sedatives/hypnotics/antipsychotics</b>					
589 <sup>P</sup>	29 yr	Alprazolam cocaine methadone	Ingestion	Int unknown	
590	51 yr	Alprazolam estazolam	Ingestion	Int suicide	
591	86 yr	Barbiturates benzodiazepines phenothiazines	Ingestion	Unknown	
592	32 yr	Benzodiazepines	Ingestion	Int suicide	
593	63 yr	Buspiron	Ingestion	Int suicide	
594	83 yr	Butabarbital	Ingestion	Int suicide	
595 <sup>AP</sup>	3 yr	Chloral hydrate	Ingestion	Acc misuse	
596	7 yr	Chloral hydrate	Ingestion	Acc gen	
597 <sup>P</sup>	30 yr	Chloral hydrate chlordiazepoxide ethanol	Ingestion	Int suicide	0.38 µg/mL§ 370 mg/dL§ 2.6 µg/mL§
598	34 yr	Chlordiazepoxide	Ingestion	Unknown	n-desmethyl chlordiazepoxide 3.1 µg/mL§ oxazepam 1.4 µg/mL§ demoxepam 0.1 µg/mL§ 14.5 µg/mL§
599	46 yr	phentemine	Ingestion	Int abuse	
600 <sup>P</sup>	45 yr	Chlorpromazine	Ingestion	Unknown	
601 <sup>P</sup>	53 yr	Chlorpromazine lithium	Ingestion	Int suicide	2.2 mEq/L
602	67 yr	thiothixene Clonazepam	Ingestion	Int suicide	

(Continued on following page)

TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
603 <sup>P</sup>	43 yr	Clonazepam fluoxetine	Ingestion	Int unknown	
604 <sup>P</sup>	44 yr	Diazepam carisoprodol	Ingestion	Int suicide	
605	>17 yr	Diazepam methadone	Unknown	Unknown	
606	33 yr	Diazepam perphenazine	Ingestion	Int suicide	
607 <sup>P</sup>	39 yr	Ethchlorvynol	Parenteral	Int abuse	
608 <sup>P</sup>	33 yr	Ethchlorvynol methadone	Ingestion	Int suicide	5.0 µg/mL§ 0.05 µg/mL§
609	69 yr	Fluphenazine chlorpromazine nortriptyline	Ingestion	Int suicide	
610 <sup>P</sup>	65 yr	Flurazepam lorazepam amitriptyline	Ingestion	Int suicide	
611 <sup>P</sup>	37 yr	Haloperidol acetaminophen	Ingestion	Int suicide	1,725 ng/mL 145 µg/mL
612 <sup>P</sup>	49 yr	Lorazepam acetaminophen/propoxyphene ibuprofen	Ingestion	Int suicide	
613	75 yr	Lorazepam nadolol diltiazem	Ingestion	Int suicide	
614 <sup>P</sup>	32 yr	Meprobamate amphetamine cocaine	Ingestion	Unknown	
615	62 yr	Mesoridazine	Ingestion	Int suicide	
616	34 yr	Mesoridazine amitriptyline ethanol	Ingestion	Int suicide	
617	35 yr	Mesoridazine desipramine	Ingestion	Int suicide	
618	68 yr	Pentobarbital alprazolam	Ingestion	Int suicide	13.6 µg/mL
619 <sup>CP</sup>	46 yr	Pentobarbital prazepam acetaminophen	Ingestion	Int misuse	37 µg/mL 142 µg/mL
620	42 yr	Phenobarbital	Ingestion	Int suicide	
621 <sup>P</sup>	55 yr	Phenobarbital	Ingestion	Int suicide	
622	74 yr	Phenobarbital	Ingestion	Int suicide	100 µg/mL
623	82 yr	Phenobarbital	Ingestion	Int suicide	159 µg/mL
624	65 yr	Phenobarbital digoxin amitriptyline	Ingestion	Int suicide	70 µg/mL 20.5 ng/mL
625 <sup>CP</sup>	46 yr	Phenobarbital ethanol	Ingestion	Int abuse	43.7 µg/mL
626	35 yr	Phenobarbital phenytoin acetaminophen	Ingestion	Unknown	139 µg/mL 33 µg/mL 165 µg/mL
627	64 yr	Primidone	Ingestion	Int suicide	phenobarbital 3.1 µg/mL§
628	36 yr	Primidone carbamazepine phenytoin	Ingestion	Int suicide	phenobarbital 80 µg/mL 6.5 µg/mL 31.4 µg/mL
629 <sup>P</sup>	43 yr	Sleep aid (diphenhydramine)	Ingestion	Int unknown	
630 <sup>P</sup>	19 yr	Sleep aid (diphenhydramine) carbon monoxide	Ing/Inh	Int suicide	15 %
631 <sup>P</sup>	21 yr	Sleep aid (diphenhydramine) ethanol sleep aid (doxylamine)	Ingestion	Int suicide	6.53 µg/mL 100 mg/dL
632	90 yr	Temazepam flurazepam	Ingestion	Int suicide	
633 <sup>C</sup>	27 yr	Thioridazine	Ingestion	Unknown	8,200 ng/mL mesoridazine 3,000 ng/mL
634	35 yr	Thioridazine aspirin/carisoprodol ethanol	Ingestion	Int suicide	
635 <sup>P</sup>	35 yr	Thioridazine buspirone	Ingestion	Unknown	
636 <sup>P</sup>	39 yr	Thioridazine	Ingestion	Int suicide	6,200 ng/mL mesoridazine 1,000 ng/mL 1.3 mEq/L
637	34 yr	lithium Thiothixene	Ingestion	Int suicide	
638	50 yr	Trifluoperazine	Ingestion	Int unknown	

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TABLE 17. Summary of Fatal Exposures (Cont'd)

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
See also cases 277, 305, 327, 328, 357, 363, 377, 396, 420, 433, 448, 456, 618 (alprazolam); 366 (barbiturates); 198, 199, 265, 284, 455, 531, 555, 591 (benzodiazepines); 269 (butalbital); 635 (buspirone); 378, 384 (chloral hydrate); 331, 332, 570, 597 (chlordiazepoxide); 404 (chlordiazepoxide/clidinium); 286, 303, 462, 609 (chlorpromazine); 287, 333, 378, 379, 398, 429, 433, 449, 463 (clonazepam); 202, 224, 278, 287, 338, 432, 450, 534, 536, 692, 696 (diazepam); 590 (estazolam); 207 (ethinamate); 308 (fluphenazine); 409, 632 (flurazepam); 332, 361, 383, 385, 474 (haloperidol); 225, 344, 345, 384, 405, 564, 610 (lorazepam); 585 (meprobamate); 290 (oxazepam); 350, 431, 606 (perphenazine); 307, 567 (phenobarbital); 591 (phenothiazines); 619 (prazepam); 405 (quazepam); 471, 631 (sleep aid-doxyamine); 308, 542 (temazepam); 289, 388, 540a (thioridazine); 352, 365, 601 (thiothixene); 226 (triazolam); 424 (trifluoperazine).					
<b>Stimulants and street drugs</b>					
639	21 yr	Amphetamines	Ingestion	Unknown	
640	23 yr	Amphetamines cocaine	Unknown	Int abuse	
641	15 yr	Cocaine	Ingestion	Int abuse	
642	20 yr	Cocaine	Ingestion	Int abuse	
643	21 yr	Cocaine	Unknown	Int abuse	
644	22 yr	Cocaine	Inhalation	Int abuse	
645	23 yr	Cocaine	Unknown	Int abuse	
646 <sup>P</sup>	26 yr	Cocaine	Ingestion	Int misuse	
647	27 yr	Cocaine	Parenteral	Int abuse	
648	27 yr	Cocaine	Parenteral	Int abuse	
649	30 yr	Cocaine (crack)	Inhalation	Int abuse	
650	30 yr	Cocaine	Inhalation	Int abuse	
651 <sup>P</sup>	31 yr	Cocaine	Unknown	Int abuse	
652	31 yr	Cocaine	Unknown	Unknown	
653 <sup>P</sup>	31 yr	Cocaine	Ingestion	Int suicide	
654 <sup>CP</sup>	32 yr	Cocaine	Inhalation	Int abuse	
655 <sup>C</sup>	33 yr	Cocaine	Inhalation	Int abuse	benzoylcegonine 1.97 µg/mL
656 <sup>C</sup>	33 yr	Cocaine	Unknown	Int abuse	1.45 µg/mL
657 <sup>P</sup>	34 yr	Cocaine	Ing/Inh	Int abuse	benzoylcegonine 5.96 µg/mL
658	36 yr	Cocaine	Inhalation	Int abuse	
659 <sup>P</sup>	39 yr	Cocaine	Unknown	Int abuse	0.169 µg/mL§
660	40 yr	Cocaine (crack)	Inhalation	Int abuse	benzoylcegonine 1.465 µg/mL§
661 <sup>P</sup>	43 yr	Cocaine	Inhalation	Unknown	
662	43 yr	Cocaine	Parenteral	Int abuse	
663	43 yr	Cocaine	Inhalation	Int abuse	
664	>17 yr	Cocaine	Parenteral	Int unknown	
665	>17 yr	Cocaine (crack)	Inhalation	Int abuse	
666	>17 yr	Cocaine	Unknown	Int abuse	
667 <sup>P</sup>	35 yr	Cocaine (crack)	Ingestion	Int suicide	0.05 µg/mL
		amitriptyline			benzoylcegonine 0.57 µg/mL
668 <sup>P</sup>	34 yr	Cocaine amphetamine marijuana	Ing/Inh/Paren	Int abuse	0.9 µg/mL
669 <sup>P</sup>	23 yr	Cocaine ethanol	Ing/Inh	Int abuse	0.019 µg/mL§ 36 mg/dL§
670	26 yr	Cocaine ethanol	Ing/Inh	Int abuse	
671 <sup>P</sup>	27 yr	Cocaine ethanol	Ing/Inh	Int abuse	
672	28 yr	Cocaine ethanol	Ing/Unk	Int abuse	
673	29 yr	Cocaine ethanol	Unknown	Int abuse	230 mg/dL 11.8 µg/mL 56 mg/dL
674 <sup>P</sup>	50 yr	Cocaine ethanol	Ing/Inh	Int abuse	
675 <sup>P</sup>	58 yr	Cocaine ethanol	Unknown	Int abuse	
676	30 yr	Cocaine heroin ethanol	Ing/Paren	Int abuse	
677	25 yr	Cocaine heroin methadone	Ing/Paren	Int abuse	morphine >0.1 µg/mL 0.26 µg/mL§
678 <sup>P</sup>	32 yr	Cocaine	Unknown	Unknown	0.13 µg/mL§ cocaine metabolite 0.12 µg/mL§ 0.14 µg/mL§ 160 ng/mL§ nordoxepin 620 ng/mL§
679 <sup>P</sup>	40 yr	Cocaine opiates	Parenteral	Int abuse	
680 <sup>P</sup>	51 yr	Cocaine opiates	Unknown	Int abuse	
681	>17 yr	Cocaine opiates ethanol	Ingestion	Int abuse	

(Continued on following page)



**TABLE 17. Summary of Fatal Exposures (Cont'd)**

Case No.	Age	Substances	Route of Exposure	Reason	Blood Levels
681A*	41 yr	Cocaine phentermine hydrochlorothiazide/triamterene	Ing/Unk	Int suicide	
682P	26 yr	Heroin	Parenteral	Int abuse	
683P	29 yr	Heroin	Parenteral	Int abuse	
684P	31 yr	Heroin	Parenteral	Int abuse	morphine 0.02 µg/mL
685 <sup>CP</sup>	31 yr	Heroin	Parenteral	Int abuse	
686P	36 yr	Heroin	Parenteral	Int abuse	
687P	40 yr	Heroin	Parenteral	Int unknown	
688P	35 yr	Heroin cocaine	Parenteral	Int unknown	
689P	40 yr	Heroin cocaine	Parenteral	Int abuse	
690P	>17 yr	Heroin cocaine	Parenteral	Int abuse	morphine 0.27 µg/mL§ 0.24 µg/mL§ benzoyllecgonine 0.52 µg/mL§ morphine 0.382 µg/mL
691P	29 yr	Heroin ethanol cocaine	Ing/Paren	Int abuse	
692P	34 yr	Heroin ethanol diazepam	Ing/Paren	Int suicide	40 mg/dL 465 µg/mL
693	27 yr	Methamphetamine	Unknown	Int abuse	
694	36 yr	Methamphetamine	Ing/Paren	Int abuse	5.69 µg/mL§
695	39 yr	Methamphetamine	Parenteral	Int abuse	amphetamines 0.14 µg/mL§ 18 µg/mL
696	42 yr	Methamphetamine diazepam	Ing/Inh	Int abuse	amphetamines 5 µg/mL
697P	48 yr	Methamphetamine drain cleaner (NaOH)	Inhalation	Int abuse	
698P	18 yr	Methamphetamine tricyclic antidepressant	Parenteral	Int abuse	
699P	73 yr	Phentermine	Ingestion	Unknown	
See also cases 269, 329, 614, 668 (amphetamine); 471 (caffeine); 103, 163, 201, 334, 335, 336, 380, 542, 589, 614, 640, 688, 689, 690, 691 (cocaine); 163, 274, 676, 677 (heroin); 668 (marijuana); 257 (methamphetamine); 598, 681a (phentermine).					
Topical preparations					
700P	80 yr	Oil of wintergreen (methyl salicylate)	Derm/Ing	Acc misuse	84 mg/dL
See also cases 36 (hydrogen peroxide), 83 (povidone-iodine antiseptic).					
Veterinary drugs					
701P	34 yr	Veterinary tranquilizer (etorphine/acepromazine)	Parenteral	Int suicide	
Vitamins					
702 <sup>a</sup>	15 mo	Prenatal vitamins with iron (ferrous sulfate)	Ingestion	Acc gen	5,000 µg/dL 6 h
703 <sup>a</sup>	16 mo	Prenatal vitamins with iron (ferrous sulfate)	Ingestion	Acc gen	1,200 µg/dL
704 <sup>a</sup>	16 mo	Prenatal vitamins with iron (ferrous sulfate)	Ingestion	Acc gen	1,440 µg/dL
705 <sup>a</sup>	21 mo	Prenatal vitamins with iron (ferrous sulfate)	Ingestion	Acc gen	2,700 µg/dL 12.5 h
Unknown Drugs					
See cases 260, 353 (unknown drug).					

\* These cases were reported after the database closing date. They have not been included in any other tabulations in this report.

<sup>a</sup> Abstract of case provided in appendix.

<sup>c</sup> Chronic exposure.

<sup>P</sup> Prehospital (cardiac and/or respiratory) arrest.

§ Level obtained postmortem.

|| Acetaminophen level.

¶ Salicylate level.

# Level includes metabolite and parent compound.

**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>Adhesives/glues</b>													
Cyanoacrylates	11,084	4,043	1,818	5,096	10,933	127	12	2,435	1,519	3,520	342	4	0
Epoxy	812	346	24	440	796	8	7	312	182	276	45	0	0
Toluene/xylene	2,477	1,795	333	339	2,381	91	1	377	693	672	35	3	4

(Continued on following page)

**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Nontoxic	1,493	1,125	248	118	1,440	43	4	64	253	87	3	0	0
Unknown	7,086	3,634	879	2,511	6,844	137	88	1,150	1,756	1,394	98	5	3
<i>*Category total</i>	22,952	10,943	3,302	8,504	22,394	406	112	4,338	4,403	5,949	523	12	7
<i>Alcohols</i>													
Ethanol (beverage)	14,819	1,024	1,359	12,249	2,272	12,091	244	12,083	1,575	5,658	1,346	240	50
Ethanol (other)	14,192	2,470	1,115	10,420	4,329	9,489	157	9,856	1,978	4,777	1,280	259	0
Higher alcohols	154	49	25	77	145	9	0	68	29	55	5	0	0
Isopropanol	8,767	6,258	528	1,939	7,939	778	8	1,976	3,196	1,795	163	28	3
Methanol	881	266	110	493	760	106	0	523	262	267	40	15	6
Rubbing ethanol: with methyl salicylate	21	16	1	4	20	1	0	9	9	5	0	0	0
Rubbing ethanol: without methyl salicylate	246	199	9	37	230	15	0	40	105	43	6	0	0
Rubbing isopropanol: with methyl salicylate	235	190	12	32	221	14	0	74	102	58	1	1	0
Rubbing isopropanol: without methyl salicylate	9,554	7,329	566	1,620	8,768	756	9	1,895	3,338	1,815	113	18	0
Rubbing alcohol: unknown type	343	246	28	68	304	37	0	86	154	53	6	1	0
Other alcohol	85	47	10	27	71	14	0	31	33	23	4	0	0
Unknown alcohol	979	170	97	696	382	571	17	690	110	295	70	17	0
<i>*Category total</i>	50,276	18,264	3,860	27,662	25,441	23,881	435	27,331	10,891	14,844	3,034	579	59
<i>Arts/crafts/office supplies</i>													
Artist paints, non-water color	901	683	97	117	879	19	2	74	236	105	4	0	0
Chalk	1,616	1,485	78	46	1,604	10	2	43	260	29	2	1	0
Clay	1,479	1,305	81	82	1,459	13	3	58	221	79	4	0	0
Crayon	1,912	1,724	86	96	1,899	11	0	46	204	36	1	1	0
Glazes	324	167	32	122	319	4	0	78	87	32	6	0	0
Office supplies: miscellaneous	276	105	35	132	270	6	0	62	68	84	4	0	0
Pencil	3,225	1,761	1,088	353	3,171	49	1	220	356	478	4	0	0
Pens/ink	13,154	10,435	2,065	605	12,944	184	12	429	2,579	589	13	0	0
Typewriter correction fluid	1,808	1,220	362	218	1,693	112	0	202	543	299	5	1	0
Water color	2,342	1,941	204	186	2,314	23	4	79	471	145	5	0	0
Other	5,315	4,359	386	557	5,248	53	9	320	940	374	22	5	0
Unknown	374	292	42	36	366	8	0	27	66	20	3	0	0
<i>*Category total</i>	32,726	25,477	4,556	2,550	32,166	492	33	1,638	6,031	2,270	73	8	0
<i>Auto/aircraft/boat products</i>													
Ethylene glycol	3,264	643	263	2,323	3,052	195	4	1,395	836	906	142	54	6
Glycols: other	1,574	523	87	946	1,514	54	1	605	392	606	54	6	1
Glycol and methanol	87	33	11	43	84	3	0	30	26	40	3	1	0
Hydrocarbons	3,056	1,307	294	1,428	2,964	84	3	874	733	1,298	91	4	0
Methanol	1,263	503	125	629	1,184	74	1	630	421	446	40	6	5
Nontoxic	102	76	6	17	102	0	0	14	30	20	0	0	0
Other	1,871	713	179	959	1,826	39	2	686	364	805	86	2	1
Unknown	349	132	41	172	336	12	0	153	81	142	6	0	0
<i>*Category total</i>	11,566	3,930	1,006	6,517	11,062	461	11	4,387	2,883	4,263	422	73	13
<i>Batteries</i>													
Automotive batteries	1,945	244	179	1,497	1,920	15	1	774	193	966	170	5	0
Disc batteries: alkaline (MnO <sub>2</sub> )	188	151	18	13	186	2	0	137	115	29	2	1	0
Disc batteries: lithium	57	28	4	19	56	1	0	27	24	4	0	1	0
Disc batteries: mercuric oxide	69	38	11	19	67	0	0	56	47	3	3	0	0
Disc batteries: nickel cadmium	10	1	1	8	10	0	0	3	2	6	0	0	0
Disc batteries: silver oxide	52	50	0	2	52	0	0	46	41	1	0	0	0
Disc batteries: zinc-air	15	8	2	5	15	0	0	10	9	2	0	0	0
Disc batteries: other	23	15	4	2	23	0	0	12	13	2	0	0	0
Disc batteries: unknown	2,561	2,084	323	139	2,521	28	2	1,904	1,422	138	9	3	0
Dry cell batteries	3,743	2,241	783	696	3,635	94	2	618	987	1,229	71	2	1
Other batteries	178	98	44	35	174	4	0	37	47	46	3	1	0
Unknown batteries	71	42	13	15	70	1	0	17	21	21	3	0	0
<i>*Category total</i>	8,912	5,000	1,382	2,450	8,729	145	5	3,641	2,921	2,447	261	13	1
<i>Bites and envenomations</i>													
Coelenterate	543	60	188	292	537	3	3	115	4	213	34	1	0
Fish	1,356	42	160	1,138	1,348	1	5	506	20	650	110	0	0

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**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>Other/unknown marine animal</b>	140	45	21	72	139	1	0	37	12	52	2	0	0
<b>Insects</b>													
Ant/fire ant	2,876	1,340	320	1,196	2,843	5	26	430	81	1,675	105	3	0
Bee/wasp/hornet	18,544	4,491	4,176	9,729	18,347	11	178	2,471	358	10,087	564	13	2
Caterpillar	1,485	346	401	727	1,478	3	4	112	41	688	17	0	0
Centipede/millipede	66	21	10	34	66	0	0	7	7	34	1	0	0
Mosquito	292	115	56	118	286	1	5	53	3	169	5	0	0
Scorpion	7,262	614	1,251	5,340	7,253	0	2	666	207	5,094	223	12	0
Tick	3,081	944	741	1,370	3,056	1	16	629	333	616	20	0	0
Other insect	6,481	1,625	1,076	3,703	6,394	12	65	1,488	188	3,038	241	3	0
<b>Mammals</b>													
Bat	91	14	22	51	90	0	0	59	13	21	3	0	0
Cat	556	117	110	320	543	8	4	288	15	162	10	0	0
Dog	1,267	267	470	513	1,195	62	8	743	50	287	9	0	0
Fox	2	1	0	1	2	0	0	2	0	0	0	0	0
Human	86	36	21	28	74	8	0	34	2	34	2	0	0
Raccoon	56	4	9	42	56	0	0	38	3	18	1	0	0
Rodents/lagomorphs	1,650	427	694	516	1,635	5	8	366	86	572	4	0	0
Skunk	195	27	54	113	193	1	1	33	10	85	4	0	0
Other mammal	561	135	185	230	549	3	5	217	43	168	4	0	0
<b>Reptile: other/unknown Snakes</b>	1,067	557	308	188	1,054	11	2	161	124	348	7	1	0
Copperhead	430	20	86	319	426	4	0	407	24	200	126	13	0
Coral	46	2	7	37	45	0	1	42	8	18	11	1	0
Cottonmouth	51	4	6	40	51	0	0	47	3	19	13	0	0
Crotalid: unknown	4	0	2	2	4	0	0	3	1	0	2	0	0
Rattlesnake	676	43	104	520	661	8	3	623	36	199	248	48	1
Exotic snake: poisonous	58	3	10	45	57	0	1	47	4	16	10	3	1
Exotic snake: nonpoisonous	296	22	75	196	294	1	1	97	7	144	4	0	0
Exotic snake: unknown if poisonous	4	1	1	2	4	0	0	3	0	3	1	0	0
Nonpoisonous snake	1,721	222	888	596	1,713	3	3	352	213	758	10	0	0
Unknown snake	1,747	185	623	925	1,736	8	2	1,011	203	808	109	15	0
<b>Spiders</b>													
Black widow	2,841	374	358	2,089	2,828	0	9	918	331	1,298	278	6	0
Brown recluse	1,499	164	207	1,104	1,488	0	7	812	40	561	176	8	0
Other spider	442	67	91	275	436	1	5	75	19	213	16	0	0
Tarantula	62	9	23	29	61	0	1	16	3	29	0	0	0
Unknown insect or spider	17,372	3,185	2,798	11,237	17,285	12	50	3,963	407	8,826	677	5	0
<b>*Category total Building/construction products</b>	74,906	15,529	15,552	43,137	74,227	173	415	16,871	2,899	37,103	3,047	132	4
<b>Caulking compounds and putties</b>	2,592	2,082	87	410	2,575	11	4	208	694	267	12	1	0
<b>Cement, concrete (excluding glues)</b>	1,227	367	72	774	1,219	3	1	587	175	420	179	6	0
<b>Insulation: asbestos</b>	322	29	26	257	319	0	1	106	43	54	0	0	0
<b>Insulation: fiberglass</b>	1,371	600	180	573	1,354	5	11	219	195	493	34	1	0
<b>Insulation: urea/formaldehyde</b>	129	45	14	70	127	0	2	41	23	42	8	0	0
<b>Insulation: other</b>	210	94	20	95	208	0	2	35	48	54	4	0	0
<b>Insulation: unknown</b>	131	77	7	44	127	1	3	24	26	21	3	0	0
<b>Soldering flux</b>	462	209	40	204	458	3	1	166	102	152	33	2	0
<b>Other construction product</b>	1,643	1,035	76	523	1,622	15	5	262	356	305	45	0	0
<b>Unknown construction product</b>	126	44	13	68	123	2	1	49	19	50	6	0	0
<b>*Category total Chemicals</b>	8,213	4,582	535	3,018	8,132	40	31	1,697	1,681	1,858	324	10	0
<b>Acetone</b>	1,191	491	77	607	1,138	42	4	412	254	387	49	2	0
<b>Acids: hydrochloric</b>	2,750	207	333	2,169	2,678	63	3	1,197	201	1,449	188	6	1
<b>Acids: hydrofluoric</b>	1,397	99	43	1,229	1,369	15	2	1,194	111	612	336	12	1
<b>Acids: other</b>	4,256	688	430	3,071	4,145	80	17	2,092	500	2,010	366	23	2
<b>Acids: unknown</b>	532	62	54	409	502	23	2	283	34	233	49	2	0
<b>Alkali</b>	5,932	2,387	633	2,846	5,800	108	8	2,490	1,131	2,252	534	31	0
<b>Ammonia</b>	5,061	1,811	546	2,655	4,868	167	15	1,918	648	2,295	287	15	0
<b>Borates/boric acid</b>	3,341	2,065	226	1,024	3,155	152	16	613	855	384	16	0	0

