Toxalert

Maryland Poison Center
University of Maryland School of Pharmacy

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1983 Annual Report

The Maryland Poison Center (MPC), a community service of the University of Maryland School of Pharmacy, is the regional poison center for the over 4.2 million residents of Maryland. Certified by the American Association of Poison Control Centers (AAPCC), the MPC operates a 24-hour emergency telephone service, provides educational programs and conducts research.

Emergency Service

The major component of the MPC program is its 24-hour emergency telephone service. In order to provide the general public and health professionals with immediate access to toxicity and treatment information, the MPC maintains five emergency telephone lines (three local Baltimore lines and two Maryland toll-free lines) as well as an ambulance/emergency room telephone hook-up. Calls are answered by poison information specialists who assess each situation and recommend treatment and/or referral.

Resources. The MPC's major reference is Poisindex®, a microfiche data file that has almost 300,000 entries and is updated every three months. In addition, the center has an extensive resource library and maintains an established network of experts in various fields.

Data Collection. A case data form is completed on each human exposure reported to the center. This form records the substance and amount involved; the time of the call; the time since exposure; the age, weight and sex of the patient; and the zip code and telephone number of the caller. All symptoms, treatment and follow-up information are also documented.

Call Distribution. In 1983, the MPC received 54,421 poison-related calls. Of these, 32,828 involved actual human exposures; the remaining 21,593 were inquiries. *Figure 1* shows a comparison of calls over the 10-year period from 1974 to 1983.

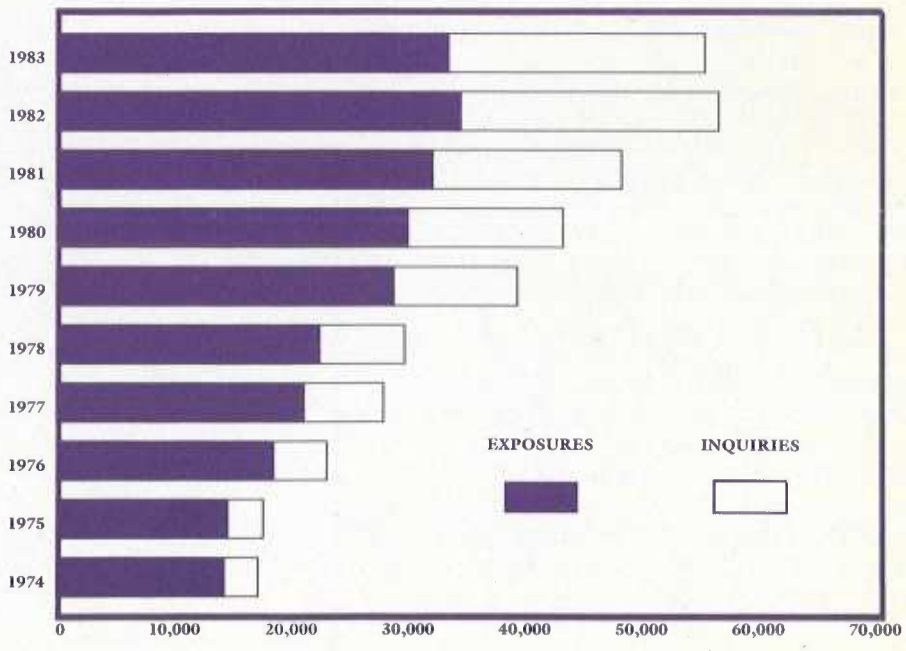
Time Distribution. The MPC looks at the time distribution of its exposure calls in two ways—monthly variations and time-of-day distribution. June was the busiest month with 9.0 percent of the calls. The monthly distribution of exposure calls for 1983 is:

January	2,717	(8.3%)
February	2,318	(7.1%)
March	2,689	(8.2%)
April	2,845	(8.7%)
May	2,839	(8.6%)
June	2,962	(9.0%)
July	2,818	(8.6%)
August	2,847	(8.7%)
September	2,886	(8.8%)
October	2,839	(8.6%)
November	2,528	(7.7%)
December	2,540	(7.7%)

January was unusually busy; however, this number may have been influenced by the continued publicity surrounding the Tylenol® tamperings.

The MPC received 24,484 (74.6%) of its 32,828 calls between 8 a.m. and 8 p.m. This distribution is consistent with previous data. *Figure 2* shows time-of-day distribution.

Figure 1—Total Calls 1974–1983



Note: For statistical purposes, the MPC defines an exposure call as any report of a human exposure (unintentional or intentional) to a poisonous or nonpoisonous substance by any route (oral, ocular, dermal). All other requests for information, including actual exposures by animals, are considered inquiries.

Figure 2
Exposure Calls by Time of Day

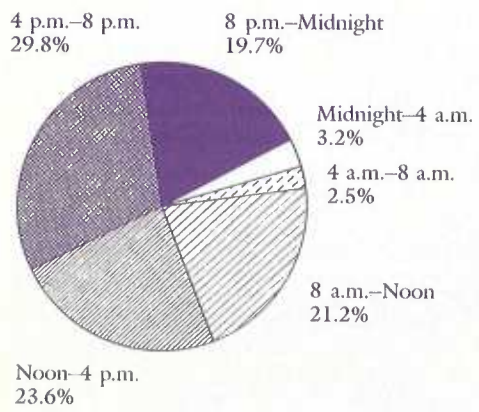
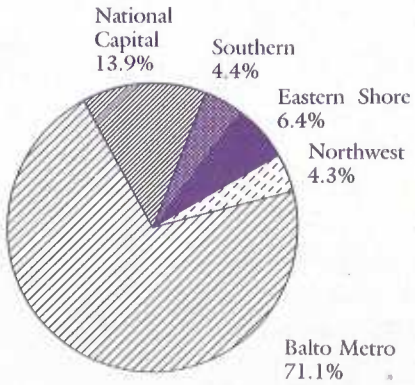


Figure 3
Exposure Calls by Region



Source of calls. Type of caller (medical vs. nonmedical) and geographical location were examined. The general public accounted for 28,292 (86.2%) of the calls while 4,466 (13.6%) came from medical personnel.

A geographical location by zip code was assigned to 29,721 calls. Of these, 20,904 came from the Baltimore metropolitan area; 4,075 came from the national capital area; 1,870 from the Eastern Shore area; 1,289 from southern Maryland and 1,266 from the northwest area. The National Capital Poison Center at the Georgetown Hospital also serves Montgomery and Prince Georges counties, while Tri-State Poison Center at Sacred Heart Hospital in Cumberland (an MPC satellite center) serves Allegany and parts of Garrett county. *Figure 3* gives the breakdown of exposure calls by region.

Age Distribution. The majority of exposures, 21,223 (64.6%), continued to involve children under five years of age. Within this group, two-year-olds accounted for 7,320 (22.3%) cases, followed closely by the one-year-olds with 6,969 (21.2%) cases. *Figure 4* compares exposure calls by age and sex.

Sex Distribution. The age of the patient had significant bearing on the sex distribution. Males were involved in poisonings more frequently until age 14; females were more likely to be involved for all age groups above the age of 14.

Circumstances. Of the 32,828 calls, 28,586 (87.1%) were classified as unintentional with an additional 66 (0.2%) cases listed as unintentional industrial exposures. Suicide gestures/attempts, listed in 3,044 (9.2%) cases, ranked as the second most common circumstance. Drug abuse was third with 413 (1