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**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Chlorates	50	25	10	15	48	2	0	22	16	10	3	0	0
Cyanide	380	21	14	337	337	35	2	261	59	129	20	4	10
Dioxin	10	3	0	6	10	0	0	4	2	0	1	0	0
Formaldehyde/formalin	1,358	237	223	881	1,286	59	9	579	197	559	57	1	2
Glycol: ethylene	537	125	49	352	458	65	0	269	111	156	32	19	2
Glycol: other	1,392	706	76	602	1,344	35	5	501	269	427	38	3	1
Ketones	1,005	286	49	660	991	11	0	541	168	400	62	1	1
Methylene chloride	845	108	63	666	830	10	3	448	84	415	48	7	0
Nitrates and nitrites	906	250	280	373	842	51	4	353	216	255	59	5	0
Phenol/creosote	1,548	292	140	1,094	1,385	18	130	682	98	589	99	4	0
Strychnine	21	1	4	15	7	11	1	14	2	1	1	0	2
Toluene diisocyanate	462	64	22	372	454	3	1	208	61	192	24	1	0
Other chemical	17,220	6,152	1,775	9,082	15,763	937	301	6,791	2,812	4,779	598	92	2
Unknown chemical	2,305	1,210	272	788	2,252	31	16	488	361	368	51	1	0
*Category total	52,499	17,290	5,319	29,253	49,662	1,918	539	21,360	8,190	17,902	2,918	229	24
<i>Cleaning substances (household)</i>													
Ammonia cleaners (all purpose)	5,182	2,538	384	2,219	5,006	153	16	1,063	1,103	1,878	155	5	0
Automatic dishwasher granules	4,980	4,504	110	349	4,959	17	1	228	2,237	875	27	1	0
Automatic dishwasher liquids	1,998	1,683	47	264	1,994	2	1	114	859	335	15	0	0
Automatic dishwasher rinse agents	626	588	12	26	626	0	0	13	192	75	1	0	0
Automatic dishwasher: other/ unknown	1,117	944	32	137	1,108	7	1	108	428	224	14	0	0
Bleaches: borate	613	385	47	178	580	11	19	87	175	194	11	0	0
Bleaches: hypochlorite	42,378	19,850	3,118	19,074	41,089	1,127	76	9,009	7,551	16,448	887	16	0
Bleaches: nonhypochlorite	966	564	52	341	927	24	13	171	230	292	26	1	0
Bleaches: other/unknown	422	255	26	135	407	9	2	97	91	143	12	1	0
Carpet/upholstery/leather/vinyl cleaner	2,803	2,279	110	402	2,760	22	20	250	792	540	21	0	0
Cleaners: anionic/nonionic	8,811	7,014	406	1,357	8,631	150	20	779	2,840	1,694	74	0	0
Cleaners: other/unknown	2,248	1,440	145	649	2,189	46	4	407	698	634	38	1	0
Disinfectants: hypochlorite	4,846	1,878	506	2,432	4,763	61	14	1,217	875	2,110	185	2	0
Disinfectants: phenol	3,806	2,655	284	843	3,617	172	7	643	1,062	1,026	69	4	0
Disinfectants: pine oil	11,791	8,957	550	2,242	11,339	390	23	2,346	4,085	2,813	119	16	2
Disinfectants: other/unknown	1,913	964	172	754	1,806	90	8	637	452	684	70	0	0
Drain cleaners: acid	923	114	99	701	881	37	2	420	101	500	89	5	0
Drain cleaners: alkali	2,728	612	233	1,852	2,489	219	6	1,203	367	1,214	258	30	6
Drain cleaners: other/unknown	281	64	19	195	270	9	0	114	43	107	27	1	0
Fabric softeners: aerosol/spray	37	22	5	10	37	0	0	3	8	7	0	0	0
Fabric softeners: liquid	711	591	28	90	697	10	3	58	242	112	5	0	0
Fabric softeners: solid/sheet	380	357	9	14	371	1	8	18	114	34	2	0	0
Fabric softeners: other/unknown	27	17	1	8	27	0	0	6	6	7	0	0	0
Glass cleaners: ammonia	2,893	2,271	212	392	2,820	67	3	299	707	708	9	2	0
Glass cleaners: anionic/nonionic	36	24	7	5	32	4	0	4	10	7	0	0	0
Glass cleaners: isopropanol	2,137	1,794	110	227	2,092	41	1	182	726	395	14	0	0
Glass cleaners: other/unknown	5,591	4,615	359	598	5,473	104	3	429	1,715	1,284	26	1	0
Hand dishwashing: anionic/ nonionic	8,972	6,351	608	1,958	8,777	126	62	488	2,058	2,977	52	2	0
Hand dishwashing: other/ unknown	1,486	1,004	108	363	1,443	28	10	173	278	368	8	0	0
Laundry additives													
Bluing/brightening agents (no detergent)	67	51	9	6	65	2	0	5	22	8	0	0	0

(Continued on following page)

**TABLE 18A.** Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Detergent booster	45	24	4	17	43	1	1	11	9	16	1	0	0
Enzyme/microbiological additive	32	20	2	10	30	1	1	7	13	3	0	0	0
Water softener	42	19	2	21	41	0	1	3	13	5	0	0	0
Other/unknown	211	160	14	37	207	1	3	48	53	69	13	0	0
Laundry detergents: granules	9,168	8,066	290	785	9,044	63	48	1,204	2,705	2,996	147	5	0
Laundry detergents: liquids	3,450	2,706	159	572	3,389	38	19	428	811	1,009	42	1	0
Laundry detergents: soaps	85	64	2	19	82	3	0	11	18	17	0	0	0
Laundry detergents: other/unknown	206	139	19	46	200	2	3	46	48	51	4	0	0
Laundry pre-wash/soil, stain removers													
Liquid solvent-based	217	155	7	54	213	3	1	35	71	59	1	0	0
Spray solvent-based	751	587	31	131	748	2	0	90	200	261	13	0	0
Other/unknown													
solvent-based	229	144	15	70	225	2	2	25	57	49	1	0	0
Dry surfactant-based	380	353	13	14	378	1	1	14	122	44	0	0	0
Liquid													
surfactant-based	1,831	1,584	59	183	1,822	8	1	170	567	443	18	1	0
Spray													
surfactant-based	238	207	8	22	236	2	0	21	62	67	2	0	0
Other/unknown													
surfactant-based	635	607	12	15	632	1	1	16	166	103	3	0	0
Other/unknown	25	15	3	6	25	0	0	7	10	7	0	0	0
Miscellaneous cleaner: acid	792	303	44	439	785	6	0	244	176	314	26	1	0
Miscellaneous cleaner: alkali	6,811	3,687	523	2,535	6,625	151	14	2,270	1,669	2,424	362	15	0
Miscellaneous cleaner: anionic/nonionic	7,626	5,491	450	1,635	7,443	136	38	1,020	1,995	2,084	94	1	0
Miscellaneous cleaner: cationic	3,471	2,073	274	1,101	3,343	110	12	863	929	1,041	108	4	1
Miscellaneous cleaner: ethanol	284	233	12	39	276	6	2	38	100	62	4	0	0
Miscellaneous cleaner: glycols	1,460	1,098	78	279	1,426	26	3	204	351	391	14	0	0
Miscellaneous cleaner: isopropanol	1,066	803	95	165	1,048	15	2	152	358	217	9	0	0
Miscellaneous cleaner: methanol	38	28	1	9	37	1	0	8	14	6	1	0	0
Miscellaneous cleaner: phenol	14	6	2	5	13	1	0	4	2	6	1	0	0
Miscellaneous cleaner: other/ unknown	3,536	2,287	235	982	3,428	87	10	832	955	976	75	3	2
Oven cleaner: acid	15	1	4	10	14	1	0	7	0	9	1	0	0
Oven cleaner: alkali	3,124	863	257	1,958	3,059	47	14	1,540	323	1,544	343	9	1
Oven cleaner: detergent type	5	2	0	3	5	0	0	2	0	3	1	0	0
Oven cleaner: other/unknown	422	117	45	254	417	2	1	180	60	171	31	1	0
Rust remover: alkali	47	19	1	27	46	1	0	11	13	15	3	0	0
Rust remover: anionic/nonionic	2	2	0	0	2	0	0	0	2	0	0	0	0
Rust remover: hydrofluoric acid	1,581	175	97	1,300	1,556	22	0	1,123	186	889	244	7	0
Rust remover: other acid	237	136	9	90	234	1	2	51	71	73	7	0	0
Rust remover: other/unknown	299	65	21	210	291	1	6	67	52	133	15	0	0
Spot/dry cleaning: anionic/nonionic	300	221	11	63	298	1	1	47	88	100	6	0	0
Spot/dry cleaning: glycol	87	55	5	27	85	2	0	16	25	26	1	0	0
Spot/dry cleaning: carbon tetrachloride	1	0	0	1	1	0	0	1	0	0	0	0	0
Spot/dry cleaning: perchloroethylene	85	37	5	43	75	9	1	20	18	20	2	1	1

(Continued on following page)

**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Spot/dry cleaning: other halogenated hydrocarbon	134	57	10	63	123	9	2	41	27	43	4	0	0
Spot/dry cleaning: isopropanol	22	16	1	5	22	0	0	6	8	4	1	0	0
Spot/dry cleaning: other nonhalogenated hydrocarbon	168	97	20	49	163	3	1	40	50	52	5	0	0
Spot/dry cleaning: other/unknown	212	96	13	102	212	0	0	60	60	81	13	1	0
Starch/fabric finishes/sizing	1,230	1,028	78	120	1,196	31	2	61	267	159	4	0	0
Toilet bowl cleaner: acid	3,282	1,356	264	1,627	3,148	125	1	1,000	777	1,388	178	5	6
Toilet bowl cleaner: alkali	302	207	9	82	297	4	0	49	108	62	6	0	0
Toilet bowl cleaner: other/ unknown	2,128	1,689	77	348	2,084	36	7	223	685	268	24	2	0
Wall/floor/tile cleaner: acid	3,573	1,771	193	1,572	3,519	47	6	895	907	1,458	123	3	0
Wall/floor/tile cleaner: alkali	7,204	4,228	447	2,489	7,070	102	22	1,735	1,714	2,894	226	4	0
Wall/floor/tile cleaner: anionic/nonionic	531	405	39	85	523	8	0	62	169	107	2	0	0
Wall/floor/tile cleaner: cationic	722	533	39	146	704	17	1	93	197	175	8	0	0
Wall/floor/tile cleaner: ethanol	5	1	0	4	5	0	0	3	0	3	1	0	0
Wall/floor/tile cleaner: glycols	538	409	21	107	531	5	2	74	183	123	8	0	0
Wall/floor/tile cleaner: isopropanol	29	22	1	6	29	0	0	6	6	14	1	0	0
Wall/floor/tile cleaner: other/unknown	629	367	47	212	607	21	1	171	191	194	26	0	0
<i>*Category total</i>	190,326	119,219	11,876	58,015	185,330	4,091	556	35,926	47,728	60,421	4,437	152	19
<i>Industrial cleaners</i>													
Acids	1,025	176	67	770	994	23	6	581	127	491	131	5	0
Alkali	2,144	471	200	1,450	2,087	52	0	1,334	272	1,030	311	10	0
Anionic/nonionic	366	140	36	187	351	14	1	138	84	156	15	0	0
Cationic	498	88	42	363	470	25	0	274	84	258	32	4	0
Other/unknown	1,663	347	134	1,157	1,590	51	15	888	218	798	110	0	0
<i>*Category total</i>	5,696	1,222	479	3,927	5,492	165	22	3,215	785	2,733	599	19	0
<i>Cosmetics/personal care products</i>													
Bath oil, bubble bath	6,638	6,196	224	200	6,564	32	38	197	1,931	942	19	2	0
Creams, lotions, makeup	14,686	12,379	580	1,664	14,317	203	149	778	3,304	1,188	48	3	0
Dental: false teeth cleaning	1,191	258	61	862	1,151	33	2	130	379	158	7	0	0
Dental: toothpaste with fluoride	2,331	2,011	126	186	2,232	32	59	141	700	497	17	1	0
Dental: toothpaste without fluoride	211	150	24	37	202	1	8	12	40	30	0	0	0
Dental: other	1,122	763	78	275	1,081	21	19	165	295	295	9	0	0
Deodorants	9,766	8,611	424	695	9,593	132	28	430	2,210	1,178	40	3	0
Depilatories	583	206	67	307	471	26	84	165	0	0	0	0	0
Douches	257	165	22	67	233	7	13	32	72	28	4	0	0
Eye products	1,183	982	45	151	1,159	7	16	61	236	138	9	1	0
Hair coloring agents	1,445	663	78	692	1,320	22	100	405	276	500	54	2	0
Hair rinses, conditioners, relaxers	3,328	2,682	196	433	3,234	59	31	766	991	788	88	0	0
Hair shampoos	9,139	7,560	539	1,016	8,876	195	53	760	2,318	2,118	62	1	0
Hair sprays	5,266	3,648	770	824	4,885	358	11	635	1,266	1,596	56	3	0
Hair care: other	3,206	2,174	204	810	3,035	75	87	751	801	846	102	3	1
Lipsticks and lip balms, with camphor	611	550	27	32	601	4	5	23	147	64	0	0	0
Lipsticks and lip balms, without camphor	2,513	2,419	42	45	2,499	6	7	45	352	104	2	1	0
Mouthwash: ethanol	4,214	2,245	679	1,264	3,556	603	30	940	1,328	934	74	9	3
Mouthwash: nonethanol	718	466	140	111	652	53	8	196	266	144	7	1	1
Mouthwash: fluoride	1,388	1,094	239	54	1,368	15	2	52	545	92	1	0	0
Mouthwash: unknown	107	27	62	15	87	18	1	21	13	56	2	0	0
Nail polish	9,847	8,969	457	384	9,706	126	6	729	2,763	2,050	28	2	1

(Continued on following page)

**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Nail polish removers: acetone	3,280	2,757	202	311	3,208	68	0	430	1,395	616	9	0	0
Nail polish removers: other	1,395	1,140	100	152	1,365	27	2	161	536	273	4	0	0
Nail polish removers: unknown	6,540	5,220	536	748	6,345	183	9	935	2,034	1,155	28	2	0
Nail products, miscellaneous	2,758	2,054	187	507	2,721	16	18	676	717	847	77	7	0
Perfume, cologne, aftershave	32,140	29,600	1,066	1,371	31,686	389	39	2,011	11,153	4,784	79	8	0
Peroxide	9,403	5,574	758	2,993	9,144	201	36	766	2,111	1,929	66	7	0
Powders: talc	3,375	3,103	125	141	3,329	33	10	421	861	1,018	28	1	0
Powders: without talc	980	933	20	21	975	3	2	37	226	202	1	1	0
Soaps	10,206	8,361	474	1,320	9,968	133	94	659	2,577	2,055	55	0	0
Suntan/sunscreen products	3,894	3,220	310	348	3,811	18	61	321	686	1,316	37	0	0
<b>*Category total</b>	<b>153,721</b>	<b>126,180</b>	<b>8,862</b>	<b>18,036</b>	<b>149,374</b>	<b>3,099</b>	<b>1,028</b>	<b>13,851</b>	<b>42,623</b>	<b>28,185</b>	<b>1,044</b>	<b>58</b>	<b>6</b>
<b>Deodorizers</b>													
Air fresheners	11,835	10,539	591	677	11,728	90	13	818	3,787	2,003	26	1	0
Diaper pail deodorizers	1,577	1,552	10	15	1,577	0	0	61	619	81	0	0	0
Toilet bowl deodorizers	1,129	1,056	23	44	1,122	5	1	107	412	101	0	0	0
Other	2,441	1,946	124	350	2,398	25	16	369	710	505	18	1	0
Unknown	249	206	10	32	246	3	0	34	95	51	3	0	0
<b>*Category total</b>	<b>17,231</b>	<b>15,299</b>	<b>758</b>	<b>1,118</b>	<b>17,071</b>	<b>123</b>	<b>30</b>	<b>1,389</b>	<b>5,623</b>	<b>2,741</b>	<b>47</b>	<b>2</b>	<b>0</b>
<b>Dyes</b>													
Fabric	877	724	57	90	863	4	8	93	272	60	0	0	0
Food dye (eg, Easter egg)	1,208	1,066	78	60	1,187	8	10	28	241	57	3	0	0
Leather	138	112	9	17	136	2	0	8	43	17	0	0	0
Other	461	302	77	82	445	10	5	64	137	57	6	0	0
Unknown	97	76	11	10	95	0	2	10	39	12	0	0	0
<b>*Category total</b>	<b>2,781</b>	<b>2,280</b>	<b>232</b>	<b>259</b>	<b>2,726</b>	<b>24</b>	<b>25</b>	<b>203</b>	<b>732</b>	<b>203</b>	<b>9</b>	<b>0</b>	<b>0</b>
<b>Essential oils</b>	<b>3,393</b>	<b>2,437</b>	<b>403</b>	<b>542</b>	<b>3,209</b>	<b>133</b>	<b>41</b>	<b>573</b>	<b>876</b>	<b>1,292</b>	<b>37</b>	<b>5</b>	<b>0</b>
<b>Fertilizers</b>													
Household plant food	4,848	3,463	472	887	4,817	21	4	165	1,344	224	3	1	0
Outdoor fertilizers	2,080	1,238	167	655	2,060	11	5	176	533	390	20	0	1
Plant hormones	115	55	6	53	109	3	3	25	32	18	5	0	0
Other	356	231	46	75	353	0	1	43	80	43	7	0	0
Unknown	1,700	1,196	137	355	1,681	9	8	211	426	229	23	1	0
<b>*Category total</b>	<b>9,099</b>	<b>6,183</b>	<b>828</b>	<b>2,025</b>	<b>9,020</b>	<b>44</b>	<b>21</b>	<b>620</b>	<b>2,415</b>	<b>904</b>	<b>58</b>	<b>2</b>	<b>1</b>
<b>Fire extinguishers</b>	<b>2,510</b>	<b>350</b>	<b>580</b>	<b>1,543</b>	<b>2,359</b>	<b>136</b>	<b>8</b>	<b>750</b>	<b>361</b>	<b>1,180</b>	<b>53</b>	<b>1</b>	<b>0</b>
<b>Food products/food poisoning</b>	<b>50,511</b>	<b>14,169</b>	<b>6,477</b>	<b>29,362</b>	<b>43,531</b>	<b>446</b>	<b>6,308</b>	<b>6,267</b>	<b>5,075</b>	<b>12,391</b>	<b>882</b>	<b>24</b>	<b>0</b>
<b>Foreign bodies/toys/miscellaneous</b>													
Ashes	715	656	18	38	709	5	1	51	157	96	3	0	0
Bubble blowing solutions	3,906	3,699	137	54	3,895	9	1	98	771	1,154	7	0	0
Charcoal	870	726	34	107	854	8	6	59	212	63	2	1	3
Christmas ornaments	1,594	1,421	82	86	1,583	7	4	99	362	143	1	0	0
Coins	4,928	4,165	623	126	4,885	33	4	1,938	1,627	447	28	0	0
Desiccants	12,822	11,485	753	539	12,726	79	9	431	1,689	147	2	2	0
Feces/urine	2,289	1,945	101	239	2,253	28	2	114	450	127	5	0	0
Glass	1,155	545	132	469	1,126	13	5	152	236	117	2	1	0
Incense, punk	291	269	11	11	290	1	0	29	107	29	0	0	0
Soil	1,915	1,749	40	121	1,905	4	5	68	409	108	6	2	0
Thermometer	11,702	6,670	2,966	1,972	11,634	60	4	620	1,861	302	5	1	0
Toys	4,757	3,810	793	130	4,702	43	8	268	960	524	10	0	0
Other	16,181	10,812	3,166	2,117	15,905	189	64	2,076	3,479	2,101	102	11	1
Unknown	172	121	26	21	168	2	2	28	47	26	1	0	0
<b>*Category total</b>	<b>63,297</b>	<b>48,073</b>	<b>8,882</b>	<b>6,030</b>	<b>62,635</b>	<b>481</b>	<b>115</b>	<b>6,031</b>	<b>12,367</b>	<b>5,384</b>	<b>174</b>	<b>18</b>	<b>4</b>
<b>Fumes/gases/vapors</b>													
Carbon dioxide	420	47	98	268	400	14	4	166	49	141	12	1	2
Carbon monoxide	10,595	1,296	1,608	7,530	10,241	281	22	6,224	825	4,605	796	88	24
Chloramine	2,926	88	103	2,723	2,863	58	2	1,081	141	1,799	171	2	0
Chlorine: acid mixed with hypochlorite	606	6	56	542	594	11	0	175	19	427	52	1	0
Chlorine: other	5,332	524	840	3,869	5,256	50	20	2,014	293	3,210	401	8	0
Hydrogen sulfide	1,083	123	169	783	1,076	4	0	464	122	494	37	5	5
Methane and natural gas	2,550	408	347	1,743	2,480	63	0	1,056	317	1,091	73	11	7
Polymer fume fever	11	0	3	8	11	0	0	0	0	5	0	0	0

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**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Propane and other simple asphyxiants	2,013	192	435	1,352	1,793	211	3	888	187	925	109	9	3
Other	2,269	261	263	1,717	2,194	46	18	1,104	207	1,023	147	5	1
Unknown	1,345	107	159	1,020	1,303	26	7	511	108	527	67	3	0
<b>*Category total</b>	<b>29,150</b>	<b>3,052</b>	<b>4,081</b>	<b>21,555</b>	<b>28,211</b>	<b>764</b>	<b>76</b>	<b>13,683</b>	<b>2,268</b>	<b>14,247</b>	<b>1,865</b>	<b>133</b>	<b>42</b>
<b>Fungicides</b>													
Carbamate fungicide	338	103	28	205	332	4	2	99	75	88	15	0	0
Mercurial fungicide	12	1	3	8	12	0	0	5	1	6	0	0	0
Nonmercurial fungicide	330	47	19	261	320	3	6	129	36	120	14	0	0
Phthalimide fungicide	309	195	35	77	303	5	1	43	79	44	3	0	0
Other/unknown	445	146	47	250	431	8	5	130	62	103	14	0	0
<b>*Category total</b>	<b>1,434</b>	<b>492</b>	<b>132</b>	<b>801</b>	<b>1,398</b>	<b>20</b>	<b>14</b>	<b>406</b>	<b>253</b>	<b>361</b>	<b>46</b>	<b>0</b>	<b>0</b>
<b>Heavy metals</b>													
Aluminum	765	432	59	265	748	7	7	105	124	63	11	1	0
Arsenic (excluding pesticides)	483	62	33	376	386	51	3	285	97	74	16	1	1
Barium	22	5	1	16	19	0	2	9	3	5	1	0	0
Cadmium	62	10	5	46	62	0	0	36	9	17	2	0	1
Copper	850	218	260	368	818	21	10	316	132	339	32	3	0
Fireplace flame colors	16	14	0	2	16	0	0	1	3	4	0	0	0
Gold	2	2	0	0	2	0	0	1	2	0	0	0	0
Lead	2,930	1,436	421	1,055	2,836	45	10	1,212	587	268	56	6	0
Manganese	39	5	7	26	31	2	2	22	4	11	2	1	0
Mercury	2,071	905	368	762	1,935	96	16	521	562	124	27	8	0
Metal fume fever	906	23	27	845	903	2	1	363	20	459	85	1	0
Selenium	88	26	8	54	78	2	4	30	10	19	4	0	1
Thallium	34	17	0	16	33	0	0	12	4	4	2	0	0
Other	872	317	95	449	835	15	17	333	155	225	24	5	0
Unknown	21	4	2	15	20	1	0	12	3	2	1	0	0
<b>*Category total</b>	<b>9,161</b>	<b>3,476</b>	<b>1,286</b>	<b>4,295</b>	<b>8,722</b>	<b>242</b>	<b>72</b>	<b>3,258</b>	<b>1,715</b>	<b>1,614</b>	<b>263</b>	<b>26</b>	<b>3</b>
<b>Herbicides</b>													
Carbamate herbicide	56	5	2	49	55	1	0	35	4	23	5	0	0
2,4-D or 2,4,5-T	2,362	583	190	1,560	2,311	23	21	628	462	868	81	4	0
Diquat	82	18	21	40	79	1	2	35	21	15	5	0	0
Paraquat	114	12	2	99	107	7	0	80	19	35	6	0	1
Paraquat/diquat	1	1	0	0	1	0	0	0	0	0	0	0	0
Triazine herbicide	423	70	38	309	411	6	5	180	63	137	16	1	0
Urea herbicide	55	7	2	46	52	1	2	29	5	23	4	0	0
Other	3,871	1,063	342	2,425	3,793	39	31	1,072	783	1,058	79	4	1
Unknown	296	97	43	153	291	0	3	86	51	84	8	0	0
<b>*Category total</b>	<b>7,260</b>	<b>1,856</b>	<b>640</b>	<b>4,681</b>	<b>7,100</b>	<b>78</b>	<b>64</b>	<b>2,145</b>	<b>1,408</b>	<b>2,243</b>	<b>204</b>	<b>9</b>	<b>2</b>
<b>Hydrocarbons</b>													
Benzene	115	13	7	92	112	1	0	61	9	36	6	0	0
Carbon tetrachloride	65	9	3	52	63	2	0	34	14	21	3	0	0
Diesel fuel	1,302	336	112	847	1,262	35	2	403	211	549	44	1	0
Freon and other propellants	5,962	764	583	4,508	5,719	214	17	1,612	1,101	2,007	147	9	4
Gasoline	20,962	7,532	3,474	9,806	19,759	1,146	12	4,120	4,443	9,629	388	21	0
Halogenated hydrocarbon: other	1,538	252	185	1,084	1,398	118	19	754	169	725	93	10	2
Kerosene	3,325	2,369	213	726	3,272	49	1	1,267	972	1,242	136	8	1
Lighter fluid/naphtha	4,420	2,864	340	1,177	4,230	176	5	1,438	1,408	1,486	142	6	1
Lubricating oils/motor oils	4,105	3,162	211	714	4,053	46	0	537	1,634	674	32	2	0
Mineral seal oil	377	347	5	24	371	6	0	59	198	55	3	0	0
Mineral spirits/varsol	5,888	3,314	568	1,957	5,646	209	16	1,499	1,668	2,007	164	8	0
Toluene/xylene	1,954	376	163	1,393	1,777	166	3	963	264	891	111	8	0
Turpentine	1,424	654	173	581	1,220	185	7	511	357	457	28	2	0
Other	5,653	2,993	539	2,077	5,408	198	34	1,676	1,543	1,617	187	9	8
Unknown	6,951	4,368	462	2,064	6,786	120	30	2,081	2,171	2,107	262	16	0
<b>*Category total</b>	<b>64,041</b>	<b>29,353</b>	<b>7,038</b>	<b>27,102</b>	<b>61,076</b>	<b>2,671</b>	<b>146</b>	<b>17,015</b>	<b>16,162</b>	<b>23,503</b>	<b>1,746</b>	<b>100</b>	<b>16</b>
<b>Insecticides/pesticides (excluding rodenticides)</b>													
Arsenic pesticides	725	575	48	99	700	24	1	177	351	44	6	0	0
Borates/boric acid	2,886	2,355	130	391	2,823	50	6	327	825	183	7	0	0
Carbamate only	5,172	2,784	357	1,980	4,992	134	29	1,236	1,344	1,048	90	13	1
Carbamate with other pesticide	735	287	77	365	713	18	3	177	152	242	6	0	1
Chlorinated hydrocarbon only	3,099	1,663	342	1,068	2,862	137	75	1,209	1,022	656	66	11	3

(Continued on following page)



**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome					
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death	
<b>Chlorinated</b>														
hydrocarbon with other pesticide	188	75	21	90	185	1	2	52	39	56	3	0	1	
Metaldehyde	343	253	15	71	338	3	1	93	149	32	3	0	0	
Nicotine	27	12	2	13	26	1	0	8	9	7	0	1	0	
Organophosphate only	12,452	4,585	915	6,812	12,021	315	77	4,069	3,066	3,274	320	41	7	
Organophosphate with carbamate	1,997	845	185	949	1,918	57	17	431	459	523	18	4	0	
Organophosphate with chlorinated hydrocarbon	200	61	22	112	192	6	1	50	41	61	5	0	0	
Organophosphate with other pesticide	1,242	450	111	672	1,198	34	7	328	269	360	25	3	1	
Organophosphate/carbamate/chlorinated hydrocarbon	56	15	6	32	55	0	1	20	11	15	1	0	0	
Piperonyl butoxide alone	121	42	11	66	113	7	1	39	29	42	6	0	0	
Piperonyl butoxide with pyrethrins	5,021	1,894	553	2,504	4,770	154	81	1,401	945	1,647	125	2	0	
Pyrethrins only	4,775	1,868	481	2,364	4,545	103	110	1,369	892	1,471	164	3	0	
Repellants (insect)	4,762	3,355	845	543	4,659	49	46	663	1,209	1,489	61	5	0	
Rotenone	157	54	18	82	152	1	3	39	33	46	2	0	0	
Veterinary insecticide	4,020	2,518	345	1,126	3,908	58	48	622	1,188	887	44	4	1	
Other	2,996	1,886	189	883	2,915	53	18	502	702	464	24	3	1	
Unknown	3,603	1,148	353	2,048	3,435	99	38	1,165	593	983	70	2	2	
*Category total	54,577	26,725	5,026	22,270	52,520	1,304	565	13,977	13,328	13,530	1,046	92	18	
<b>Lacrimators</b>														
Capsicum/peppers	576	276	157	136	547	21	2	113	36	382	6	0	0	
Lacrimators: CN	8,125	2,436	2,657	2,853	7,576	420	15	1,522	423	5,303	144	1	0	
Lacrimators: CS	481	189	169	111	456	23	1	81	24	342	3	0	0	
Lacrimators: DM	2	1	0	1	2	0	0	0	0	0	0	0	0	
Other	85	13	20	51	83	2	0	43	10	45	1	0	0	
Unknown	814	176	311	307	739	64	3	157	31	487	22	2	0	
*Category total	10,083	3,091	3,314	3,459	9,403	530	21	1,916	524	6,559	176	3	0	
<b>Matches/fireworks/explosives</b>														
Explosives	243	143	53	45	231	9	0	66	64	55	6	0	0	
Fireworks	580	475	76	28	572	6	0	72	199	73	10	0	0	
Matches	2,127	2,027	42	50	2,115	10	0	77	599	46	2	0	0	
Other	91	44	21	26	84	5	0	35	31	19	4	1	0	
Unknown	7	5	1	1	7	0	0	1	3	0	0	0	0	
*Category total	3,048	2,694	193	150	3,009	30	0	251	896	193	22	1	0	
<b>Moth repellants</b>														
Paradichlorobenzene	281	242	7	30	279	1	1	22	106	19	0	0	0	
Naphthalene	2,137	1,797	96	227	2,119	13	0	506	1,072	154	9	0	0	
Other	6	5	1	0	6	0	0	1	4	0	1	0	0	
Unknown	3,520	2,960	172	368	3,461	41	11	804	1,363	268	10	0	0	
*Category total	5,944	5,004	276	625	5,865	55	12	1,333	2,545	441	20	0	0	
<b>Mushrooms</b>														
Coprine	19	10	3	6	17	0	2	6	12	2	1	1	0	
Cyclopeptide	51	23	3	25	39	10	2	23	12	8	7	2	1	
Gastrointestinal irritants	276	169	34	72	251	15	7	97	107	79	26	2	0	
Hallucinogenic	350	63	63	215	105	241	2	237	48	111	58	0	0	
Ibotenic acid	39	2	3	34	23	15	1	25	3	17	6	2	0	
Miscellaneous, nontoxic	192	110	22	59	177	2	12	30	61	46	4	0	0	
Monomethylhydrazine	42	1	3	38	40	1	1	27	2	16	8	0	0	
Muscarine	11	5	0	6	10	1	0	7	3	6	0	0	0	
Orellanine	1	0	0	1	1	0	0	0	0	0	0	0	0	
Other potentially toxic	49	28	7	14	47	1	1	18	27	7	0	0	0	
Unknown	9,636	7,985	738	877	9,203	345	74	2,424	5,599	980	145	11	0	
*Category total	10,666	8,396	876	1,347	9,913	631	102	2,894	5,874	1,272	255	18	1	
<b>Paints and stripping agents</b>														
Paint: anti-algae	21	4	3	13	21	0	0	10	2	4	2	2	0	
Paint: anticorrosion	78	19	9	49	77	1	0	24	17	29	7	0	0	
Paint: oil-base	2,428	1,032	375	1,001	2,349	65	10	584	519	821	77	1	0	
Paint: water-base	3,112	2,503	123	469	3,085	18	8	236	776	300	6	0	0	
Stains	1,223	521	123	566	1,195	18	8	235	264	386	40	1	0	
Stripping agent: methylene chloride	1,275	256	88	916	1,234	34	4	514	133	708	83	3	0	
Stripping agent: other	589	173	35	373	581	8	0	198	79	261	53	1	0	

(Continued on following page)

**TABLE 18A. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome					
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death	
Stripping agent:														
unknown	664	221	53	385	650	12	1	205	96	261	42	1	0	
Varnishes, lacquers	980	404	76	496	952	18	5	206	155	314	29	2	0	
Wood preservatives	408	84	31	293	402	2	3	104	56	132	8	1	0	
Other paint/varnish/ lacquer	1,408	593	175	631	1,329	72	3	403	239	509	41	0	0	
Unknown														
paint/varnish/lacquer	12,449	7,906	1,046	3,422	12,137	244	48	1,981	2,147	2,041	142	13	1	
*Category total	24,635	13,716	2,137	8,614	24,012	492	90	4,700	4,483	5,766	530	25	1	
Photographic products														
Developers, fixing baths, stop baths	375	34	90	249	365	8	1	153	48	168	16	0	0	
Photographic coating fluids	6	3	1	2	6	0	0	3	2	1	1	0	0	
Other photographic product	399	268	43	86	394	5	0	59	93	69	4	0	0	
Unknown photographic product	23	6	3	14	22	0	0	8	3	8	1	0	0	
*Category total	803	311	137	351	787	13	1	223	146	246	22	0	0	
Plants														
Amygdalin/cyanogenic glycosides	3,619	2,736	535	330	3,524	39	49	223	1,140	177	8	1	0	
Anticholinergic	949	310	327	291	574	360	7	516	185	236	161	7	0	
Cardiac glycosides	2,937	2,221	374	327	2,844	84	4	588	1,334	286	16	2	0	
Colchicine	9	7	0	2	7	1	1	4	2	0	0	0	0	
Depressants	36	24	1	11	31	3	1	7	10	6	0	0	0	
Dermatitis	17,653	10,201	2,134	5,202	17,127	159	348	1,548	2,935	5,315	408	9	0	
Gastrointestinal irritants	19,237	16,276	1,250	1,625	18,817	301	101	1,348	6,803	1,723	85	2	0	
Hallucinogenic	329	185	59	81	236	81	9	95	105	39	18	1	0	
Nicotine	312	108	81	123	301	6	4	149	65	110	46	1	0	
Nontoxic plants	22,835	20,266	1,284	1,180	22,523	153	145	613	3,974	1,050	56	7	0	
Oxalate	16,825	15,229	859	692	16,658	127	29	647	6,529	2,695	49	1	0	
Solanine	2,116	1,821	100	184	2,065	16	27	342	1,139	221	12	2	0	
Stimulants	361	237	39	82	327	15	17	114	147	55	7	1	0	
Toxalbumins	277	175	42	54	263	13	1	120	108	58	4	0	0	
Other	2,629	2,022	305	292	2,505	59	57	300	862	276	28	2	0	
Unknown	16,815	13,473	1,749	1,455	16,393	253	147	1,637	5,568	1,935	121	4	0	
*Category total	106,939	85,291	9,139	11,931	104,195	1,670	947	8,251	30,906	14,182	1,019	40	0	
Polishes and waxes	7,669	6,458	337	845	7,510	131	17	919	3,020	1,419	57	7	0	
Radiolotopes	125	4	20	94	110	4	9	43	12	22	2	0	0	
Rodenticides														
ANTU	30	22	3	5	27	3	0	23	5	4	0	0	0	
Anticoagulant (standard)	1,694	1,510	50	124	1,631	57	3	559	566	53	5	1	0	
Anticoagulant: long-acting	11,752	10,857	209	619	11,392	341	3	4,611	4,722	364	33	8	2	
Cyanide	1	0	0	1	1	0	0	0	0	0	0	0	0	
Monofluoroacetate	1	0	1	0	1	0	0	0	0	0	0	0	0	
Strychnine	165	34	18	107	94	59	0	118	46	28	10	8	0	
Vacor	4	1	1	2	2	2	0	4	0	1	0	0	0	
Other	926	666	51	195	879	40	3	472	238	84	11	0	0	
Unknown	1,537	1,259	54	210	1,407	118	2	792	589	70	10	0	0	
*Category total	16,110	14,349	387	1,263	15,434	620	11	6,579	6,166	604	69	17	2	
Sporting equipment														
Gun bluing	61	29	2	30	60	1	0	32	14	25	6	0	1	
Other	811	467	225	118	776	25	3	201	257	110	10	0	0	
*Category total	872	496	227	148	836	26	3	233	271	135	16	0	1	
Swimming pool/aquarium	5,403	3,222	662	1,488	5,307	53	37	856	1,372	1,514	107	3	0	
Tobacco products	10,750	9,552	301	876	10,256	216	265	2,456	4,089	2,751	113	4	0	
Other/unknown nondrug substance	6,722	3,079	880	2,695	6,404	149	91	1,447	1,476	1,293	112	6	0	
Total no. nonpharmaceutical substances	1,136,007	657,044	111,978	358,538	1,074,628	45,957	12,278	232,673	255,398	293,965	25,632	1,821	224	
% of nonpharmaceutical substances		57.8	9.9	31.6	94.6	4.0	1.1	20.5	22.5	25.9	2.3	0.2	0.0	
% of all substances		57.8	33.4	5.7	18.2	54.7	2.3	0.6	11.8	13.0	15.0	1.3	0.1	0.0

NOTE. Patients with totally unknown age, reason or medical outcome were omitted from the respective tabulations.

ABBREVIATIONS: Acc, accidental; Adv Rxn, adverse reaction; Int, intentional.

\* Medical outcome data were also collected in categories labelled "unknown, nontoxic," "unknown, potentially toxic," and "unrelated effect." Thus, the numbers listed here do not represent the total poison exposure experience.

**TABLE 18B.** Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>Analgesics</b>													
<b>Acetaminophen only</b>													
Adult formulations	25,742	8,255	7,026	10,268	12,169	13,242	203	16,417	7,879	4,420	874	117	18
Pediatric formulations	40,976	38,758	1,847	281	40,396	468	85	5,079	10,604	1,138	42	9	0
Unknown formulations	8,489	3,108	1,972	3,272	3,956	4,367	55	5,322	2,267	1,478	380	66	41
<b>Acetaminophen in combination with</b>													
<b>Aspirin (with other ingredients)</b>													
Aspirin (no other ingredients)	1,855	664	419	764	955	826	63	955	479	446	36	5	0
Codeine	46	21	6	19	27	16	3	25	16	7	3	0	0
Oxycodone	7,441	1,557	1,037	4,771	2,870	3,982	534	4,884	1,656	2,348	275	63	7
Propoxyphene	2,460	354	235	1,844	893	1,343	196	1,565	437	799	118	30	3
Other narcotics	4,463	710	412	3,275	1,385	2,864	156	3,357	948	1,498	264	66	12
Other drugs (adult formulations)	4,877	576	505	3,731	1,569	2,792	462	3,203	797	1,665	218	33	3
Other drugs (pediatric formulations)	5,490	1,065	925	3,446	1,852	3,435	146	3,930	1,268	1,788	287	56	3
Aspirin only	204	31	37	133	73	113	15	139	47	65	8	1	0
<b>Aspirin in combination with</b>													
<b>Codeine</b>													
Oxycodone	5,411	1,954	1,328	2,087	2,620	2,632	125	3,140	1,573	1,298	226	25	8
Propoxyphene	462	398	43	18	432	24	2	88	185	27	4	0	0
Other narcotics/analogues	11,370	2,513	3,308	5,420	3,697	7,413	151	8,396	2,573	3,184	809	91	37
<b>Other drugs (adult formulations)</b>													
Other drugs (pediatric formulations)	956	169	105	668	304	587	54	679	185	336	68	8	0
Oxycodone	478	81	39	349	166	277	30	310	81	130	29	10	0
Propoxyphene	87	9	13	65	24	60	3	69	20	36	5	0	0
Other narcotics/analogues	344	45	36	259	124	179	36	223	56	107	18	2	0
Other drugs (adult formulations)	3,102	640	578	1,854	1,109	1,874	95	2,188	713	1,023	186	27	2
Other drugs (pediatric formulations)	6	4	1	1	6	0	0	1	1	1	0	0	0
<b>Narcotics</b>													
Codeine	1,617	828	211	557	1,097	419	91	686	433	342	47	8	4
Meperidine	566	79	57	420	214	294	49	403	75	170	48	14	2
Methadone	390	41	15	328	119	232	25	338	30	108	44	29	6
Morphine	545	82	47	407	236	251	39	380	85	133	58	17	9
Oxycodone	165	24	18	120	49	96	19	111	22	54	7	1	0
Pentazocine	306	40	25	236	115	139	51	194	45	125	22	1	2
Propoxyphene	885	129	78	661	243	585	38	674	157	268	64	22	10
Other/unknown	1,435	287	132	993	610	632	163	894	230	512	100	38	8
Nonaspirin salicylates	921	416	98	399	596	281	37	412	264	204	36	4	4
<b>Other nonsteroidal anti-inflammatory drugs</b>													
Colchicine	117	55	12	50	87	22	8	82	45	27	6	1	2
Ibuprofen, OTC	19,675	12,752	2,785	4,039	14,342	4,976	293	6,398	6,874	2,183	173	17	1
Ibuprofen, R <sub>x</sub>	5,986	1,766	983	3,171	2,765	3,054	143	3,379	1,710	1,270	111	16	1
Ibuprofen-unknown if OTC or R <sub>x</sub>	7,804	2,696	1,717	3,314	3,670	3,872	202	4,240	2,480	1,489	173	25	0
Indomethacin	885	317	85	477	475	331	70	478	264	218	23	4	0
Other	11,827	4,728	1,383	5,585	6,598	4,463	689	5,723	3,775	2,357	283	39	2
Unknown	12	2	2	8	3	6	3	8	4	6	1	0	0
Phenacetin	7	0	0	7	2	5	0	6	2	3	0	0	0
Phenazopyridine	573	429	39	102	486	60	25	205	217	106	5	1	0
Salicylamide	87	69	5	13	74	9	4	31	41	12	0	0	0
Other analgesics	87	39	10	38	53	28	5	46	16	26	7	0	1
Unknown analgesics	135	33	33	65	46	85	3	105	33	36	5	1	0
<b>*Category total</b>	<b>178,284</b>	<b>85,724</b>	<b>27,607</b>	<b>63,515</b>	<b>106,507</b>	<b>66,334</b>	<b>4,371</b>	<b>84,763</b>	<b>48,587</b>	<b>31,443</b>	<b>5,063</b>	<b>847</b>	<b>186</b>
<b>Anesthetics</b>													
<b>Inhalation anesthetics</b>													
Nitrous oxide	144	16	38	86	69	56	18	74	12	46	10	0	0
Other/unknown	214	42	32	137	181	18	15	96	26	102	5	0	0
Ketamine and analogues	34	2	0	31	7	24	2	30	1	15	4	0	0
<b>Local and topical anesthetics</b>													
Other/unknown anesthetics	4,944	3,857	342	721	4,669	139	123	1,151	2,073	727	42	9	0
Other/unknown anesthetics	25	9	1	15	16	1	8	9	5	4	1	0	0
<b>*Category total</b>	<b>5,361</b>	<b>3,926</b>	<b>413</b>	<b>990</b>	<b>4,942</b>	<b>238</b>	<b>166</b>	<b>1,360</b>	<b>2,117</b>	<b>894</b>	<b>62</b>	<b>9</b>	<b>0</b>
<b>Anticholinergic drugs</b>													
Atropine	3,729	1,028	372	2,281	1,739	1,716	199	2,543	947	1,183	359	77	4
<b>Anticoagulants</b>													
Heparin	53	9	4	40	42	2	8	37	6	19	5	0	0

(Continued on following page)

TABLE 18B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Warfarin (excluding rodenticides)	775	419	35	311	596	156	19	408	297	79	39	6	1
Other/unknown	55	41	2	12	50	2	2	23	19	4	0	1	0
<i>*Category total</i>	883	469	41	363	688	160	29	476	322	102	44	7	1
<i>Anticonvulsants</i>													
Carbamazepine	5,676	1,992	849	2,790	3,270	2,116	193	3,970	1,401	1,822	658	155	12
Phenytoin	4,277	950	367	2,905	2,177	1,748	244	3,148	952	1,361	415	57	4
Succinimides	115	57	34	24	97	14	3	43	50	20	2	0	0
Valproic acid	1,805	543	314	930	1,166	547	78	966	601	407	100	29	2
Other	162	36	11	112	142	17	3	58	37	59	6	0	0
Unknown	11	6	0	5	6	2	3	7	2	3	1	0	0
<i>*Category total</i>	12,046	3,584	1,575	6,766	6,858	4,444	524	8,192	3,043	3,672	1,182	241	18
<i>Antidepressants</i>													
Amitriptyline	6,974	954	597	5,339	1,823	4,857	168	6,078	1,078	2,187	1,197	639	52
Amoxapine	224	26	15	182	65	154	4	200	31	69	38	18	3
Desipramine	1,923	309	417	1,170	644	1,183	66	1,591	441	629	210	100	24
Doxepin	3,240	219	235	2,747	649	2,480	61	2,865	402	1,125	546	263	24
Imipramine	3,682	749	810	2,082	1,378	2,126	131	2,881	897	1,232	377	190	19
Maprotiline	117	15	9	93	29	83	4	100	22	36	18	10	1
Nortriptyline	2,982	268	420	2,258	734	2,128	85	2,498	478	1,065	386	172	23
Protriptyline	70	15	10	44	29	38	2	56	22	15	9	0	0
Other cyclic antidepressants	1,407	96	143	1,147	346	971	75	1,177	243	524	155	74	5
Unknown cyclic antidepressants	382	22	46	305	55	297	3	375	32	112	91	66	11
Cyclic antidepressants with benzodiazepines	244	31	21	188	62	175	6	210	37	101	25	13	1
Cyclic antidepressants with phenothiazines	799	159	70	564	238	526	23	694	178	287	109	43	4
Lithium	4,488	401	568	3,464	1,330	2,731	292	3,758	949	1,491	463	148	7
MAO inhibitors	639	65	15	552	196	303	124	512	110	203	102	29	9
Trazodone	3,577	262	268	3,000	821	2,575	147	2,894	637	1,505	236	49	2
Other antidepressants	8,298	864	1,136	6,176	2,038	5,718	460	6,584	2,244	2,596	548	133	8
Unknown antidepressants	52	5	4	42	13	32	3	42	5	14	3	2	1
<i>*Category total</i>	39,098	4,460	4,784	29,353	10,450	26,377	1,654	32,515	7,806	13,191	4,513	1,949	194
<i>Antihistamines</i>													
H <sub>2</sub> receptor antagonists	3,539	1,425	505	1,572	2,172	1,207	145	1,584	1,147	566	72	12	2
Diphenhydramine (unknown if OTC or R <sub>x</sub> )	11,164	6,826	1,232	3,036	7,998	2,867	240	4,633	3,508	2,991	418	59	7
Diphenhydramine-alone (R <sub>x</sub> )	235	76	44	112	113	109	11	143	53	83	16	2	0
Diphenhydramine-alone (OTC)	5,635	1,440	854	3,286	2,310	3,166	114	3,534	1,183	1,832	310	43	3
Other	14,431	6,826	2,489	5,016	9,610	4,259	463	6,551	4,670	3,222	446	69	5
<i>*Category total</i>	35,004	16,593	5,124	13,022	22,203	11,608	973	16,445	10,561	8,694	1,262	185	17
<i>Antimicrobials</i>													
Antibiotics: systemic	42,129	25,930	5,344	10,567	31,909	6,244	3,783	10,096	10,443	5,692	514	43	1
Antibiotics: topical	5,159	4,079	285	759	5,010	48	92	208	1,092	304	9	2	0
Antibiotics: unknown	2,248	716	512	1,009	1,078	772	379	976	414	615	46	3	0
Antifungals: systemic	853	479	89	278	679	96	71	179	194	120	6	2	0
Antifungals: topical	6,707	5,368	248	1,047	6,561	67	71	317	1,517	649	18	2	0
Antifungals: unknown	30	24	1	5	30	0	0	2	11	2	0	0	0
Anthelmintics:													
diethylcarbamazine	1,242	888	30	317	1,238	4	0	50	383	30	1	0	0
Anthelmintics: piperazine	570	441	48	77	556	11	3	66	185	34	2	0	0
Anthelmintics: other	664	285	75	301	626	13	22	200	141	178	20	0	0
Anthelmintics: unknown	42	27	4	11	38	3	1	9	15	3	0	0	0
Antiparasitics:													
antimalarials	221	78	26	115	160	40	20	141	72	49	12	3	0
Antiparasitics:													
metronidazole	1,105	277	128	693	590	344	162	454	264	253	26	2	0
Antiparasitics: other	312	188	31	90	260	24	28	58	87	45	3	1	0
Antituberculars: isoniazid	669	135	135	395	315	266	82	449	124	107	68	54	1
Antituberculars: rifampin	69	23	11	33	38	22	9	34	18	13	4	0	0
Antituberculars: other	22	7	0	13	11	8	3	15	5	4	1	1	0
Antituberculars: unknown	0	0	0	0	0	0	0	0	0	0	0	0	0
Antivirals: systemic	703	238	54	401	374	272	48	373	197	130	17	4	0
Antivirals: topical	75	38	3	33	62	1	12	19	13	13	2	3	0
Antivirals: unknown	84	36	8	39	61	13	9	39	29	13	4	1	1
Other antimicrobials	106	70	8	28	83	8	14	25	39	16	2	1	0
Unknown antimicrobials	15	6	2	7	9	4	2	6	1	5	0	0	0
<i>*Category total</i>	63,025	39,333	7,042	16,218	49,688	8,260	4,811	13,716	15,244	8,275	755	122	3
<i>Antineoplastics</i>	686	214	46	420	577	72	35	297	200	144	24	5	0

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**TABLE 18B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>Asthma therapies</b>													
Aminophylline/theophylline	5,735	1,413	1,190	3,095	3,219	2,112	306	3,946	1,343	1,920	596	113	35
Terbutaline and other beta-2 agonists	10,582	8,247	1,322	976	9,482	797	273	4,303	3,981	3,011	259	2	0
Other beta agonists	917	351	206	350	453	436	19	571	216	360	52	4	0
Other	469	355	64	47	430	26	10	73	162	56	10	0	0
Unknown	26	5	6	13	12	11	0	19	3	7	1	0	0
<b>*Category total</b>	<b>17,729</b>	<b>10,371</b>	<b>2,788</b>	<b>4,481</b>	<b>13,596</b>	<b>3,382</b>	<b>608</b>	<b>8,912</b>	<b>5,705</b>	<b>5,354</b>	<b>918</b>	<b>119</b>	<b>35</b>
<b>Cardiovascular drugs</b>													
Alpha blockers	108	46	9	53	78	24	6	60	52	20	4	1	0
Antiarrhythmics	1,100	293	53	747	900	153	38	498	432	150	46	17	1
Antihypertensives	6,708	3,292	607	2,771	5,060	1,431	170	3,764	2,699	1,378	341	75	3
Beta blockers	5,308	1,863	501	2,895	3,516	1,617	123	3,284	2,112	991	278	96	16
Calcium antagonists	6,683	2,148	431	4,061	4,823	1,659	159	3,966	2,581	1,228	351	137	38
Cardiac glycosides	2,310	1,034	120	1,149	1,842	361	81	1,355	948	346	183	28	19
Hydralazine	275	129	15	130	213	56	6	144	126	47	9	0	1
Long-acting nitrates	795	404	36	353	683	97	14	333	384	109	15	1	0
Nitroglycerin	2,250	1,621	93	519	1,976	243	18	745	1,133	226	21	4	1
Nitroprusside	28	2	2	24	10	0	17	25	3	2	9	1	0
Other vasodilators	698	439	23	231	623	65	6	227	313	85	13	1	0
Unknown types of vasodilators	3	1	0	2	1	2	0	3	1	2	0	0	0
Vasopressors	20	6	2	12	11	2	7	17	3	10	2	0	0
Other cardiovascular drugs	289	65	92	130	248	26	15	119	64	104	9	0	1
Unknown cardiovascular drugs	33	14	1	18	22	10	1	16	9	4	1	0	0
<b>*Category total</b>	<b>26,608</b>	<b>11,357</b>	<b>1,985</b>	<b>13,095</b>	<b>20,006</b>	<b>5,746</b>	<b>661</b>	<b>14,556</b>	<b>10,860</b>	<b>4,702</b>	<b>1,282</b>	<b>361</b>	<b>80</b>
<b>Cough and cold preparations</b>													
Diagnostic agents	395	120	37	227	346	13	34	161	67	100	28	1	0
<b>Diuretics</b>													
Furosemide	1,252	672	112	460	980	243	24	529	462	243	33	6	1
Thiazide	1,490	826	128	531	1,169	281	32	599	566	248	28	3	0
Other	1,636	874	148	601	1,257	312	55	619	579	275	32	5	0
Unknown	254	149	17	85	202	46	5	115	90	36	3	1	1
<b>*Category total</b>	<b>4,632</b>	<b>2,521</b>	<b>405</b>	<b>1,677</b>	<b>3,608</b>	<b>882</b>	<b>116</b>	<b>1,862</b>	<b>1,697</b>	<b>802</b>	<b>96</b>	<b>15</b>	<b>2</b>
<b>Electrolytes and minerals</b>													
Calcium	2,126	1,793	134	185	2,041	68	13	161	461	139	7	0	0
Fluoride	4,171	3,785	257	114	4,108	38	21	340	1,579	624	12	0	0
Iron	5,379	3,718	563	1,083	4,241	1,057	53	2,947	1,956	1,258	240	27	5
Magnesium	288	118	48	122	249	18	18	106	73	59	10	3	0
Potassium	871	500	73	291	729	113	25	318	332	107	13	0	1
Sodium	2,080	1,481	348	235	1,973	93	11	454	610	427	10	0	0
Zinc	979	556	71	348	910	34	33	232	190	193	40	2	0
Other	138	86	10	41	119	7	11	31	31	17	0	1	0
Unknown	15	11	0	4	14	0	1	5	6	2	1	0	0
<b>*Category total</b>	<b>16,047</b>	<b>12,048</b>	<b>1,504</b>	<b>2,423</b>	<b>14,384</b>	<b>1,428</b>	<b>186</b>	<b>4,594</b>	<b>5,238</b>	<b>2,826</b>	<b>333</b>	<b>33</b>	<b>6</b>
<b>Eye/nose/throat preparations</b>													
<b>Nasal preparations</b>													
Tetrahydrozoline	95	65	5	25	84	7	4	42	43	25	1	0	0
Other decongestants	2,587	1,582	218	767	2,414	99	72	661	1,070	452	20	0	0
Other	402	301	28	66	390	7	5	25	92	62	3	0	0
Unknown	12	6	1	5	9	2	1	3	3	3	0	0	0
<b>Ophthalmic preparations</b>													
Contact lens products	4,360	2,556	228	1,540	4,322	22	13	614	836	1,015	100	1	0
Glaucoma therapies	118	60	7	51	104	4	10	31	33	30	4	1	0
Tetrahydrozoline	1,446	1,168	83	189	1,369	66	6	781	848	153	21	1	0
Other ophthalmic sympathomimetics	284	193	26	65	257	13	14	105	134	29	4	0	0
Other	552	329	49	167	518	11	22	94	92	94	14	0	0
Unknown	16	5	1	9	14	1	1	4	1	6	0	0	0
<b>Otic preparations</b>													
Combination products	1,015	751	90	171	1,002	5	6	122	342	206	9	0	0
Other	1,573	973	119	475	1,559	7	7	155	366	420	22	0	0
Unknown	68	37	9	22	66	1	1	10	10	24	1	0	0
<b>Steroids - topical for eye/nose/throat</b>													
Throat preparations	714	398	104	202	665	18	29	57	128	180	4	0	0
Lozenges without local anesthetics	765	610	77	76	731	27	4	48	197	63	3	0	0

(Continued on following page)

TABLE 18B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
Lozenges with local anesthetics	481	353	77	48	449	18	13	46	152	31	3	0	0
Other	328	202	48	78	307	17	4	61	110	60	1	0	0
Unknown	10	4	1	5	8	0	1	1	5	0	0	0	0
<b>*Category total</b>	<b>14,826</b>	<b>9,593</b>	<b>1,171</b>	<b>3,961</b>	<b>14,268</b>	<b>325</b>	<b>213</b>	<b>2,840</b>	<b>4,462</b>	<b>2,853</b>	<b>210</b>	<b>3</b>	<b>0</b>
<b>Gastrointestinal preparations</b>													
Antacids:													
salicylate-containing	2,707	2,354	170	175	2,565	74	62	257	856	170	10	1	1
Antacids: other	17,032	15,801	469	715	16,758	161	99	503	3,365	580	12	8	0
Antidiarrheals:													
diphenoxylate/atropine	1,792	1,125	125	529	1,439	247	98	1,015	781	369	65	7	0
Antidiarrheals:													
nonnarcotic	707	567	51	81	658	27	18	69	156	31	1	0	0
Antidiarrheals: paregoric	183	144	12	24	166	14	3	75	78	27	3	1	0
Antidiarrheals: other narcotic	240	225	5	10	240	0	0	4	50	62	1	0	0
Antispasmodics:													
anticholinergic	1,675	666	265	728	950	634	80	984	526	471	58	11	2
Antispasmodics: other	8	3	0	5	6	2	0	4	1	0	0	0	0
Laxatives	14,259	11,136	1,047	2,004	13,209	834	176	2,366	3,011	3,357	143	7	0
Other	3,133	2,434	177	498	2,710	297	115	688	777	340	53	3	0
Unknown	391	211	24	153	284	71	33	128	126	58	5	2	1
<b>*Category total</b>	<b>42,127</b>	<b>34,666</b>	<b>2,345</b>	<b>4,922</b>	<b>38,985</b>	<b>2,361</b>	<b>684</b>	<b>6,093</b>	<b>9,727</b>	<b>5,465</b>	<b>351</b>	<b>40</b>	<b>4</b>
<b>Hormones and hormone antagonists</b>													
Androgens	148	54	16	76	90	49	6	57	35	15	2	0	0
Corticosteroids	5,547	3,653	426	1,429	4,940	293	291	685	1,061	443	36	5	0
Estrogens	2,078	1,585	107	377	1,853	178	42	285	501	122	16	1	0
Insulin	812	81	49	671	546	237	15	441	243	145	56	21	0
Oral contraceptives	10,811	9,637	605	540	10,263	470	60	852	2,156	361	11	3	0
Oral hypoglycemics	2,341	1,310	143	868	1,824	459	39	1,887	1,073	541	172	35	2
Progestins	1,009	634	117	251	870	94	42	180	274	64	8	1	0
Thyroid preparations	4,590	3,242	332	994	4,128	392	58	1,115	1,434	324	31	5	0
Other hormones	519	297	52	163	412	78	26	232	155	154	14	0	0
Other hormone antagonists	252	125	21	106	209	31	12	75	105	18	1	0	0
Unknown hormones or antagonists	12	5	4	3	8	3	1	4	3	1	0	0	0
<b>*Category total</b>	<b>28,119</b>	<b>20,623</b>	<b>1,872</b>	<b>5,478</b>	<b>25,143</b>	<b>2,284</b>	<b>592</b>	<b>5,813</b>	<b>7,040</b>	<b>2,188</b>	<b>347</b>	<b>71</b>	<b>2</b>
<b>Miscellaneous drugs</b>													
Allopurinol	266	171	19	71	225	33	8	78	124	21	4	0	0
L-dopa and related drugs	313	135	11	167	266	35	8	134	121	54	16	0	0
Disulfiram	696	37	25	619	198	398	91	496	74	207	57	8	0
Ergot alkaloids	703	337	61	300	467	166	68	428	249	181	20	5	0
Homeopathic preparations	1,687	1,260	104	312	1,434	162	84	344	519	182	11	2	0
Methysergide	2	1	0	1	1	1	0	1	1	0	0	0	0
Neuromuscular blocking agents	11	3	1	7	9	0	2	7	2	4	0	0	0
Other	7,103	4,143	598	2,299	5,988	759	312	1,715	2,018	1,538	115	21	4
<b>*Category total</b>	<b>10,781</b>	<b>6,087</b>	<b>819</b>	<b>3,776</b>	<b>8,588</b>	<b>1,554</b>	<b>573</b>	<b>3,203</b>	<b>3,108</b>	<b>2,187</b>	<b>223</b>	<b>36</b>	<b>4</b>
<b>Muscle relaxants</b>													
Cyclobenzaprine	3,185	697	338	2,115	1,067	2,002	75	2,565	675	1,139	320	80	6
Methocarbamol	1,053	143	133	760	304	694	38	779	216	364	53	9	1
Other	4,052	512	356	3,135	1,157	2,710	125	3,079	685	1,569	312	94	8
Unknown	75	8	8	57	11	63	1	65	12	21	0	0	0
<b>*Category total</b>	<b>8,365</b>	<b>1,360</b>	<b>835</b>	<b>6,067</b>	<b>2,539</b>	<b>5,469</b>	<b>239</b>	<b>6,488</b>	<b>1,588</b>	<b>3,093</b>	<b>685</b>	<b>183</b>	<b>15</b>
<b>Narcotic antagonists</b>													
Radiopharmaceuticals	15	2	0	13	6	0	9	10	1	2	5	0	0
<b>Sedatives/hypnotics/antipsychotics</b>													
Barbiturates: long-acting	3,750	928	350	2,438	1,812	1,785	76	2,534	753	1,111	375	153	11
Barbiturates: short-acting	1,608	183	132	1,266	453	1,077	51	1,264	251	614	145	52	5
Barbiturates: unknown	31	1	3	27	2	25	1	30	2	10	5	2	1
Benzodiazepines	33,516	4,658	1,971	26,395	8,512	23,937	596	27,134	5,289	12,878	2,713	687	54
Chloral hydrate	539	153	52	327	201	289	42	432	72	198	72	22	4
Ethchlorvynol	196	18	11	166	37	153	3	179	23	67	26	19	2
Glutethimide	57	2	1	54	10	45	0	53	6	16	13	5	0
Meprobamate	429	46	30	349	116	298	9	350	72	149	52	21	1
Methaqualone	63	5	7	51	9	53	0	53	7	18	10	0	0
Phenothiazines	11,379	1,600	1,218	8,430	3,699	6,838	631	9,073	2,347	4,133	1,092	282	27
Sleep aids (OTC)	4,954	345	549	3,992	791	4,083	28	4,300	881	1,972	366	40	1
Other	1,774	304	133	1,302	597	1,066	90	1,305	452	532	94	13	3
Unknown	286	12	34	226	28	253	0	264	30	55	19	1	0

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**TABLE 18B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>*Category total</b>	<b>58,582</b>	<b>8,255</b>	<b>4,491</b>	<b>45,023</b>	<b>16,267</b>	<b>39,902</b>	<b>1,527</b>	<b>46,971</b>	<b>10,185</b>	<b>21,753</b>	<b>4,982</b>	<b>1,297</b>	<b>109</b>
<i>Serums, toxoids, vaccines</i>	891	194	91	597	665	8	210	350	90	295	32	0	0
<i>Stimulants and street drugs</i>													
Amphetamines	6,292	2,142	1,829	2,248	3,700	2,371	136	3,867	1,681	1,751	442	52	14
Amyl/butyl nitrites	56	5	8	40	21	34	0	38	8	17	3	1	0
Caffeine	5,606	1,179	2,078	2,283	2,063	3,289	155	3,183	904	2,320	274	6	0
Cocaine	3,713	111	247	3,299	383	3,239	24	3,496	394	1,314	548	152	52
Diet aids:													
phenylpropranolamine	1,925	851	441	620	1,061	807	42	1,158	651	515	85	6	0
Diet aids:													
phenylpropranolamine and caffeine	182	69	49	63	92	86	3	133	37	54	7	1	0
Diet aids: other, OTC	167	62	32	73	89	57	18	81	41	37	5	1	0
Diet aids: other, Rx	38	18	7	12	26	10	2	24	9	15	0	0	0
Diet aids: unknown	157	56	38	60	71	77	4	114	41	49	8	0	0
Heroin	825	18	19	774	63	736	14	785	64	258	167	72	14
LSD	1,035	18	451	525	126	886	4	794	35	396	152	12	0
Marijuana	927	92	278	539	195	692	26	676	63	339	69	11	0
Mescaline/peyote	162	41	47	68	108	49	3	84	13	54	11	3	0
Phencyclidine	345	28	70	243	70	259	9	311	21	132	73	18	0
Phenylpropranolamine look-alike drugs	220	39	82	98	48	162	2	193	35	95	21	1	0
Other stimulants	472	147	124	200	193	265	10	359	115	188	17	0	1
Other hallucinogens	1	0	0	1	0	1	0	1	0	0	1	0	0
Unknown hallucinogens	13	0	9	4	2	11	0	7	0	6	4	1	0
Other street drugs	44	6	17	20	14	24	1	26	8	16	2	0	0
Unknown stimulants/street drugs	102	9	34	58	17	80	3	82	8	38	15	0	0
<b>*Category total</b>	<b>22,282</b>	<b>4,891</b>	<b>5,860</b>	<b>11,228</b>	<b>8,342</b>	<b>13,135</b>	<b>456</b>	<b>15,412</b>	<b>4,128</b>	<b>7,594</b>	<b>1,904</b>	<b>337</b>	<b>81</b>
<i>Topical preparations</i>													
Acne preparations	1,363	744	282	324	1,226	30	101	180	300	381	19	0	0
Boric acid/borates	288	195	23	70	275	8	4	39	88	43	2	0	0
Calamine	5,392	4,451	233	693	5,314	48	28	431	1,195	434	22	2	0
Camphor	7,841	6,304	337	1,170	7,626	170	38	1,782	3,290	1,339	60	6	0
Camphor and methyl salicylate	1,255	974	74	205	1,188	30	36	241	446	309	8	0	0
Diaper products	17,447	16,789	203	413	17,397	20	23	264	3,356	770	8	4	0
Hexachlorophene antiseptics	128	68	17	42	120	5	3	32	32	25	1	0	0
Hydrogen peroxide iodine or iodide antiseptics	10,168	6,012	838	3,277	9,922	200	29	630	2,284	2,267	49	2	0
Mercury antiseptics	1,865	775	229	841	1,614	199	41	541	514	397	33	1	1
Methyl salicylate	691	596	24	69	671	15	3	64	234	38	4	0	0
Podophyllin	8,611	6,565	588	1,423	8,495	58	50	959	2,691	1,996	26	2	1
Silver nitrate	62	22	4	36	53	3	6	29	14	22	3	0	0
Topical steroids	149	29	43	73	140	4	5	43	21	68	4	1	0
Topical steroids with antibiotics	5,725	4,518	221	950	5,642	32	46	167	988	336	8	1	0
Wart preparations	1,611	1,302	86	220	1,574	6	28	73	343	172	7	0	0
Other liniments	2,167	1,540	180	435	2,084	54	23	295	600	558	30	2	0
Other topical antiseptics	1,588	1,010	116	448	1,507	28	50	167	446	414	14	1	0
<b>*Category total</b>	<b>4,107</b>	<b>2,982</b>	<b>306</b>	<b>803</b>	<b>3,937</b>	<b>119</b>	<b>45</b>	<b>510</b>	<b>1,416</b>	<b>552</b>	<b>40</b>	<b>2</b>	<b>0</b>
<i>Veterinary drugs</i>	70,458	54,876	3,804	11,482	68,785	1,029	559	6,447	18,258	10,121	338	24	2
<i>Vitamins</i>	3,076	1,732	213	1,108	3,017	48	5	344	902	523	20	2	0
Multiple vitamin tablets:													
adult formulations													
No iron, no fluoride	1,802	1,332	164	300	1,581	133	78	232	482	189	12	0	0
With iron, no fluoride	5,576	4,361	534	666	4,914	593	52	1,528	2,161	699	38	4	2
With iron, with fluoride	52	39	6	7	45	6	1	12	13	8	0	0	0
No iron, with fluoride	216	203	12	1	214	1	1	12	94	12	0	0	0
pediatric formulations													
No iron, no fluoride	8,690	7,848	799	35	8,519	129	33	336	2,628	479	3	1	0
With iron, no fluoride	11,009	10,024	927	46	10,821	176	7	2,029	4,381	1,261	54	1	0
With iron, with fluoride	794	779	11	3	793	1	0	67	245	35	3	0	0
No iron, with fluoride	2,031	1,952	65	10	2,018	13	0	80	524	61	1	0	0
Multiple vitamin liquids:													
adult formulations													
No iron, no fluoride	107	66	17	24	89	15	3	51	34	10	0	0	0
With iron, no fluoride	49	29	6	14	35	11	2	20	16	8	2	0	0
With iron, with fluoride	2	1	0	1	2	0	0	0	1	0	0	0	0
No iron, with fluoride	6	5	1	0	6	0	0	1	3	0	0	0	0

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**TABLE 18B. Demographic Profile of Exposure Cases by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Age (years)			Reason			Treated in Health Care Facility	Outcome*				
		<6	6-17	>17	Acc	Int	Adv Rxn		None	Minor	Moderate	Major	Death
<b>Multiple vitamin liquids: pediatric formulations</b>													
No iron, no fluoride	222	212	5	4	216	2	3	12	61	20	0	0	0
With iron, no fluoride	359	346	8	3	355	2	1	57	140	51	1	0	0
With iron, with fluoride	125	121	1	3	123	0	2	13	43	16	0	0	0
No iron, with fluoride	674	662	1	4	668	2	4	24	200	37	0	0	0
<b>Multiple vitamins, unspecified adult formulations</b>													
No iron, no fluoride	42	28	2	12	32	5	4	8	9	7	0	0	0
With iron, no fluoride	1,625	1,316	151	156	1,448	145	29	448	671	218	15	0	0
With iron, with fluoride	7	6	0	1	6	0	1	3	1	2	0	0	0
No iron, with fluoride	3	1	0	2	2	1	0	1	0	1	0	0	0
<b>Multiple vitamins, unspecified pediatric formulations</b>													
No iron, no fluoride	168	151	15	1	163	5	0	9	69	6	0	0	0
With iron, no fluoride	163	155	8	0	161	2	0	26	74	16	0	0	0
With iron, with fluoride	11	9	2	0	11	0	0	5	3	2	0	0	0
No iron, with fluoride	46	46	0	0	45	1	0	4	12	0	0	0	0
<b>Other vitamins</b>													
Vitamin A	891	654	63	171	789	65	33	169	263	105	6	1	0
Niacin (B <sub>3</sub> )	1,882	444	139	1,284	1,089	101	686	225	98	1,101	20	1	0
Pyridoxine (B <sub>6</sub> )	251	164	24	61	202	38	10	54	80	29	5	4	0
<b>Other B complex vitamins</b>													
Vitamin C	972	673	60	231	811	104	51	161	212	86	7	0	0
Vitamin D	1,996	1,585	196	211	1,822	130	40	169	467	170	5	0	0
Vitamin E	176	134	10	30	151	19	5	57	48	13	1	0	0
Other	1,011	837	60	109	932	50	24	91	264	55	1	1	0
Unknown	850	681	59	103	763	66	18	167	298	88	5	1	0
Unknown	1,379	994	148	207	1,192	150	28	464	252	125	5	1	0
*Category total	43,187	35,858	3,494	3,700	40,018	1,966	1,116	6,535	13,847	4,910	184	15	2
Unknown drugs	15,711	5,817	2,253	7,234	11,247	3,231	545	8,512	3,312	3,404	626	133	2
<b>Total no. pharmaceutical substances</b>	<b>829,995</b>	<b>454,689</b>	<b>92,947</b>	<b>276,097</b>	<b>586,003</b>	<b>214,860</b>	<b>23,435</b>	<b>328,629</b>	<b>225,508</b>	<b>170,443</b>	<b>27,100</b>	<b>6,200</b>	<b>782</b>
<b>% of pharmaceutical substances</b>		<b>54.8</b>	<b>11.2</b>	<b>33.3</b>	<b>70.6</b>	<b>25.9</b>	<b>2.8</b>	<b>39.6</b>	<b>27.2</b>	<b>20.5</b>	<b>3.3</b>	<b>0.7</b>	<b>0.1</b>
<b>% of all substances</b>	<b>42.2</b>	<b>23.1</b>	<b>4.7</b>	<b>14.0</b>	<b>29.8</b>	<b>10.9</b>	<b>1.2</b>	<b>16.7</b>	<b>11.5</b>	<b>8.7</b>	<b>1.4</b>	<b>0.3</b>	<b>0.0</b>

NOTE. Patients with totally unknown age, reason or medical outcome were omitted from the respective tabulations.

ABBREVIATIONS: Acc, accidental; Adv Rxn, adverse reaction; Int, intentional; OTC, over-the-counter; R<sub>x</sub>, prescription; MAO, monoamine oxidase.

\* Medical outcome data were also collected in categories labelled "unknown, nontoxic," "unknown, potentially toxic," and "unrelated effect." Thus, the numbers listed here do not represent the total poison exposure experience.

**TABLE 19A. Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals**

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
<b>Adhesives/Glues</b>							
Cyanoacrylates	4,045	697	798	928	47	1	0
Epoxy	346	43	152	49	2	0	0
Toluene/xylene	1,792	154	620	361	5	1	0
Nontoxic	1,118	30	195	38	0	0	0
Unknown	3,623	332	1,297	417	11	0	0
*Category total	10,924	1,256	3,062	1,793	65	2	0
<b>Alcohols</b>							
Ethanol (beverage)	955	255	392	178	15	3	0
Ethanol (other)	2,394	303	967	287	11	3	0
Higher alcohols	48	5	18	2	0	0	0
Isopropanol	6,257	846	2,769	929	24	1	0
Methanol	267	162	151	41	3	1	0
Rubbing ethanol: with methyl salicylate	16	5	8	3	0	0	0

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**TABLE 19A. Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Rubbing ethanol: without methyl salicylate	199	23	97	34	0	0	0
Rubbing isopropanol: with methyl salicylate	191	55	93	41	0	0	0
Rubbing isopropanol: without methyl salicylate	7,324	984	2,987	1,099	14	0	0
Rubbing alcohol: unknown type	246	43	134	31	0	1	0
Other alcohol	46	7	23	6	0	0	0
Unknown alcohol	155	43	37	24	2	0	0
<b>*Category total</b>	<b>18,098</b>	<b>2,731</b>	<b>7,676</b>	<b>2,675</b>	<b>69</b>	<b>9</b>	<b>0</b>
<b>Arts/crafts/office supplies</b>							
Artist paints, non-water color	682	21	209	42	0	0	0
Chalk	1,483	32	241	23	2	1	0
Clay	1,305	35	193	56	1	0	0
Crayon	1,720	31	178	30	1	1	0
Glazes	167	21	43	11	2	0	0
Office supplies: miscellaneous	106	11	43	13	0	0	0
Pencil	1,763	62	249	89	0	0	0
Pens/ink	10,410	162	2,198	241	2	0	0
Typewriter correction fluid	1,216	64	426	142	1	0	0
Water color	1,942	33	399	73	0	0	0
Other	4,352	149	800	197	4	1	0
Unknown	292	12	55	9	0	0	0
<b>*Category total</b>	<b>25,438</b>	<b>633</b>	<b>5,034</b>	<b>926</b>	<b>13</b>	<b>3</b>	<b>0</b>
<b>Auto/aircraft/boat products</b>							
Ethylene glycol	647	321	378	76	6	0	0
Glycols: other	526	222	267	91	4	0	0
Glycol and methanol	33	11	15	12	0	1	0
Hydrocarbons	1,301	248	572	311	15	1	0
Methanol	501	302	290	92	1	0	0
Nontoxic	76	3	27	8	0	0	0
Other	712	132	278	201	3	0	0
Unknown	129	34	55	34	1	0	0
<b>*Category total</b>	<b>3,925</b>	<b>1,273</b>	<b>1,882</b>	<b>825</b>	<b>30</b>	<b>2</b>	<b>0</b>
<b>Batteries</b>							
Automotive batteries	254	56	86	83	7	0	0
Disc batteries: alkaline (MnO <sub>2</sub> )	151	116	107	11	2	1	0
Disc batteries: lithium	28	18	16	0	0	1	0
Disc batteries: mercuric oxide	38	29	26	1	1	0	0
Disc batteries: nickel cadmium	1	0	1	0	0	0	0
Disc batteries: silver oxide	50	45	41	1	0	0	0
Disc batteries: zinc-air	8	6	7	0	0	0	0
Disc batteries: other	15	9	12	1	0	0	0
Disc batteries: unknown	2,069	1,573	1,211	103	7	2	0
Dry cell batteries	2,239	305	748	558	28	0	0
Other batteries	98	17	34	18	0	0	0
Unknown batteries	42	9	17	9	2	0	0
<b>*Category total</b>	<b>4,993</b>	<b>2,183</b>	<b>2,306</b>	<b>785</b>	<b>47</b>	<b>4</b>	<b>0</b>
<b>Bites and envenomations</b>							
Coelenterate	60	4	0	16	2	0	0
Fish	42	17	2	19	1	0	0
Other/unknown marine animal	44	3	10	7	0	0	0
<b>Insects</b>							
Ant/fire ant	1,332	159	47	790	31	1	0
Bee/wasp/hornet	4,466	372	137	2,505	59	1	0
Caterpillar	341	41	21	156	7	0	0
Centipede/millipede	21	0	3	7	0	0	0
Mosquito	112	18	2	76	2	0	0

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**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Scorpion	614	141	62	350	55	7	0
Tick	939	152	116	158	3	0	0
Other insect	1,596	245	90	697	29	0	0
<b>Mammals</b>							
Bat	13	10	4	3	0	0	0
Cat	117	50	3	40	1	0	0
Dog	257	106	18	81	4	0	0
Fox	1	1	0	0	0	0	0
Human	33	6	2	13	1	0	0
Raccoon	4	1	1	0	0	0	0
Rodents/lagomorphs	422	69	26	136	1	0	0
Skunk	27	5	0	13	0	0	0
Other mammal	135	32	12	45	0	0	0
Reptile: other/unknown	554	47	82	131	3	1	0
<b>Snakes</b>							
Copperhead	20	20	0	10	6	2	0
Coral	2	2	1	0	1	0	0
Cottonmouth	4	4	0	2	2	0	0
Crotalid: unknown	0	0	0	0	0	0	0
Rattlesnake	43	36	6	15	15	1	0
Exotic snake: poisonous	3	0	0	0	0	0	0
Exotic snake: nonpoisonous	21	6	1	14	0	0	0
Exotic snake: unknown if poisonous	1	1	0	1	0	0	0
Nonpoisonous snake	222	35	33	89	1	0	0
Unknown snake	185	111	26	83	15	2	0
<b>Spiders</b>							
Black widow	373	104	119	124	23	0	0
Brown recluse	159	71	13	65	12	0	0
Other spider	65	6	6	28	1	0	0
Tarantula	9	2	1	3	0	0	0
Unknown insect or spider	3,192	487	164	1,629	83	2	0
<i>*Category total</i>	15,429	2,364	1,008	7,306	358	17	0
<b>Building/construction products</b>							
Caulking compounds and putties	2,083	78	632	78	0	1	0
Cement, concrete (excluding glues)	368	58	140	81	8	0	0
Insulation: asbestos	30	2	9	3	0	0	0
Insulation: fiberglass	598	39	161	111	1	0	0
Insulation: urea/formaldehyde	45	7	18	4	2	0	0
Insulation: other	94	4	36	11	0	0	0
Insulation: unknown	77	3	21	6	0	0	0
Soldering flux	212	47	81	58	4	1	0
Other construction product	1,032	40	297	67	0	0	0
Unknown construction product	43	8	12	7	1	0	0
<i>*Category total</i>	4,582	286	1,407	426	16	2	0
<b>Chemicals</b>							
Acetone	490	92	183	90	4	1	0
Acids: hydrochloric	209	63	49	90	7	0	0
Acids: hydrofluoric	99	61	39	35	8	0	0
Acids: other	688	183	219	196	24	1	0
Acids: unknown	60	20	18	15	1	0	0
Alkali	2,385	408	833	597	53	9	0
Ammonia	1,798	562	386	689	84	2	0
Borates/boric acid	2,054	270	653	132	2	0	0
Chlorates	25	6	13	1	0	0	0
Cyanide	20	9	5	3	0	0	2
Dioxin	3	1	1	0	0	0	0
Formaldehyde/formalin	236	84	101	46	3	0	0

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**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Glycol: ethylene	125	48	55	14	1	1	0
Glycol: other	703	98	190	87	4	1	0
Ketones	285	87	115	72	1	0	0
Methylene chloride	110	23	42	28	2	0	0
Nitrates and nitrites	249	40	97	31	3	0	0
Phenol/creosote	275	73	57	59	8	1	0
Strychnine	1	1	0	0	0	0	0
Toluene diisocyanate	63	5	17	3	0	0	0
Other chemical	6,059	1,198	1,661	706	33	5	0
Unknown chemical	1,205	70	258	52	0	0	0
<i>*Category total</i>	17,142	3,402	4,992	2,946	238	21	2
<i>Cleaning substances (household)</i>							
Ammonia cleaners (all purpose)	2,532	275	919	544	15	0	0
Automatic dishwasher granules	4,502	143	2,137	737	11	0	0
Automatic dishwasher liquids	1,680	44	811	219	2	0	0
Automatic dishwasher rinse agents	588	4	189	63	0	0	0
Automatic dishwasher: other/ unknown	945	51	405	159	5	0	0
Bleaches: borate	381	34	149	93	1	0	0
Bleaches: hypochlorite	19,824	3,384	5,369	5,965	83	4	0
Bleaches: nonhypochlorite	566	65	189	105	2	0	0
Bleaches: other/unknown	253	30	80	68	0	0	0
Carpet/upholstery/leather/vinyl cleaner	2,271	106	720	364	8	0	0
Cleaners: anionic/nonionic	7,006	337	2,582	933	18	0	0
Cleaners: other/unknown	1,434	140	591	233	6	1	0
Disinfectants: hypochlorite	1,877	310	711	544	15	0	0
Disinfectants: phenol	2,652	222	895	549	16	1	0
Disinfectants: pine oil	8,931	1,406	3,621	1,695	47	3	0
Disinfectants: other/unknown	961	145	313	251	12	0	0
Drain cleaners: acid	111	45	39	37	9	0	0
Drain cleaners: alkali	613	284	178	214	51	1	0
Drain cleaners: other/unknown	64	18	24	13	6	0	0
Fabric softeners: aerosol/spray	22	0	7	3	0	0	0
Fabric softeners: liquid	590	30	218	72	2	0	0
Fabric softeners: solid/sheet	355	12	111	28	1	0	0
Fabric softeners: other/unknown	17	1	6	1	0	0	0
Glass cleaners: ammonia	2,270	132	627	477	1	0	0
Glass cleaners: anionic/nonionic	24	0	9	3	0	0	0
Glass cleaners: isopropanol	1,796	93	678	259	2	0	0
Glass cleaners: other/unknown	4,612	209	1,559	884	10	1	0
Hand dishwashing: anionic/ nonionic	6,337	221	1,650	1,885	17	2	0
Hand dishwashing: other/unknown	1,006	83	228	215	2	0	0
<i>Laundry additives</i>							
Bluing/brightening agents (no detergent)	51	3	18	3	0	0	0
Detergent booster	22	4	6	6	0	0	0
Enzyme/microbiological additive	20	3	10	1	0	0	0
Water softener	19	0	9	1	0	0	0
Other/unknown	160	23	48	44	8	0	0
Laundry detergents: granules	8,054	920	2,570	2,472	94	5	0
Laundry detergents: liquids	2,701	256	720	702	14	1	0
Laundry detergents: soaps	64	6	16	9	0	0	0
Laundry detergents: other/ unknown	139	23	37	34	1	0	0
Laundry pre-wash/soil, stain removers							

(Continued on following page)

**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Liquid solvent-based	154	19	62	29	0	0	0
Spray solvent-based	587	62	187	178	9	0	0
Other/unknown solvent-based	144	7	46	21	0	0	0
Dry surfactant-based	353	11	116	31	0	0	0
Liquid surfactant-based	1,587	127	533	338	17	0	0
Spray surfactant-based	207	9	60	54	0	0	0
Other/unknown surfactant-based	605	12	165	96	2	0	0
Other/unknown	15	3	8	2	0	0	0
Miscellaneous cleaner: acid	304	55	133	74	4	1	0
Miscellaneous cleaner: alkali	3,691	722	1,349	927	77	8	0
Miscellaneous cleaner: anionic/nonionic	5,468	402	1,722	1,153	22	0	0
Miscellaneous cleaner: cationic	2,071	242	746	410	17	0	0
Miscellaneous cleaner: ethanol	233	23	91	40	1	0	0
Miscellaneous cleaner: glycols	1,095	79	308	233	2	0	0
Miscellaneous cleaner: isopropanol	803	70	335	79	1	0	0
Miscellaneous cleaner: methanol	28	4	12	2	0	0	0
Miscellaneous cleaner: phenol	6	1	0	3	0	0	0
Miscellaneous cleaner: other/ unknown	2,280	322	806	410	12	1	0
Oven cleaner: acid	1	1	0	1	0	0	0
Oven cleaner: alkali	867	409	158	449	58	1	0
Oven cleaner: detergent type	2	1	0	0	1	0	0
Oven cleaner: other/unknown	117	40	36	38	7	1	0
Rust remover: alkali	19	3	7	3	0	0	0
Rust remover: anionic/nonionic	2	0	2	0	0	0	0
Rust remover: hydrofluoric acid	175	114	67	72	17	1	0
Rust remover: other acid	137	12	61	17	3	0	0
Rust remover: other/unknown	64	13	27	10	1	0	0
Spot/dry cleaning: anionic/ nonionic	222	20	77	64	1	0	0
Spot/dry cleaning: glycol	55	9	22	9	0	0	0
Spot/dry cleaning: carbon tetrachloride	0	0	0	0	0	0	0
Spot/dry cleaning: perchloroethylene	37	2	12	1	0	0	0
Spot/dry cleaning: other halogenated hydrocarbon	56	13	19	7	0	0	0
Spot/dry cleaning: isopropanol	16	3	8	2	0	0	0
Spot/dry cleaning: other nonhalogenated hydrocarbon	96	17	41	25	5	0	0
Spot/dry cleaning: other/unknown	96	12	51	15	0	0	0
Starch/fabric finishes/sizing	1,027	28	231	95	0	0	0
Toilet bowl cleaner: acid	1,356	247	606	300	16	0	0
Toilet bowl cleaner: alkali	206	16	94	12	2	0	0
Toilet bowl cleaner: other/ unknown	1,686	77	625	87	2	0	0
Wall/floor/tile cleaner: acid	1,768	261	749	444	19	0	0
Wall/floor/tile cleaner: alkali	4,224	679	1,476	1,350	56	1	0
Wall/floor/tile cleaner: anionic/nonionic	405	30	151	58	0	0	0
Wall/floor/tile cleaner: cationic	532	42	183	96	2	0	0
Wall/floor/tile cleaner: ethanol	1	0	0	1	0	0	0
Wall/floor/tile cleaner: glycols	408	28	164	60	0	0	0
Wall/floor/tile cleaner: isopropanol	22	2	5	8	1	0	0
Wall/floor/tile cleaner: other/ unknown	365	54	163	70	4	0	0
*Category total	119,043	13,365	40,163	27,259	818	33	0

(Continued on following page)

**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
<i>Industrial cleaners</i>							
Acids	175	44	64	55	1	1	0
Alkali	474	169	154	169	20	2	0
Anionic/nonionic	139	24	50	35	1	0	0
Cationic	89	18	34	24	4	1	0
Other/unknown	345	81	117	93	13	0	0
<i>*Category total</i>	1,222	336	419	376	39	4	0
<i>Cosmetics/personal care products</i>							
Bath oil, bubble bath	6,182	145	1,850	798	14	1	0
Creams, lotions, makeup	12,368	354	2,864	747	14	2	0
Dental: false teeth cleaning	258	12	99	28	0	0	0
Dental: toothpaste with fluoride	1,999	94	664	387	6	1	0
Dental: toothpaste without fluoride	149	5	34	18	0	0	0
Dental: other	761	105	252	209	2	0	0
Deodorants	8,608	170	2,031	792	12	2	0
Depilatories	204	48	72	60	4	0	0
Douches	164	5	53	9	0	0	0
Eye products	982	15	223	38	0	0	0
Hair coloring agents	664	104	225	127	2	0	0
Hair rinses, conditioners, relaxers	2,674	504	893	542	45	0	0
Hair shampoos	7,541	412	2,014	1,596	34	1	0
Hair sprays	3,643	191	1,046	876	7	1	0
Hair care: other	2,166	325	707	412	26	0	1
Lipsticks and lip balms, with camphor	548	13	137	42	0	0	0
Lipsticks and lip balms, without camphor	2,412	38	342	95	2	1	0
Mouthwash: ethanol	2,237	272	979	325	16	1	1
Mouthwash: nonethanol	461	121	198	83	3	1	1
Mouthwash: fluoride	1,090	37	455	64	0	0	0
Mouthwash: unknown	28	2	6	9	1	0	0
Nail polish	8,954	535	2,607	1,731	16	1	0
Nail polish removers: acetone	2,754	316	1,278	429	6	0	0
Nail polish removers: other	1,139	123	492	171	2	0	0
Nail polish removers: unknown	5,215	650	1,851	726	10	0	0
Nail products, miscellaneous	2,052	397	655	512	35	5	0
Perfume, cologne, aftershave	29,613	1,520	10,629	3,996	45	6	0
Peroxide	5,569	226	1,546	935	11	2	0
Powders: talc	3,095	349	811	944	21	1	0
Powders: without talc	932	28	219	190	0	1	0
Soaps	8,329	298	2,227	1,496	16	0	0
Suntan/sunscreen products	3,196	181	642	969	16	0	0
<i>*Category total</i>	125,987	7,595	38,101	19,356	366	27	3
<i>Deodorizers</i>							
Air fresheners	10,530	612	3,562	1,557	17	1	0
Diaper pail deodorizers	1,551	55	613	77	0	0	0
Toilet bowl deodorizers	1,056	91	396	81	0	0	0
Other	1,948	197	637	323	6	1	0
Unknown	206	20	86	33	0	0	0
<i>*Category total</i>	15,291	975	5,294	2,071	23	2	0
<i>Dyes</i>							
Fabric	724	71	246	36	0	0	0
Food dye (eg, Easter egg)	1,060	18	211	37	0	0	0
Leather	112	2	38	8	0	0	0
Other	299	20	114	12	0	0	0
Unknown	76	6	37	4	0	0	0
<i>*Category total</i>	2,271	117	646	97	0	0	0

(Continued on following page)

**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
<i>Essential oils</i>	2,419	322	749	853	15	3	0
<i>Fertilizers</i>							
Household plant food	3,461	89	1,040	104	1	0	0
Outdoor fertilizers	1,238	43	411	77	1	0	0
Plant hormones	55	3	19	2	0	0	0
Other	232	8	63	6	2	0	0
Unknown	1,193	58	363	86	1	0	0
<i>*Category total</i>	6,179	201	1,896	275	5	0	0
<i>Fire extinguishers</i>	349	49	114	91	2	0	0
<i>Food products/food poisoning</i>	13,325	849	2,508	1,560	50	4	0
<i>Foreign bodies/toys/ miscellaneous</i>							
Ashes	656	38	147	72	3	0	0
Bubble blowing solutions	3,697	87	736	1,080	7	0	0
Charcoal	724	22	189	30	0	0	0
Christmas ornaments	1,422	74	335	95	0	0	0
Coins	4,162	1,666	1,421	375	23	0	0
Desiccants	11,478	341	1,462	106	2	2	0
Feces/urine	1,937	70	382	71	0	0	0
Glass	543	64	144	48	0	0	0
Incense, punk	269	27	105	22	0	0	0
Soil	1,744	27	388	82	3	1	0
Thermometer	6,675	383	1,135	126	2	1	0
Toys	3,802	164	812	281	3	0	0
Other	10,784	1,118	2,636	868	28	8	0
Unknown	121	19	39	12	1	0	0
<i>*Category total</i>	48,014	4,100	9,931	3,268	72	12	0
<i>Fumes/gases/vapors</i>							
Carbon dioxide	45	16	7	13	3	0	0
Carbon monoxide	1,286	744	263	457	64	4	4
Chloramine	88	20	16	49	4	0	0
Chlorine: acid mixed with hypochlorite	6	1	1	4	0	0	0
Chlorine: other	524	122	96	254	13	1	0
Hydrogen sulfide	123	23	23	55	1	0	0
Methane and natural gas	412	164	127	122	2	0	0
Polymer fume fever	0	0	0	0	0	0	0
Propane and other simple asphyxiants	190	56	52	57	6	1	0
Other	260	57	83	54	7	0	0
Unknown	104	33	27	26	1	0	0
<i>*Category total</i>	3,038	1,236	695	1,091	101	6	4
<i>Fungicides</i>							
Carbamate fungicide	103	8	44	7	0	0	0
Mercurial fungicide	1	0	0	1	0	0	0
Nonmercurial fungicide	47	9	20	7	0	0	0
Phthalimide fungicide	195	6	67	6	0	0	0
Other/unknown	146	19	41	20	0	0	0
<i>*Category total</i>	492	42	172	41	0	0	0
<i>Heavy metals</i>							
Aluminum	431	27	93	18	0	0	0
Arsenic (excluding pesticides)	59	24	25	3	0	0	0
Barium	4	0	2	0	0	0	0
Cadmium	10	6	3	2	1	0	0
Copper	219	53	75	59	5	0	0
Fireplace flame colors	14	1	3	2	0	0	0
Gold	2	1	2	0	0	0	0
Lead	1,412	492	368	86	17	2	0

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**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Manganese	5	1	1	3	0	0	0
Mercury	902	88	258	15	5	1	0
Metal fume fever	26	7	6	7	0	0	0
Selenium	25	5	5	5	0	0	0
Thallium	18	3	4	0	0	0	0
Other	317	49	89	28	2	1	0
Unknown	4	1	1	0	0	0	0
<i>*Category total</i>	3,448	758	935	228	30	4	0
<i>Herbicides</i>							
Carbamate herbicide	5	1	2	0	0	0	0
2,4-D or 2,4,5-T	584	58	232	75	4	0	0
Diquat	18	7	9	2	1	0	0
Paraquat	12	5	7	1	0	0	0
Paraquat/diquat	1	0	0	0	0	0	0
Triazine herbicide	69	13	30	6	0	0	0
Urea herbicide	7	2	3	1	0	0	0
Other	1,056	107	450	127	2	0	0
Unknown	97	20	30	23	2	0	0
<i>*Category total</i>	1,849	213	763	235	9	0	0
<i>Hydrocarbons</i>							
Benzene	13	4	2	1	0	0	0
Carbon tetrachloride	9	5	4	3	1	0	0
Diesel fuel	335	106	110	113	12	1	0
Freon and other propellants	783	77	266	147	3	0	0
Gasoline	7,506	1,403	2,814	2,675	97	8	0
Halogenated hydrocarbon: other	251	45	80	66	8	1	0
Kerosene	2,363	991	837	809	108	7	1
Lighter fluid/naphtha	2,857	865	1,221	828	76	4	0
Lubricating oils/motor oils	3,159	255	1,473	298	9	1	0
Mineral seal oil	347	49	194	44	1	0	0
Mineral spirits/varsol	3,307	703	1,343	846	56	4	0
Toluene/xylene	373	77	145	88	2	1	0
Turpentine	642	186	253	161	5	1	0
Other	2,982	548	1,259	491	39	5	0
Unknown	4,365	1,070	1,873	959	136	11	0
<i>*Category total</i>	29,292	6,384	11,874	7,529	553	44	1
<i>Insecticides/pesticides (excluding rodenticides)</i>							
Arsenic pesticides	574	119	302	21	1	0	0
Borates/boric acid	2,352	196	734	76	1	0	0
Carbamate only	2,776	365	1,046	238	7	0	0
Carbamate with other pesticide	286	51	118	49	2	0	1
Chlorinated hydrocarbon only	1,642	568	741	209	24	6	1
Chlorinated hydrocarbon with other pesticide	75	10	25	15	1	0	0
Metalddehyde	252	66	135	15	0	0	0
Nicotine	12	4	8	2	0	0	0
Organophosphate only	4,567	970	2,020	492	35	5	2
Organophosphate with carbamate	840	108	311	125	4	0	0
Organophosphate with chlorinated hydrocarbon	61	8	19	13	0	0	0
Organophosphate with other pesticide	451	67	173	68	2	0	0
Organophosphate/carbamate/chlorinated hydrocarbon	15	2	5	1	0	0	0
Piperonyl butoxide alone	42	8	23	4	1	0	0
Piperonyl butoxide with pyrethrins	1,874	333	638	348	24	0	0
Pyrethrins only	1,841	346	629	268	35	2	0

(Continued on following page)

**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Repellants (insect)	3,331	373	1,043	866	22	1	0
Rotenone	56	10	17	8	0	0	0
Veterinary insecticide	2,512	294	965	348	8	4	1
Other	1,884	148	566	93	4	2	0
Unknown	1,139	286	402	144	9	1	0
<i>*Category total</i>	26,582	4,332	9,920	3,403	180	21	5
<i>Lacrimators</i>							
Capsicum/peppers	276	37	25	180	1	0	0
Lacrimators: CN	2,420	249	158	1,636	9	0	0
Lacrimators: CS	188	19	15	125	1	0	0
Lacrimators: DM	1	0	0	0	0	0	0
Other	12	2	1	9	1	0	0
Unknown	187	15	13	100	2	0	0
<i>*Category total</i>	3,084	322	212	2,050	14	0	0
<i>Matches/fireworks/explosives</i>							
Explosives	142	25	46	23	0	0	0
Fireworks	474	44	183	38	0	0	0
Matches	2,030	61	577	35	0	0	0
Other	44	11	25	4	0	0	0
Unknown	5	0	3	0	0	0	0
<i>*Category total</i>	2,695	141	834	100	0	0	0
<i>Moth repellants</i>							
Paradichlorobenzene	242	15	101	7	0	0	0
Naphthalene	1,798	398	1,000	78	4	0	0
Other	5	0	4	0	0	0	0
Unknown	2,955	648	1,281	138	6	0	0
<i>*Category total</i>	5,000	1,061	2,386	223	10	0	0
<i>Mushrooms</i>							
Coprine	10	2	9	0	0	0	0
Cyclopeptide	23	6	9	2	0	0	0
Gastrointestinal irritants	167	26	95	18	7	0	0
Hallucinogenic	63	20	42	6	0	0	0
Ibotenic acid	2	1	0	1	0	0	0
Miscellaneous, nontoxic	110	8	50	9	0	0	0
Monomethylhydrazine	1	1	0	0	1	0	0
Muscarine	5	4	3	1	0	0	0
Orellanine	0	0	0	0	0	0	0
Other potentially toxic	28	5	23	0	0	0	0
Unknown	7,957	1,475	5,138	529	24	1	0
<i>*Category total</i>	8,366	1,548	5,369	566	32	1	0
<i>Paints and stripping agents</i>							
Paint: anti-algae	5	1	2	1	0	0	0
Paint: anticorrosion	19	3	7	5	0	0	0
Paint: oil-base	1,029	97	351	171	1	1	0
Paint: water-base	2,504	109	692	97	0	0	0
Stains	519	43	200	74	3	0	0
Stripping agent: methylene chloride	257	75	81	86	4	0	0
Stripping agent: other	172	41	59	39	4	0	0
Stripping agent: unknown	222	23	78	48	1	0	0
Varnishes, lacquers	404	31	114	50	3	0	0
Wood preservatives	83	6	26	12	1	0	0
Other paint/varnish/lacquer	592	57	178	86	2	0	0
Unknown paint/varnish/lacquer	7,892	570	1,752	420	4	3	0
<i>*Category total</i>	13,698	1,056	3,540	1,089	23	4	0
<i>Photographic products</i>							
Developers, fixing baths, stop baths	34	2	11	4	0	0	0

(Continued on following page)



**TABLE 19A.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Nonpharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Photographic coating fluids	3	1	1	0	0	0	0
Other photographic product	268	11	73	18	0	0	0
Unknown photographic product	6	0	2	0	0	0	0
<i>*Category total</i>	311	14	87	22	0	0	0
<i>Plants</i>							
Amygdalin/cyanogenic glycosides	2,717	116	941	92	0	1	0
Anticholinergic	303	87	154	40	3	0	0
Cardiac glycosides	2,218	382	1,129	134	4	0	0
Colchicine	6	1	2	0	0	0	0
Depressants	24	2	9	1	0	0	0
Dermatitis	10,167	325	2,553	1,486	33	2	0
Gastrointestinal irritants	16,232	712	6,138	1,052	18	2	0
Hallucinogenic	182	21	81	8	0	0	0
Nicotine	108	28	42	14	4	0	0
Nontoxic plants	20,223	306	3,617	634	12	6	0
Oxalate	15,207	460	6,259	2,024	18	1	0
Solanine	1,816	287	1,071	145	3	2	0
Stimulants	238	62	115	25	1	0	0
Toxalbumins	175	78	82	29	2	0	0
Other	2,005	144	732	149	5	0	0
Unknown	13,435	887	4,910	1,051	23	2	0
<i>*Category total</i>	85,056	3,898	27,835	6,884	126	16	0
<i>Polishes and waxes</i>	6,446	573	2,834	956	26	2	0
<i>Radioisotopes</i>	4	2	0	1	0	0	0
<i>Rodenticides</i>							
ANTU	22	17	2	1	0	0	0
Anticoagulant (standard)	1,513	464	518	35	2	0	0
Anticoagulant: long-acting	10,854	4,083	4,476	276	12	4	0
Cyanide	0	0	0	0	0	0	0
Monofluoroacetate	0	0	0	0	0	0	0
Strychnine	34	19	24	2	1	0	0
Vacor	1	1	0	0	0	0	0
Other	668	322	201	22	0	0	0
Unknown	1,254	610	533	32	4	0	0
<i>*Category total</i>	14,346	5,516	5,754	368	19	4	0
<i>Sporting equipment</i>							
Gun bluing	29	15	13	9	1	0	0
Other	466	98	190	36	1	0	0
<i>*Category total</i>	495	113	203	45	2	0	0
<i>Swimming pool/aquarium</i>	3,212	299	1,160	376	11	0	0
<i>Tobacco products</i>	9,541	2,000	3,891	2,307	72	2	0
<i>Other/unknown nondrug substance</i>	3,042	322	945	327	17	1	0
<i>Total no. nonpharmaceutical substances</i>	654,628	71,867	206,597	100,729	3,451	250	15
<i>% of nonpharmaceutical substances</i>		11.0	31.6	15.4	0.5	0.0	0.0
<i>% of all substances</i>	59.3	6.5	18.7	9.1	0.3	0.0	0.0

\* Medical outcome data were also collected in categories labelled "unknown, nontoxic," "unknown, potentially toxic," and "unrelated effect." Thus, the numbers listed here do not represent the total poison exposure experience.

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
<i>Analgesics</i>							
<i>Acetaminophen only</i>							
Adult formulations	8,152	2,654	3,354	298	20	1	0
Pediatric formulations	38,550	4,597	10,161	997	27	7	0
Unknown formulations	3,075	741	965	90	4	1	0
<i>Acetaminophen in combination with Aspirin (with other ingredients)</i>							
Aspirin (no other ingredients)	658	105	265	22	1	0	0
Codeine	21	6	11	0	0	0	0
Oxycodone	1,504	650	814	203	12	0	0
Propoxyphene	344	151	194	33	1	0	0
Other narcotics	693	359	428	60	5	1	0
Other drugs (adult formulations)	562	245	325	53	2	0	0
Other drugs (pediatric formulations)	1,051	321	502	100	4	0	0
Aspirin only	31	10	17	5	0	0	0
<i>Aspirin only</i>							
Adult formulations	1,923	384	931	76	9	1	0
Pediatric formulations	393	63	166	19	3	0	0
Unknown formulations	2,443	602	1,082	130	20	2	0
<i>Aspirin in combination with</i>							
Codeine	164	75	100	11	0	0	0
Oxycodone	79	41	39	13	0	0	0
Propoxyphene	9	5	5	3	0	0	0
Other narcotics/analogs	45	24	30	4	0	0	0
Other drugs (adult formulations)	630	198	332	56	1	0	0
Other drugs (pediatric formulations)	4	1	1	1	0	0	0
<i>Narcotics</i>							
Codeine	797	212	347	118	8	0	0
Meperidine	72	42	34	18	0	1	0
Methadone	36	35	13	5	2	1	0
Morphine	79	61	41	10	8	1	0
Oxycodone	23	9	15	3	0	0	0
Pentazocine	40	24	23	9	1	0	0
Propoxyphene	117	62	73	13	2	1	0
Other/unknown	279	130	132	63	4	0	0
Nonaspirin salicylates	412	83	183	36	0	0	0
<i>Other nonsteroidal</i>							
<i>Anti-inflammatory drugs</i>							
Colchicine	54	37	36	5	0	0	0
Ibuprofen, OTC	12,686	1,422	5,066	541	20	4	0
Ibuprofen, R <sub>x</sub>	1,734	303	747	75	4	1	0
Ibuprofen-unknown if OTC or R <sub>x</sub>	2,659	388	1,242	116	4	0	0
Indomethacin	314	95	175	23	0	0	0
Other	4,690	860	2,310	240	5	6	0
Unknown	2	2	0	2	0	0	0
Phenacetin	0	0	0	0	0	0	0
Phenazopyridine	428	122	195	59	2	0	0
Salicylamide	69	18	39	3	0	0	0
Other analgesics	38	7	11	9	0	0	0
Unknown analgesics	33	13	16	5	0	0	0
*Category total	84,893	15,157	30,420	3,527	169	28	0
<i>Anesthetics</i>							
<i>Inhalation anesthetics</i>							
Nitrous oxide	12	4	2	2	0	0	0
Other/unknown	36	6	10	12	0	0	0

(Continued on following page)

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Ketamine and analogs	0	0	0	0	0	0	0
Local and topical anesthetics	3,821	800	1,915	373	7	3	0
Other/unknown anesthetics	8	3	4	2	0	0	0
<b>*Category total</b>	<b>3,877</b>	<b>813</b>	<b>1,931</b>	<b>389</b>	<b>7</b>	<b>3</b>	<b>0</b>
<b>Anticholinergic drugs</b>	<b>989</b>	<b>440</b>	<b>478</b>	<b>196</b>	<b>39</b>	<b>2</b>	<b>0</b>
<b>Anticoagulants</b>							
Heparin	9	5	1	1	0	0	0
Warfarin (excluding rodenticides)	415	183	228	16	2	0	0
Other/unknown	41	20	16	1	0	0	0
<b>*Category total</b>	<b>465</b>	<b>208</b>	<b>245</b>	<b>18</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>Anticonvulsants</b>							
Carbamazepine	1,949	1,160	858	481	149	23	1
Phenytoin	918	454	448	134	40	2	0
Succinimides	56	19	29	7	0	0	0
Valproic acid	517	183	278	70	6	1	0
Other	37	17	23	5	0	0	0
Unknown	5	3	2	0	0	0	0
<b>*Category total</b>	<b>3,482</b>	<b>1,836</b>	<b>1,638</b>	<b>697</b>	<b>195</b>	<b>26</b>	<b>1</b>
<b>Antidepressants</b>							
Amitriptyline	931	732	561	177	32	5	0
Amoxapine	24	17	10	4	2	1	0
Desipramine	304	238	183	56	6	3	0
Doxepin	213	160	128	31	5	2	0
Imipramine	730	500	429	162	22	6	0
Maprotiline	15	11	10	3	0	0	0
Nortriptyline	257	176	157	45	2	0	0
Protriptyline	15	12	10	0	0	0	0
Other cyclic antidepressants	89	68	50	13	5	0	0
Unknown cyclic antidepressants	17	17	8	4	2	1	0
Cyclic antidepressants with benzodiazepines	30	21	21	5	0	0	0
Cyclic antidepressants with phenothiazines	158	122	91	36	5	0	0
Lithium	388	250	236	45	6	1	0
MAO inhibitors	62	38	36	11	1	0	0
Trazodone	255	142	140	46	3	0	0
Other antidepressants	841	372	529	69	11	1	0
Unknown antidepressants	5	4	2	1	0	0	0
<b>*Category total</b>	<b>4,334</b>	<b>2,880</b>	<b>2,601</b>	<b>708</b>	<b>102</b>	<b>20</b>	<b>0</b>
<b>Antihistamines</b>							
H <sub>2</sub> receptor antagonists	1,411	258	685	79	4	0	0
Diphenhydramine (unknown if OTC or R <sub>x</sub> )	6,665	1,540	2,865	1,353	53	4	0
Diphenhydramine-alone (R <sub>x</sub> )	73	24	31	12	1	0	0
Diphenhydramine-alone (OTC)	1,403	273	574	207	9	1	0
Other	6,710	1,788	3,299	855	30	3	0
<b>*Category total</b>	<b>16,262</b>	<b>3,883</b>	<b>7,454</b>	<b>2,506</b>	<b>97</b>	<b>8</b>	<b>0</b>
<b>Antimicrobials</b>							
Antibiotics: systemic	25,284	2,026	7,615	1,570	34	7	1
Antibiotics: topical	4,055	69	945	117	0	1	0
Antibiotics: unknown	671	58	196	52	2	0	0
Antifungals: systemic	477	36	136	29	0	0	0
Antifungals: topical	5,340	125	1,356	241	3	0	0
Antifungals: unknown	24	2	10	2	0	0	0
Anthelmintics:							
diethylcarbamazine	889	29	302	18	0	0	0
Anthelmintics: piperazine	439	44	159	17	0	0	0
Anthelmintics: other	279	34	105	31	1	0	0

(Continued on following page)

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Anthelmintics: unknown	26	8	11	2	0	0	0
Antiparasitics: antimalarials	77	56	42	10	1	0	0
Antiparasitics: metronidazole	273	37	109	20	1	0	0
Antiparasitics: other	179	11	58	9	0	0	0
Antituberculars: isoniazid	125	67	45	15	3	2	0
Antituberculars: rifampin	22	5	9	2	1	0	0
Antituberculars: other	6	3	2	1	0	0	0
Antituberculars: unknown	0	0	0	0	0	0	0
Antivirals: systemic	231	39	99	6	1	0	0
Antivirals: topical	38	3	10	2	0	0	0
Antivirals: unknown	35	12	19	2	1	0	0
Other antimicrobials	68	9	37	5	0	0	0
Unknown antimicrobials	6	0	1	0	0	0	0
<i>*Category total</i>	38,544	2,673	11,266	2,151	48	10	1
<i>Antineoplastics</i>	212	68	114	13	1	0	0
<i>Asthma therapies</i>							
Aminophylline/theophylline	1,367	728	749	203	30	4	1
Terbutaline and other beta-2 agonists	8,106	3,248	3,606	2,045	148	2	0
Other beta agonists	348	133	168	84	3	0	0
Other	352	33	141	28	3	0	0
Unknown	5	3	2	1	0	0	0
<i>*Category total</i>	10,178	4,145	4,666	2,361	184	6	1
<i>Cardiovascular drugs</i>							
Alpha blockers	46	24	33	6	0	0	0
Antiarrhythmics	291	173	198	19	3	0	0
Antihypertensives	3,264	1,827	1,885	494	93	19	0
Beta blockers	1,852	1,217	1,290	159	11	0	0
Calcium antagonists	2,133	1,562	1,455	214	14	1	1
Cardiac glycosides	1,023	603	639	93	21	3	0
Hydralazine	128	62	90	8	2	0	0
Long-acting nitrates	403	161	266	26	1	0	0
Nitroglycerin	1,621	440	981	83	3	0	0
Nitroprusside	1	1	0	0	0	0	0
Other vasodilators	439	125	241	36	4	0	0
Unknown types of vasodilators	1	1	1	0	0	0	0
Vasopressors	6	5	3	3	0	0	0
Other cardiovascular drugs	65	12	21	15	0	0	0
Unknown cardiovascular drugs	14	6	8	2	0	0	0
<i>*Category total</i>	11,287	6,219	7,111	1,158	152	23	1
<i>Cough and cold preparations</i>	78,098	15,419	31,331	15,527	335	16	0
<i>Diagnostic agents</i>	120	20	40	7	1	0	0
<i>Diuretics</i>							
Furosemide	672	214	344	92	9	0	0
Thiazide	820	252	418	82	2	0	0
Other	875	236	424	83	7	0	0
Unknown	146	50	70	13	0	0	0
<i>*Category total</i>	2,513	752	1,256	270	18	0	0
<i>Electrolytes and minerals</i>							
Calcium	1,789	57	409	67	0	0	0
Fluoride	3,778	268	1,505	519	8	0	0
Iron	3,693	1,688	1,613	638	126	16	3
Magnesium	118	20	49	10	1	0	0
Potassium	499	130	249	27	1	0	0
Sodium	1,470	257	482	270	2	0	0
Zinc	555	38	144	34	3	0	0
Other	85	6	17	5	0	0	0
Unknown	11	4	4	1	0	0	0

(Continued on following page)

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
<b>*Category total</b>	<b>11,998</b>	<b>2,468</b>	<b>4,472</b>	<b>1,571</b>	<b>141</b>	<b>16</b>	<b>3</b>
<i>Eye/ear/nose/throat preparations</i>							
<i>Nasal preparations</i>							
Tetrahydrozoline	64	33	36	13	1	0	0
Other decongestants	1,576	479	907	139	6	0	0
Other	302	12	78	27	1	0	0
Unknown	6	1	2	1	0	0	0
<i>Ophthalmic preparations</i>							
Contact lens products	2,556	27	712	98	0	0	0
Glaucoma therapies	59	17	27	10	1	0	0
Tetrahydrozoline	1,166	679	801	117	18	1	0
Other ophthalmic sympathomimetics	188	78	118	12	2	0	0
Other	321	27	79	21	2	0	0
Unknown	5	0	0	2	0	0	0
<i>Otic preparations</i>							
Combination products	748	73	314	74	0	0	0
Other	974	44	308	114	2	0	0
Unknown	37	3	5	11	0	0	0
Steroids—topical for eye/nose/throat	395	8	94	44	0	0	0
<i>Throat preparations</i>							
Lozenges without local anesthetics	608	23	176	38	0	0	0
Lozenges with local anesthetics	352	30	125	13	1	0	0
Other	200	31	90	26	0	0	0
Unknown	3	0	2	0	0	0	0
<b>*Category total</b>	<b>9,560</b>	<b>1,565</b>	<b>3,874</b>	<b>760</b>	<b>34</b>	<b>1</b>	<b>0</b>
<i>Gastrointestinal preparations</i>							
Antacids: salicylate-containing	2,338	171	800	84	2	1	0
Antacids: other	15,788	303	3,184	395	4	5	0
Antidiarrheals: diphenoxylate/ atropine	1,102	653	652	165	35	4	0
Antidiarrheals: nonnarcotic	559	46	140	16	0	0	0
Antidiarrheals: paregoric	138	53	71	19	3	1	0
Antidiarrheals: other narcotic	224	4	50	53	1	0	0
Antispasmodics: anticholinergic	652	232	340	106	5	0	0
Antispasmodics: other	3	1	1	0	0	0	0
Laxatives	11,072	1,361	2,627	2,505	79	2	0
Other	2,406	288	669	145	18	1	0
Unknown	209	34	89	12	1	0	0
<b>*Category total</b>	<b>34,491</b>	<b>3,146</b>	<b>8,623</b>	<b>3,500</b>	<b>148</b>	<b>14</b>	<b>0</b>
<i>Hormones and hormone antagonists</i>							
Androgens	52	2	23	3	0	0	0
Corticosteroids	3,614	168	811	147	2	0	0
Estrogens	1,582	76	415	33	3	0	0
Insulin	79	31	29	10	1	0	0
Oral contraceptives	9,627	450	1,935	207	5	3	0
Oral hypoglycemics	1,306	1,151	764	278	59	7	0
Progestins	633	46	211	13	0	0	0
Thyroid preparations	3,234	597	1,172	139	7	0	0
Other hormones	297	118	119	72	9	0	0
Other hormone antagonists	125	25	70	4	1	0	0
Unknown hormones or antagonists	5	0	2	0	0	0	0
<b>*Category total</b>	<b>20,554</b>	<b>2,664</b>	<b>5,551</b>	<b>906</b>	<b>87</b>	<b>10</b>	<b>0</b>
<i>Miscellaneous drugs</i>							
Allopurinol	171	29	97	4	0	0	0

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**TABLE 19B. Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)**

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
L-dopa and related drugs	135	54	83	18	1	0	0
Disulfiram	37	17	17	4	0	0	0
Ergot alkaloids	336	180	184	53	2	1	0
Homeopathic preparations	1,245	124	462	60	2	0	0
Methysergide	1	0	0	0	0	0	0
Neuromuscular blocking agents	2	1	1	1	0	0	0
Other	4,113	575	1,563	640	18	1	0
<i>*Category total</i>	6,040	980	2,407	780	23	2	0
<i>Muscle relaxants</i>							
Cyclobenzaprine	679	426	370	128	12	0	0
Methocarbamol	140	63	78	13	3	0	0
Other	509	190	291	63	4	0	0
Unknown	8	4	7	0	0	0	0
<i>*Category total</i>	1,336	683	746	204	19	0	0
<i>Narcotic antagonists</i>	6	3	3	0	0	0	0
<i>Radiopharmaceuticals</i>	1	1	0	0	0	0	0
<i>Sedatives/hypnotics/antipsychotics</i>							
Barbiturates: long-acting	899	384	414	168	13	1	0
Barbiturates: short-acting	171	80	87	21	2	2	0
Barbiturates: unknown	0	0	0	0	0	0	0
Benzodiazepines	4,530	2,305	2,047	1,196	117	4	0
Chloral hydrate	124	81	34	43	17	2	1
Ethchlorvynol	18	13	9	4	1	0	0
Glutethimide	2	1	1	0	0	0	0
Meprobamate	46	24	28	7	0	0	0
Methaqualone	4	1	3	0	0	0	0
Phenothiazines	1,530	969	684	362	94	8	0
Sleep aids (OTC)	317	83	151	40	2	0	0
Other	303	134	176	41	4	1	0
Unknown	12	12	4	2	0	0	0
<i>*Category total</i>	7,956	4,087	3,638	1,884	250	18	1
<i>Serums, toxoids, vaccines</i>	127	47	22	14	1	0	0
<i>Stimulants and street drugs</i>							
Amphetamines	2,089	1,157	976	528	85	1	0
Amyl/butyl nitrites	3	2	1	1	0	0	0
Caffeine	1,160	284	598	180	5	0	0
Cocaine	84	66	20	18	7	2	0
Diet aids: phenylpropanolamine	839	295	443	121	5	0	0
Diet aids: phenylpropanolamine and caffeine	66	35	26	10	1	0	0
Diet aids: other, OTC	62	18	28	6	1	0	0
Diet aids: other, Rx	19	11	7	4	0	0	0
Diet aids: unknown	55	28	31	5	1	0	0
Heroin	14	9	3	1	0	0	0
LSD	14	13	2	2	3	0	0
Marijuana	76	46	19	17	2	0	0
Mescaline/peyote	41	7	5	13	0	0	0
Phencyclidine	24	19	5	5	9	1	0
Phenylpropanolamine look-alike drugs	38	22	18	11	0	0	0
Other stimulants	146	83	77	34	0	0	0
Other hallucinogens	0	0	0	0	0	0	0
Unknown hallucinogens	0	0	0	0	0	0	0
Other street drugs	6	0	3	1	0	0	0
Unknown stimulants/street drugs	9	7	4	2	0	0	0
<i>*Category total</i>	4,745	2,102	2,266	959	119	4	0
<i>Topical preparations</i>							
Acne preparations	742	36	248	75	0	0	0

(Continued on following page)

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Boric acid/borates	192	18	66	23	0	0	0
Calamine	4,428	314	1,046	300	13	2	0
Camphor	6,284	1,414	3,009	906	27	5	0
Camphor and methyl salicylate	970	182	417	177	5	0	0
Diaper products	16,757	203	3,230	709	6	4	0
Hexachlorophene antiseptics	69	14	18	9	0	0	0
Hydrogen peroxide	6,006	194	1,712	1,119	8	1	0
Iodine or iodide antiseptics	768	106	288	96	0	0	0
Mercury antiseptics	593	34	216	21	0	0	0
Methyl salicylate	6,562	708	2,423	1,286	6	0	0
Podophyllin	22	5	11	4	0	0	0
Silver nitrate	28	3	8	10	0	1	0
Topical steroids	4,517	63	840	109	1	0	0
Topical steroids with antibiotics	1,296	23	304	67	2	0	0
Wart preparations	1,532	174	515	365	8	0	0
Other liniments	1,006	72	377	153	3	0	0
Other topical antiseptics	2,941	214	1,213	259	4	0	0
*Category total	54,713	3,777	15,941	5,688	83	13	0
Veterinary drugs	1,727	127	645	162	3	0	0
<b>Vitamins</b>							
Multiple vitamin tablets: adult formulations							
No iron, no fluoride	1,328	75	415	57	3	0	0
With iron, no fluoride	4,347	908	1,837	403	15	1	2
With iron, with fluoride	39	4	12	5	0	0	0
No iron, with fluoride	202	10	91	11	0	0	0
Multiple vitamin tablets: pediatric formulations							
No iron, no fluoride	7,799	286	2,378	395	3	0	0
With iron, no fluoride	9,990	1,815	4,030	1,138	49	1	0
With iron, with fluoride	779	64	241	33	3	0	0
No iron, with fluoride	1,949	74	510	56	0	0	0
Multiple vitamin liquids: adult formulations							
No iron, no fluoride	65	26	23	3	0	0	0
With iron, no fluoride	28	6	12	3	0	0	0
With iron, with fluoride	1	0	1	0	0	0	0
No iron, with fluoride	5	1	2	0	0	0	0
Multiple vitamin liquids: pediatric formulations							
No iron, no fluoride	209	9	58	16	0	0	0
With iron, no fluoride	341	54	136	50	1	0	0
With iron, with fluoride	119	13	43	14	0	0	0
No iron, with fluoride	658	19	198	32	0	0	0
Multiple vitamins, unspecified adult formulations							
No iron, no fluoride	28	1	8	1	0	0	0
With iron, no fluoride	1,313	287	594	134	7	0	0
With iron, with fluoride	6	3	1	1	0	0	0
No iron, with fluoride	1	0	0	0	0	0	0
Multiple vitamins, unspecified pediatric formulations							
No iron, no fluoride	150	8	62	5	0	0	0
With iron, no fluoride	154	26	70	16	0	0	0
With iron, with fluoride	9	3	3	2	0	0	0
No iron, with fluoride	45	3	12	0	0	0	0
Other vitamins							
Vitamin A	648	73	223	41	0	0	0

(Continued on following page)

**TABLE 19B.** Demographic Profile of Accidental Exposure Cases in Children Younger Than 6 Years, by Generic Category of Substances and Products: Pharmaceuticals (Cont'd)

Substance Implicated in the Exposure	No. of Exposures	Treated in Health Care Facility	Outcome*				
			None	Minor	Moderate	Major	Death
Niacin (B <sub>3</sub> )	430	58	66	210	2	0	0
Pyridoxine (B <sub>6</sub> )	163	8	60	9	0	0	0
Other B complex vitamins	667	23	175	21	0	0	0
Vitamin C	1,575	67	397	87	2	0	0
Vitamin D	135	28	37	2	0	0	0
Vitamin E	830	31	233	24	1	0	0
Other	680	90	260	43	4	1	0
Unknown	1,006	266	208	57	0	0	0
*Category total	35,699	4,339	12,396	2,869	90	3	2
Unknown drugs	5,659	2,326	2,264	728	88	21	0
Total no. pharmaceutical substances	449,866	82,828	163,399	49,553	2,436	244	10
% of pharmaceutical substances		18.4	36.3	11.0	0.5	0.1	0.0
% of all substances	40.7	7.5	14.8	4.5	0.2	0.0	0.0

ABBREVIATIONS: OTC, over-the-counter; R<sub>x</sub>, prescription; MAO, monoamine oxidase.

\* Medical outcome data were also collected in categories labelled "unknown, nontoxic," "unknown, potentially toxic," and "unrelated effect." Thus, the numbers listed here do not represent the total poison exposure experience.

**TABLE 20.** Frequency of Plant Exposures by Plant Type

Botanical Name	Common Name	Frequency
<i>Capsicum annuum</i>	Pepper	3,923
<i>Dieffenbachia</i> spp.	Dumbcane	3,653
<i>Euphorbia pulcherrima</i>	Poinsettia	3,087
<i>Ilex</i> spp.	Holly	2,943
<i>Philodendron</i> spp.	Philodendron	2,155
<i>Crassula</i> spp.	Jade plant	2,086
<i>Spathiphyllum</i> spp.	Peace lily	1,988
<i>Phytolacca americana</i>	Pokeweed, inkberry	1,676
<i>Epipremnum aureum</i>	Pothos, devil's ivy	1,646
<i>Brassaia &amp; Schefflera</i> spp.	Umbrella tree	1,600
<i>Saintpaulia</i> spp.	African violet	1,347
<i>Toxicodendron radicans</i>	Poison ivy	1,312
<i>Pyracantha</i> spp.	Fire thorn	1,215
<i>Taxus</i> spp.	Yew	1,125
<i>Rhododendron</i> spp.	Rhododendron, azalea	1,031
<i>Chrysanthemum</i> spp.	Chrysanthemum	941
<i>Eucalyptus Globulus</i>	Eucalyptus	905
<i>Hedera helix</i>	English ivy	898
<i>Chlorophytum comosum</i>	Spider plant	878
<i>Solanum dulcamara</i>	Climbing nightshade	844

**TABLE 22.** Categories With Largest Numbers of Deaths

Category	No.	% of All Exposures in Category
Antidepressants	194	0.497
Analgesics	186	0.104
Stimulants and street drugs	81	0.364
Cardiovascular drugs	80	0.301
Alcohols	59	0.117
Gases and fumes	42	0.144
Asthma therapies	35	0.198
Chemicals	24	0.046
Pesticides (including rodenticides)	20	0.028
Cleaning substances	19	0.010
Anticonvulsants	18	0.150

**TABLE 21.** Substances Most Frequently Involved in Human Exposures

Substance	No.	%*
Cleaning substances	196,022	10.5
Analgesics	178,284	9.6
Cosmetics	153,721	8.2
Cough and cold preparations	107,980	5.8
Plants	106,939	5.7
Bites/envenomations	74,906	4.0
Pesticides (includes rodenticides)	70,687	3.8
Topicals	70,458	3.8
Hydrocarbons	64,041	3.4
Foreign bodies	63,297	3.4
Antimicrobials	63,025	3.4
Sedatives/hypnotics/antipsychotics	58,582	3.1
Chemicals	52,499	2.8
Food poisoning	50,511	2.7
Alcohols	50,276	2.7
Vitamins	43,187	2.3

NOTE: Despite a high frequency of involvement, these substances are not necessarily the most toxic, but rather often represent only ready availability.

\* Percentages are based on the total number of human exposures rather than the total number of substances.

**TABLE 23.** 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



TABLE 24. 10-Year Comparisons of Fatality Data

Year	Total Fatalities		Suicides		Pediatric Deaths ( $< 6$ years)	
	No.	%	No.	% of Deaths	No.	% of Deaths
1983	95	0.038	60	63.2	10	10.5
1984	293	0.040	165	56.3	21	7.2
1985	328	0.036	178	54.3	20	6.1
1986	406	0.037	223	54.9	15	3.7
1987	397	0.034	226	56.9	22	5.5
1988	545	0.040	297	54.5	28	5.1
1989	590	0.037	323	54.7	24	4.1
1990	612	0.036	350	57.2	25	4.1
1991	764	0.042	408	53.4	44	5.8
1992	705	0.038	395	56.0	29	4.1

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## APPENDIX

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

**Cases 5, 6, and 7.** Three men, ages 21, 39, and 52 were found dead at the bottom of a 68,000 L storage tank they had been repairing with a three-part rubberized glue containing toluene, xylene, methyl ethyl ketone, and isopropanol. The only access to the tank was through two 3-ft openings, only one of which was open. The three men were found after a county worker noticed their truck had not been moved overnight. There was no evidence of trauma, and the three men were not wearing safety gear. The rescue team measured extremely high ambient toluene levels in the tank. Autopsy showed toluene in the blood, lungs, brain, and tracheal air of each of the three men.

**Case 37.** A 25-year-old snake expert was bitten on the toe while tending his pregnant pet Black Indian cobra. He died within minutes. Postmortem showed a bloody pulmonary exudate, moderate cerebral edema, and three puncture wounds surrounded by mild ecchy-

miosis on the toe. A fine petechial rash was noted on the upper torso and extremities.

**Case 40.** A 20-year-old intoxicated man captured a Northern Pacific rattlesnake and was holding the snake when it bit him on the lips. The patient collapsed briefly, then got up and started vomiting. He continued to vomit while being driven 3 miles to the hospital. In the emergency department (ED), his lips were swelling rapidly and he was deteriorating clinically. Forty minutes after arrival, he was paralyzed and intubated. He arrested during intubation. He was resuscitated for 30 minutes before recovering a sinus rhythm with a blood pressure of 100/60 mm Hg. He was also treated with epinephrine, atropine, and five vials of crotalid antivenin. The patient developed a profound coagulopathy and required 30 more vials of antivenin. After paralysis and sedation were withdrawn, his condition was consistent with brain death. He was extubated and died. The autopsy showed an edematous brain with softening and cerebellar tonsillar herniation. Blood toxicology results were only positive for ethanol at 207 mg/dL.

**Case 41.** A 22-year-old female college student ingested a cup of electrophoresis gel containing acrylamide (48 g) and started to vomit. In the ED approximately 1 hour after the ingestion, she was alert and vomiting. Her vital signs and physical examination were unremarkable. Laboratory studies showed hematocrit, 41.7%; white blood cell count, 11,500/mm<sup>3</sup>; platelets, 322,000/mm<sup>3</sup>; sodium, 137 mEq/L; potassium, 4.0 mEq/L; chloride, 108 mEq/L; carbon dioxide, 24 mEq/L; glucose, 97 mg/dL; blood urea nitrogen (BUN), 13 mg/dL; and creatinine, 0.8 mg/dL. Initial treatment consisted of the administration of activated charcoal, N-acetylcysteine, and intravenous pyridoxine. Six hours after the ingestion, the patient had a grand mal seizure. Her arterial blood gas on 2 L of oxygen showed pH, 7.1; PCO<sub>2</sub>, 26 mm Hg; and PO<sub>2</sub>, 142 mm Hg. Eight hours after the ingestion, the patient became lethargic with a systolic blood pressure of 70 mm Hg. Ten hours after the ingestion, laboratory studies showed hematocrit, 47%; pH, 7.1; PCO<sub>2</sub>, 25 mm Hg; and PO<sub>2</sub>, 141 mm Hg. Twelve hours after the ingestion, the patient was intubated after she had another seizure. Laboratory studies at that time showed sodium, 146 mEq/L; potassium, 2.8 mEq/L; chloride, 112 mEq/L; carbon dioxide, 12 mEq/L; glucose, 520 mg/dL; BUN, 22 mg/dL; and creatinine, 2.1 mg/dL. She never regained consciousness. By 14 hours after the ingestion, the patient was in status epilepticus with a systolic blood pressure of 50 mm Hg despite the administration of diazepam, phenytoin, phenobarbital, valproic acid, norepinephrine, and fluids. The prothrombin time was prolonged and an arterial blood gas while on 50% oxygen was: pH 7.24; PCO<sub>2</sub>, 21 mm Hg, and PO<sub>2</sub>, 261 mm Hg. Sixteen hours after the ingestion, complete blood cell count showed hemoglobin, 11.9 g/dL; hematocrit, 34.8%; white blood cell count, 25,000/mm<sup>3</sup>; and platelets, 272,000/mm<sup>3</sup>. Seventeen hours after the ingestion, life support measures were discontinued. Nineteen hours after the ingestion, she was seizing and her systolic blood pressure was 38 mm Hg. She died 20.5 hours after the ingestion. Acrylamide was not detected in a blood specimen obtained 20 hours after the ingestion. (All times are approximate.)

**Case 42.** An 18-month-old girl ingested an unknown amount of liquid from a bleach container. She immediately vomited, became lethargic and had congested respirations. The child was immediately transported to a hospital and was pronounced dead on arrival. The bleach container was found to contain a jewelry cleaning solution with cyanide. The toxicology evaluation showed a blood cyanide concentration of 5.3 µg/mL, and 91 µg/mL in the gastric contents.

**Case 49.** A 50-year-old man presented to the ED with chest pain and blurred vision, stating that approximately 12 hours earlier he had consumed canned fuel (the brand originally implicated contained methanol and ethanol). His blood pressure was 232/110 mm Hg and his physical examination was otherwise normal. The initial blood gas showed a pH of 7.03 and a bicarbonate of 4.4 mEq/L. Therapy

with ethanol and sodium bicarbonate was begun. He developed refractory acidosis requiring dialysis in the first 24 hours. Except for increased BUN, creatinine, and acidemia, all initial and follow up chemistries were normal. After dialysis the patient stated he had consumed a different brand of canned fuel (which contained diethylene glycol rather than methanol and ethanol). Shortly thereafter he developed fulminant hepatic failure in addition to the renal failure. He died 6 days after admission.

**Case 50.** While sleepwalking, this 56-year-old man ingested a spoonful of an etching cream containing 20% ammonium bifluoride and 13% sodium bifluoride. Shortly after the exposure he developed vomiting and diarrhea. Approximately 45 minutes after the ingestion he was brought to the ED. His medical history included alcohol abuse, hypertension, an unknown cardiac history, sleep apnea, and sleepwalking. Initial physical examination was unremarkable. There were no oral burns. He continued to vomit and complain of upper abdominal pain. He was given milk and a magnesium/aluminum-containing antacid. Initial laboratory studies included normal values for serum calcium, potassium, and magnesium. He continued to vomit despite treatment with prochlorperazine, dimenhydrinate, and metoclopramide. Approximately 3 hours after the ingestion, gastroscopy was performed revealing significant chemical burns without evidence of bleeding. About 1 hour after gastroscopy he went into ventricular fibrillation. Serum calcium and magnesium levels had fallen to 5.5 mg/dL and 0.8 mEq/L, respectively. Calcium chloride and magnesium therapy were included in the attempted resuscitation. He was pronounced dead approximately 5 hours after the exposure.

**Case 78.** A 2-year-old girl was brought to the ED 45 minutes after ingesting 15 to 30 mL of a hair weave remover containing 20% mineral oil and 30% mineral spirits. She presented to the ED with drowsiness and an increased respiratory rate. She had a past medical history of febrile seizures. Her arterial blood gas was: pH, 7.35;  $PCO_2$ , 41 mm Hg;  $PO_2$ , 74 mm Hg; bicarbonate, 23 mEq/L on 3 L of oxygen. She developed a fever and had a tonic clonic seizure lasting 15 minutes in the ED. Lorazepam was given. The initial chest x-ray showed slight hilar infiltrates that progressed to fluffy infiltrates in both upper lobes and perihilar regions. White blood cell count was 11,800/mm<sup>3</sup>. Urinalysis, lumbar puncture, and liver function tests were within normal limits. Her respiratory rate was 70 breaths/min, and she was treated with ticarcillin/clavulanic acid, acetaminophen, and aggressive pulmonary toilet. The next morning she had a respiratory arrest and was intubated. A computerized tomographic (CT) scan performed that morning showed cerebral edema with sparing of the cerebral cortex. An electroencephalogram that evening demonstrated cerebral silence. The child was pronounced dead on the second hospital day. Autopsy showed acute necrotizing, diffuse bronchopneumonia consistent with hydrocarbon ingestion. Cerebral and brain stem edema was noted with uncal herniation.

**Case 79.** A 3-year-old girl was found unconscious by her mother with an empty 500 mL bottle of mouthwash at her side. It was reported the child had ingested the entire amount. The ingestion occurred within 4 hours of discovery. In the ED she remained unconscious and unresponsive with sluggish but reactive pupils. She was intubated, placed on 100% oxygen, and given intravenous fluids. Her initial blood ethanol concentration was 504 mg/dL. Kussmaul respirations developed. Blood ethanol concentration dropped to 403 mg/dL, and serum osmolality was elevated at 439 mOsm/kg  $H_2O$ ; pH, 7.26; and serum potassium, 3.2 mEq/L. The patient was aggressively hydrated and given sodium bicarbonate. Nine hours after initial presentation her laboratory results were: sodium, 153 mEq/L; potassium, 3.4 mEq/L; and pH, 7.44. Thirteen hours after presentation she was extubated, breathing room air, awake, and alert. Eighteen hours after presentation she suffered a respiratory arrest and was intubated. She was unresponsive and without pupillary reflexes. Mannitol was started. A CT scan showed impending herniation. The patient died 33 hours after presentation.

**Case 81.** A 4-year-old girl returned from the bathroom, sat down on the couch, and suddenly became cyanotic and incontinent of urine. When paramedics arrived 5 minutes later, the child was in full cardiac arrest. Resuscitation was begun immediately. The paramedics noted an empty 180 mL bottle of cherry-flavored throat spray (1.4% phenol, 12.5% ethanol) on the bathroom floor with the spray top removed. The child was intubated and received epinephrine and atropine during transport. In the ED, resuscitative efforts were continued, including the administration of dextrose and naloxone, without response or return of normal cardiac rhythm or blood pressure. An arterial blood gas showed  $PO_2$ , 256 mm Hg;  $PCO_2$ , 52 mm Hg; pH, 7.20; and bicarbonate, 20 mEq/L. A nasogastric tube was inserted, but no gastric decontamination was performed. The child was pronounced dead after 40 minutes of attempted resuscitation. Postmortem toxicologic results included 20 mg/dL of ethanol and an unspecified amount of phenol in the blood. The gastric contents contained 0.1 mg/mL phenol.

**Case 88.** A family of four was exposed to carbon monoxide when their car became stuck in the mud and the exhaust pipe was submerged. The father had to walk approximately a mile to call for help. Paramedics found the 3-year-old boy in cardiopulmonary arrest. Resuscitative efforts were unsuccessful. The 11-month-old infant and 26-year-old mother were treated in local hospitals, and experienced no residual effects.

**Cases 110, 111, and 113.** Three men were pumping out a hog manure pit. The pit was 2 m deep, had only one opening (less than 0.5 m), and was not ventilated. The father (age 44) climbed into the pit to retrieve the pumping hose, which had clogged. After passing the hose out, the father put his head through the hole and was gasping for air and shaking. Then he lost his grip and fell back into the pit. The son (age 17) immediately climbed in and lifted his father up to push him out of the pit. A witness grabbed the father's hand and tried to pull him out but the son collapsed at the bottom of the pit and the father slipped out of his grasp. The witness ran to the barn to get help, returned with a 17-year-old employee, and tried to pull the father and son out with hooked poles, but the poles were too short. The witness told the employee not to enter the pit and went to call the fire department. On his return, he found the employee also in the pit. Finally, the pit was bulldozed and with help from local police, the three victims were pulled out and resuscitation was started. The victims were taken to a hospital and declared dead. In addition, one policeman involved in the rescue operation was admitted for confusion, red eyes, and chest pain. Another policeman and an ambulance attendant were seen for red eyelids and throats but were discharged. Postmortem blood samples showed thiosulfate suggesting exposure to hydrogen sulfide. The levels were: 15  $\mu$ g/mL in the employee, 16  $\mu$ g/mL in the father and 20  $\mu$ g/mL in the son. Blood methane concentrations were present at 6 parts per million in both the father and son.

**Case 121.** A 30-year-old man was cutting bolts and posts with welding equipment in an enclosed area over 3 consecutive days. The next day the patient was seen in an ED and was discharged with a diagnosis of metal fume fever. Three days later he was admitted to an intensive care unit with bilateral pulmonary edema. Six days after the exposure the patient developed renal failure and was transferred for dialysis. There the patient was intubated and had severe adult respiratory distress syndrome, oliguria, and subcutaneous emphysema. A coworker reported that the cut bolts were made of galvanized zinc. At this point cadmium was also suspected. Dialysis was started. Serum creatinine prior to dialysis was 9.5 mg/dL and BUN was 125 mg/dL. Ten days after exposure the analysis of the bolts was reported to be positive for cadmium. A blood cadmium level was 42 ng/mL. Calcium EDTA was given with each dialysis treatment. Despite chelation the patient's pulmonary condition worsened and he required chest tube placement. Daily dialysis was continued. Sixteen days after admission the patient developed disseminated intravascular coagulation and died. On postmortem examination el-

evated tissue cadmium and zinc levels were found in lung, liver, and kidney (cortex and medulla). On postmortem, the highest concentration of cadmium was found in the renal cortex (6.1  $\mu\text{g/g}$ ); the highest tissue zinc concentration was in the liver (200  $\mu\text{g/g}$ ).

**Case 122.** A 23-year-old man presented to the ED with focal swelling of his left arm. He said he was bitten by something while pitching hay in the barn. He developed a fetid breath odor, and vomited five times in the ED. The patient was treated with diphenhydramine and released. He was found 6 hours later lying dead in the barn where he was working. Attempts at resuscitation were unsuccessful. At the scene, a syringe was found along with a bottle containing a veterinary product (selenium 5 mg/mL and vitamin E). Blood submitted at time of death showed a selenium level greater than 500 ng/mL.

**Case 124.** A 35-year-old man was brought to the ED an unknown time after drinking 500 mL of a moss killer containing zinc chloride (30% metallic zinc). The patient was vomiting, and had pinpoint pupils and an altered level of consciousness. Severe burns were noted in his mouth and throat, with airway obstruction. An endotracheal tube was inserted. The patient developed diaphoresis, tachycardia, hypertension and then became comatose. Naloxone was given. The patient expired 4 hours after admission. On autopsy there was marked irritation and erosion of the gastric and intestinal mucosa, extensive hemorrhagic pancreatitis and chemical peritonitis. Serum ethanol level was 200 mg/dL, and serum zinc was 14,853  $\mu\text{g/mL}$ .

**Case 125.** A 62-year-old woman was seen and evaluated in the ED after possible inhalation and/or ingestion of paraquat over 1 to 2 hours on the day of presentation. The patient was the owner of a dairy farm and often used the product to kill weeds. She consistently denied ingestion, although it was later noted that she frequently had an open bottle of cola near her while working, thus the possibility of an unintentional ingestion of paraquat could not be absolutely excluded. Later that evening, she complained of shortness of breath and coughing. The patient was released home after ED evaluation. The following night, the patient returned to the ED with symptoms that suggested impaired liver and kidney function. Infiltrates were found on chest x-ray and laboratory analysis showed: white blood cell count, 25,000/ $\text{mm}^3$ ; creatinine, 5.9 mg/dL; and  $\text{Po}_2$ , 59 mm Hg on room air. Hemodialysis was instituted for acute renal failure on the second hospital day and her pulmonary status gradually deteriorated. Oxygen supplementation was restricted to that required to maintain an arterial  $\text{Po}_2$  of 50 to 60 mm Hg. Diffuse pulmonary infiltrates progressed steadily during the first week of hospitalization although she did show some improvement in renal function after dialysis. By the fifth hospital day, she required endotracheal intubation and mechanical ventilation. Her  $\text{Po}_2$  remained in the 50 to 60 mm Hg range on mechanical ventilation. The patient died 20 days after admission from ventilatory failure. Urinary paraquat level 72 hours after the exposure was 2.5 mg/L.

**Case 140.** A 13-month-old boy, previously in good health, ingested and aspirated kerosene. He presented with lethargy and trouble breathing. Initial therapy included lavage, activated charcoal and intravenous fluids. He became more alert and appeared stable. A chest x-ray showed signs of aspiration. Within 5.5 hours after the exposure he required intubation and paralysis with vecuronium. Bilateral infiltrates, deteriorating respiratory status, bradycardia, hypotension and hypothermia (35° C) were evident within 24 hours. On the second hospital day he had developed severe respiratory distress syndrome. The chest x-ray was described as "whited-out." His medications included ranitidine, cefotaxime, and oxacillin. Three chest tubes were required for pneumothoraces. All life support was discontinued 5 days after the ingestion.

**Case 143.** A 18-month-old boy drank an unknown amount of diazinon concentrate. He was found lying still with his eyes open. Resuscitation was initiated en route to the hospital. In the ED the patient was given atropine and epinephrine and a heart rate of 150 beats/min returned. No spontaneous respirations were present. His

pupils were pinpoint and a blood pH was 6.75. After transfer to a children's medical center, pralidoxime and atropine were given. The electroencephalogram was flat and the electrocardiogram showed tachycardia. Four days after the exposure, the pupils were reacting briskly, and his heart rate was 170 beats/min. The patient was febrile with a temperature of 38.2°C, and had occasional spontaneous respirations. A CT scan was unremarkable. The following day the patient began to deteriorate. Pupils began responding very sluggishly, decorticate posturing developed and his temperature rose to 39.5°C. Spontaneous respirations continued and he was extubated. Electroencephalogram showed sporadic periods of activity. On the 14th hospital day tube feedings and intravenous fluids were discontinued. On the 18th hospital day, the child died. Postmortem showed cerebral anoxia.

**Cases 144 and 145.** Two boys, ages 2 and 4 years, were intentionally fed an unknown quantity of diazinon concentrate by the mother. The children were found by their father with evidence of profuse vomiting, diarrhea, and apnea. Asystole was noted and despite resuscitation, the children were pronounced dead at the scene.

**Case 148.** A 2½-year-old boy ingested and had skin exposure to endosulfan. Immediate dermal decontamination at home was recommended. The patient presented to the ED within 30 minutes in status epilepticus and respiratory arrest. He was intubated and given large doses of phenobarbital, diazepam and phenytoin, but a pentobarbital coma was required to control the seizures. Subsequent laboratory data showed a pH of 7.02. Sodium bicarbonate was given. Approximately 19 hours after the ingestion, seizure activity ceased. Pentobarbital was discontinued and phenobarbital was started. At this point, the patient was responding to deep pain and suctioning. A chest x-ray revealed possible aspiration. Approximately 2 days after the exposure, his pupils were fixed and dilated and seizure activity was again detected. A pentobarbital coma was again induced. Intracranial pressure was elevated and no brain wave activity was detected. The patient died approximately 3½ days after the exposure.

**Case 149.** A pair of 2-year-old twins ingested a flea and tick dip for dogs containing 1% rotenone and 55% pine oil. A strong smell of pine oil was evident on both children, and they were vomiting, coughing, and groggy. Both children were intubated on arrival to the ED. One twin had arrived unresponsive with agonal respirations. Initial therapy included lavage, charcoal and cathartic. Nine hours after the ingestion the twin who was initially unresponsive was resuscitated from a cardiopulmonary arrest. His medications included dopamine, bicarbonate, epinephrine, atropine, and dobutamine. His lungs were clear, but his pupils were fixed and dilated. At 28-hours postingestion, after a brain flow study documented brain death, his medications were discontinued, and he was extubated and pronounced dead. A postmortem examination found congestion of viscera, as well as cerebral edema and encephalomalacia. The brain tissue contained volatile hydrocarbon-like components consistent with the volatile components in the tick dip. The other twin survived and was discharged home.

**Case 151.** An 80-year-old woman reportedly ingested 60 mL of a 20% lindane insecticide in a suicide attempt approximately 15 minutes before being found. She was seen in the ED, where gastric lavage was performed and activated charcoal administered. On presentation, the patient had bradycardia, respiratory difficulty, and metabolic acidosis. Encephalopathy ensued. She received one dose of atropine and pralidoxime and was intubated and placed on mechanical ventilation. The patient died 4 days after the ingestion.

**Case 155.** A small apartment building was evacuated, tented, and fumigated with methyl bromide. A 37-year-old man entered his apartment after it had been cleared for habitation. He was an employed alcoholic without a history of hospitalizations for alcoholism. He had a remote history of head trauma without sequela, and no history of seizures. When he entered his apartment he noticed an odor and that all the windows, doors, cabinets, and closets were closed. He

opened the living room windows, but not the bedroom window, and went to sleep. He awoke several hours later feeling nauseated and vomited. He slept poorly that night with persistent nausea and flu-like symptoms. Approximately 14 hours after entering his apartment he had his first generalized seizure which was followed by status epilepticus. He was transported to the ED where his seizures were unresponsive to diazepam, phenytoin, and phenobarbital. His serum bromide level was 12 mg/dL. He was admitted to the ICU and placed in a barbiturate coma, but whenever it was lifted, he resumed seizing. The patient developed multisystem organ failure, and 17 days later all life support was discontinued and he died. Postmortem showed severe pulmonary edema, bilateral lower lobe bronchopneumonia, numerous emphysematous blebs, abdominal visceral congestion, and contusions and encephalomalacia of the left temporal and frontal lobes. An investigation by county and state health authorities showed that the applicator had not properly tested the building before clearing it for re-entry.

**Case 156.** A 3-year-old boy was brought to the ED by family members after he ingested a liquid roach killer containing parathion. Upon arrival to the ED, the child was not breathing and appeared to be lifeless. His pulse was 30 beats/min and his pupils were fixed and dilated. Atropine therapy was recommended. Despite resuscitation efforts the patient died. Final laboratory values included: pH, 7.12; PCO<sub>2</sub>, 8.5 mm Hg; PO<sub>2</sub>, 123 mm Hg; calcium, 13.2 mEq/L; BUN, 14 mg/dL; sodium, 133 mEq/L; potassium, 5.4 mEq/L; chloride, 107 mEq/L; glucose, 658 mg/dL; and creatinine, 0.8 mg/dL. Red blood cell cholinesterase was 25% to 50% of normal. Postmortem blood demonstrated approximately 3 µg/dL of parathion.

**Case 160.** A 76-year-old woman with a medical history of multiple cardiac problems and diabetes mellitus picked and ate some white mushrooms. Her medications included warfarin, enalapril, digoxin, glyburide, furosemide, and potassium. Approximately 4 hours after the ingestion she first became ill, complaining of nausea, vomiting, and diarrhea. She was seen and admitted 12 hours after the mushroom ingestion. Initial treatment included intramuscular promethazine and activated charcoal in sorbitol, which she vomited. Her electrolytes were normal, and her blood glucose was 450 mg/dL. Her vital signs were: blood pressure, 210/89 mm Hg; pulse, 116 beats/min; respirations 20 breaths/min. Meixner testing of the vomitus for amatoxins was reported as negative. Twenty-four hours postingestion she was still vomiting, and was described as "oriented but sluggish." Renal and liver function tests were normal. A mycologist, consulted by phone, tentatively identified the mushroom as *Lepiota naucina*. During the next 18 hours her respiratory status and general condition deteriorated. She became unresponsive with decreased urinary output and blood pressure. By the second hospital day she required intubation, pressors to maintain blood pressure, and was started on antibiotics because of a fever of 39.4°C. Her renal and liver function deteriorated: AST, 3,124 U/L; ALT, 1,881 U/L; creatinine, 4.3 mg/dL. She developed acidosis, and coagulation abnormalities with a prothrombin time of 28 seconds. Air was found in the biliary tree and ultrasound showed multiple fluid-filled bowel loops and biliary gas. She was taken for exploratory surgery and was found to have infarcted small and large bowel. She died approximately 60 hours after ingestion. Postmortem findings included extensive necrosis of the liver with moderate fatty changes. The mushrooms were later identified as *Amanita bisporigera*.

**Case 162.** A 72-year-old man with Parkinson's disease and dementia accidentally ingested rodenticide pellets that contained 0.005% brodifacoum. In the ED 30 minutes after the ingestion he was asymptomatic. Gastric lavage was performed and activated charcoal and cathartic were administered. Initial laboratory values included a prothrombin time of 14.6 seconds and a partial thromboplastin time of 28 seconds. He was admitted and vitamin K was administered. On the first day after ingestion his prothrombin time remained at 14.6 seconds. Two days after the ingestion, he had a hypoglycemic event with a serum glucose of 11 mg/dL. Laboratory values at this

time included a prothrombin time of 21 seconds and a partial thromboplastin time of 30.3 seconds. Later in the day his prothrombin time increased to 28 seconds. His condition continued to deteriorate. He was comatose and continued to have multiple hypoglycemic episodes. Three days after ingestion, laboratory values included a prothrombin time of 48 seconds and blood glucose of 50 mg/dL. Treatment included daily administration of vitamin K, dextrose, and fresh frozen plasma. He died 67 hours after the ingestion.

**Case 163.** A 44-year-old man was brought to the ED approximately 45 minutes after an intentional ingestion of up to 90 mL of gun bluing containing 5% selenious acid, 4% cupric nitrate, 4% nitric acid, and 4% phosphoric acid, with a pH less than 1.5. When found he had slurred speech and hematemesis. In the ED, he had gasping respirations, cyanosis, and was only able to provide one to two word verbal responses. He was incontinent of guaiac positive brown stool. Initial vital signs were: blood pressure, 124/63 mm Hg; heart rate, 126 beats/min; respirations, 32 breaths/min and labored. The patient became increasingly dyspneic and hypotensive, requiring intubation, aggressive fluid resuscitation, norepinephrine, and dopamine. His cardiac rhythm deteriorated to electromechanical dissociation, resuscitation efforts failed, and he was pronounced dead approximately 2 hours after the exposure. Postmortem drug screen showed heroin and a moderate amount of cocaine. Autopsy showed evidence of corrosive effect to the esophagus and gastric mucosa, with free blood in the proximal small bowel.

**Case 268.** A 76-year-old man with a history of prior myocardial infarctions, coronary artery bypass grafting, renal insufficiency, and congestive heart failure was treated for gout with colchicine. He was given 2 mg followed by 0.5 mg every 6 hours for the next 36 hours, receiving a total intravenous dose of 5 mg. He had tolerated colchicine in the past without difficulty, although his BUN and creatinine were 138 mg/dL and 4.3 mg/dL on the day treatment began. Two days after his last dose of colchicine, he developed pancytopenia, hepatitis, rhabdomyolysis, and worsening congestive heart failure. Over the next 3 days his white blood cell count decreased from 31,000/mm<sup>3</sup> to 1,500/mm<sup>3</sup>, platelets decreased from 380,000/mm<sup>3</sup> to 37,000/mm<sup>3</sup>, and his hematocrit decreased without a reticulocytosis. His alkaline phosphatase peaked at 473 IU/L with an SGOT of 242 IU/L, total bilirubin of 2.8 mg/dl, and creatine phosphokinase of 2,122 IU/L. He was treated with granulocyte stimulating factor without a return of bone marrow function until 7 days after the last dose of colchicine. By the sixth day he was awake and oriented, complaining only of weakness or difficulty moving his legs. By the ninth day the patient became lethargic, short of breath, hypotensive, and had progressive renal failure. Urine cultures were positive for *E. coli*. Blood and catheter tip cultures were positive for *Staphylococcus epidermidis*. He was treated with antibiotics, phenylephrine, dopamine and norepinephrine. Peritoneal dialysis was attempted but the patient developed respiratory difficulty, required intubation, and died.

**Case 300.** A 2-year-old girl with a history of febrile seizures, maintained on carbamazepine (40 mg three times a day), was being evaluated for a viral illness and an atypical seizure. Her carbamazepine level at that time was subtherapeutic at 1.8 µg/mL. She received an unknown amount of additional carbamazepine and was discharged with a normal mental status. An unknown time later she was found holding her unopened carbamazepine bottle. Over the next 24 hours she became irritable and less responsive, and was re-evaluated. Her carbamazepine level was 38.8 µg/mL. CT scan and lumbar puncture were unremarkable. After admission, the patient developed status epilepticus and was treated with phenytoin, lorazepam, phenobarbital, and finally intubation and pancuronium bromide. Her temperature was 42°C after seizing for 2 hours. Persistent seizure activity was noted on electroencephalogram for 36 to 48 hours. Approximately 2½ days after admission she continued to be flaccid and unresponsive despite cessation of sedating and paralyzing medications. Her electroencephalogram and auditory evoked responses were consistent with brain death; she was extubated and died.

**Case 309.** A 9-month-old previously healthy girl was brought to the ED unresponsive and in respiratory distress after having a witnessed seizure at home. The mother denied having any medications in the home. Vital signs on admission: blood pressure, 61/31 mm Hg; pulse, 186 beats/min; respirations, 36 breaths/min and shallow. The child was intubated. She developed asystole despite intravenous fluids, intubation, oxygen, sodium bicarbonate, atropine, epinephrine, dopamine, and isoproterenol, and was unable to be resuscitated. After the toxicology screen results showed amitriptyline the mother admitted to giving the child half of a 100 mg tablet of amitriptyline approximately 2 to 3 hours before arrival in the ED to "get her to sleep." Premortem toxicology results, drawn approximately 3.5 hours postingestion, showed a serum amitriptyline level of 1,800 ng/mL. Four hours postingestion amitriptyline/nortriptyline levels of 5,500/800 ng/mL were demonstrated. Postmortem toxicology results obtained approximately 12 hours after death showed serum amitriptyline/nortriptyline levels of 10,800/1,800 ng/mL. Gastric contents showed 253 mg of amitriptyline and 4.2 mg of nortriptyline. Liver and brain concentrations of amitriptyline/nortriptyline were reported as 88.7/52 µg/g and 46.3/18.0 µg/g, respectively.

**Case 472.** A 3-year-old girl presented to the ED after having a seizure while playing. She was intubated and the cardiac monitor showed a wide complex tachycardia that converted to normal sinus rhythm with lidocaine. A toxicology screen revealed a diphenhydramine level of 2.5 mg/L. Her mother admitted giving the child diphenhydramine as needed and at bedtime for sedation. After resuscitation and stabilization, the patient was transferred to a local children's hospital where she was extubated and stable but inappropriate. CT scan, septic workup, and lumbar puncture were normal. Approximately 48 hours after admission the patient developed heart block with a rate of 65 beats/min, and had to be re-intubated. Her liver was enlarged, but liver and renal function tests were within normal limits. Antibiotics were initiated for aspiration pneumonitis. Vasopressors were started and noncardiac pulmonary edema developed. After 5 weeks of medical therapy the patient died.

**Case 481.** A 4-year-old girl was brought to an ED because of seizure activity. Convulsions did not respond to loading doses of diazepam, phenytoin, or phenobarbital. A partially empty bottle of sustained-release theophylline was found by family members. She was transferred to another facility for hemoperfusion. En route, she was started on a pentobarbital infusion and given vecuronium bromide. Charcoal hemoperfusion was performed. The patient's initial theophylline level was 262 µg/mL. Her level decreased to 162 µg/mL; however, seizures were intractable and she died 6 days after admission. Before death her creatine kinase was measured at 370,000 U/L.

**Case 539.** An 11-month-old boy ingested approximately four immediate-release nifedipine 10 mg capsules. According to a neighbor, he was extremely flushed, febrile, and diaphoretic. In the ED he had bradycardia followed by a cardiopulmonary arrest. He was treated with intravenous calcium chloride and atropine with resolution of his seizures but no hemodynamic improvement. Within 1 hour of presentation, the patient was in electromechanical dissociation. Treatment included activated charcoal, intravenous calcium, dopamine, norepinephrine, and an external pacemaker. His serum calcium level was 16 mg/dL after repeated boluses of intravenous calcium chloride. Approximately 6 hours after presentation, his blood pressure was 40/29 mm Hg and pH was 6.9. Gag and pupillary responses were elicited. Continuous infusions of epinephrine, dobutamine, and dopamine were administered. He had a second cardiac arrest after which he was unresponsive and his pupils became fixed and dilated. An isoproterenol infusion was begun and his dobutamine was discontinued. He continued to receive intravenous calcium every 2 hours, with a resulting serum concentration of 9 mg/dL. Additional seizures were responsive to intravenous phenobarbital. On the second hospital day his blood pressure was 80/50 mm Hg and heart rate was 178 beats/min. His pupils remained fixed and

dilated, and he was unresponsive to painful stimuli. A cerebral blood flow study demonstrated no cerebral perfusion and an electroencephalogram was isoelectric. The patient died on the second hospital day.

**Case 579A.** A 12-month-old boy ingested an unknown number of iron tablets. He was brought to the ED 30 minutes after the ingestion; emesis was induced. The serum iron level taken 30 minutes after the ingestion was 1,555 µg/dL. After vomiting, the patient had a cardiac arrest and was resuscitated. He then developed gastrointestinal bleeding and required blood transfusion. He continued to receive deferoxamine and supportive care. Peritoneal dialysis was initiated 11 hours after the ingestion. By that time he had experienced several episodes of respiratory and/or cardiac arrest and was receiving vasopressors. The serum iron level was 5,000 µg/dL 11 hours after the ingestion. He remained unstable despite treatment and died 26 hours after the ingestion.

**Case 580.** A 19-month-old boy ingested 35 iron tablets (2,100 mg elemental iron; 210 mg/kg). On presentation he was hypotensive and acidotic (pH 7.15). He was treated with deferoxamine and whole bowel irrigation. The initial serum iron level was 6,000 µg/dL 1 hour postingestion; a second level 3 hours postingestion was 19,000 µg/dL. Two hours later, the serum iron had decreased to 6,500 µg/dL. The patient died 7 hours after the ingestion.

**Case 595.** A 3-year-old girl was given 10 mL (prescribed as 250 mg/5 mL) of chloral hydrate by her mother, at home, for sedation for an outpatient CT. Forty-five minutes after being medicated, the child arrived in the radiology department with apnea and asystole. She was ventilated with a face mask, and treated with epinephrine, atropine, naloxone, and sodium bicarbonate. Initial arterial pH was 6.7 and Pco<sub>2</sub> was 113 mm Hg. She was pronounced dead 45 minutes later. The postmortem was unremarkable, except for an enlarged liver.

**Case 702.** A 15-month-old boy presented to the ED 6 hours after ingesting 50 prenatal vitamins with iron (300 mg ferrous sulfate). The vitamins were being taken by his mother for her current pregnancy. The boy was lethargic on arrival. His blood pressure was 130/60 mm Hg. His arterial blood gas was pH, 7.15 and Pco<sub>2</sub>, 25 mm Hg. His serum iron was 5,000 µg/dL, and his abdominal x-rays were negative. He was lavaged and the gastric aspirate was bloody. Deferoxamine was started at 10 mg/kg/h and the patient was intubated. Some time later the arterial pH was 7.10, a second serum iron was 4,500 µg/dL and the deferoxamine was increased to 30 mg/kg/h. An exchange transfusion was performed. The serum iron decreased from 1,357 µg/dL to 243 µg/dL, and the acidosis was corrected after the transfusion. His nasogastric aspirate and stools continued to be bloody. His hematocrit increased from 29% to 35% after transfusion. His heart rate was 180 beats/min, serum glucose was 170 mg/dL, and pH was 7.34. Triple antibiotic therapy, fresh frozen plasma, and deferoxamine (30 mg/kg/h) were given.

On the third hospital day his heart rate remained 170 beats/min, he was febrile (39.5°C), and his blood gas showed pH, 7.3; Po<sub>2</sub>, 103 mm Hg; Pco<sub>2</sub>, 32 mm Hg; bicarbonate, 16 mEq/L. Deferoxamine was decreased to 15 mg/kg/h. The next day the patient was moving spontaneously and required intravenous fentanyl for sedation and morphine for abdominal pain. His serum iron was 180 µg/dL, prothrombin time was 15.4 seconds, and partial thromboplastin time was 31 seconds.

On the fifth hospital day, the patient developed increased oxygen requirements (90% inspired oxygen), and had pink frothy sputum suctioned from his endotracheal tube. A bronchoscopy was performed, which showed diffuse inflammation of the entire respiratory tree. The next day he suddenly deteriorated. He became markedly hypotensive and developed bradycardia and asystole. He was given doses of epinephrine and a heart rate was established, but without transmitted pulses. He was given additional boluses of epinephrine, calcium, bicarbonate, and fluids, without any improvement in cardiac output. The resuscitation was discontinued after 30 minutes of

electromechanical dissociation. The postmortem examination showed extensive hemorrhage of the gastric mucosa, serum iron level of 660  $\mu\text{g/dL}$ , and congestion of the lungs, liver, and viscera.

**Case 703.** A 16-month-old boy ingested an unknown number of prenatal vitamins containing ferrous sulfate. Thirty minutes after the ingestion the child was lethargic and vomited several times. In the ED, he had warm moist skin and was vomiting gross blood. He was intubated and underwent gastric lavage. Blood and tablet fragments were noted in the lavage fluid. Initial arterial blood gas showed pH, 7.21;  $\text{Pco}_2$ , 39.6 mm Hg;  $\text{Po}_2$ , 112 mm Hg. An electrocardiogram showed a sinus tachycardia with a rate of 125 beats/min. A serum iron level was 1,200  $\mu\text{g/dL}$ . Treatment with midazolam for sedation and intravenous deferoxamine at 45 mg/kg/h was instituted. On the second hospital day, the patient remained intubated and sedated receiving a deferoxamine infusion at 33 mg/kg with adequate urine output of a *vin rosé* color. Whole bowel irrigation was attempted, but no rectal effluent was passed. The serum iron level decreased to 390  $\mu\text{g/dL}$ . There was no change in the child's clinical status, and he died on the third hospital day. Postmortem findings showed evidence for acute respiratory distress syndrome, intravascular coagulation, diffuse ileitis with intussusception of ileum, generalized visceral congestion, and generalized edema with bilateral pleural effusions and ascites.

**Case 704.** A 16-month-old boy was brought to the ED with a history of increased fussiness, lethargy, and emesis after ingestion of 50 of a friend's prenatal vitamins (each containing 325 mg ferrous sulfate). The emesis was bloody. Physical examination showed a lethargic child responsive only to painful stimuli. Naloxone was administered without response. Admission laboratory values were remarkable for a bicarbonate of 17 mEq/L and an anion gap of 16 mEq/L. Abdominal x-rays showed 30 to 50 tablets, some clumped in the stomach, and others in the ileum and possibly the colon. Lavage was performed and tablet fragments were seen in the return. The serum iron on admission was 1,440  $\mu\text{g/dL}$  and the iron binding capacity was 1,150  $\mu\text{g/dL}$ . The patient was intubated and treated with intravenous sodium bicarbonate and deferoxamine. Endoscopy revealed friable gastric mucosa. Serum iron decreased to 332  $\mu\text{g/dL}$ . Within 24 hours the patient was extubated and had a serum iron level of 36  $\mu\text{g/dL}$ . Two days after admission he began to deteriorate. His serum iron level increased again to 263  $\mu\text{g/dL}$ , and he became febrile with an elevated white blood cell count. He was intubated, and a chest x-ray showed diffuse bilateral interstitial infiltrates with pneumomediastinum. He also developed a left pneumothorax from placement of a subclavian catheter. He was kept sedated and paralyzed, and the pulmonary findings began to resolve but multiple other complications occurred. He developed decreased cardiac output, hypertension, decreased urine output, hyponatremia, hypokale-

mia, hypoalbuminemia, and fever. Therapy included furosemide, nitroprusside, dobutamine, hyperalimentation, and multiple antibiotics. A nasopharyngeal culture grew adenovirus, and adenovirus pneumonitis was suspected. Ventilating the patient became more difficult, and he required multiple chest tubes because of pneumothoraces. Twenty-six days after admission he had anuria and refractory metabolic acidosis. He developed bradycardia that progressed to asystole. Autopsy showed hepatomegaly, stiff fibrotic pulmonary parenchyma with focal hemorrhages, and acute pneumonia of unknown etiology.

**Case 705.** A 21-month-old girl ingested approximately 90 prenatal vitamins containing 60 to 64 mg of elemental iron in the form of ferrous sulfate 3.5 hours before arriving in the ED with lethargy. An abdominal x-ray showed 10 to 20 tablets in the stomach and 30 tablets in the small bowel. Gastric lavage via endoscopy retrieved many pill fragments. One gram of deferoxamine was given intramuscularly, followed by a continuous intravenous drip at 15 mg/kg/h. Within 3 hours of presentation, the patient had been intubated and placed on 40% inspired oxygen. Her oxygen saturation was 95%. She began vomiting, passing black diarrheal stools, and her mental status deteriorated. Urine output was adequate and pink-red in color. The initial serum iron level, drawn 6.5 hours after presentation, was 1,858  $\mu\text{g/dL}$ . Her vital signs were stable with a heart rate of 160 beats/min and blood pressure of 119/65 mm Hg. A central line was placed. Nine hours after admission, the deferoxamine drip was increased to 100 mg/kg/h, after a serum iron level of 2,700  $\mu\text{g/dL}$  was obtained. Whole bowel irrigation was begun when tablets were noted on a repeat abdominal x-ray. Three and one-half hours later, serum iron level was 380  $\mu\text{g/dL}$ . Eleven hours after admission, the patient remained intubated, sedated, and paralyzed. Her arterial blood gas showed: pH, 7.27;  $\text{Pco}_2$ , 26 mm Hg;  $\text{Po}_2$ , 189 mm Hg. She was passing guaiac positive effluent containing pill fragments as whole bowel irrigation continued. Her hematocrit was 28%. Twenty-six hours after admission, her heart rate dropped to 30 beats/min. Intravenous epinephrine, dopamine, furosemide, and packed red blood cells were given. After stabilization, she was afebrile with heart rate, 169 beats/min; respiratory rate, 53 breaths/min; and blood pressure, 82/36 mm Hg. Deferoxamine was continued at 40 mg/kg/h. The inspired oxygen was increased to 100% with an oxygen saturation of 89%. Drainage from the nasogastric tube was bright red and her abdomen was distended. During the next 4 hours the patient arrested four times. A chest x-ray showed diffuse haziness but no pulmonary edema. An abdominal x-ray showed no evidence of perforation. Urine output was adequate and a repeat serum iron level was 198  $\mu\text{g/dL}$ . Forty-seven hours after admission, the patient died. Postmortem examination confirmed acute iron toxicity.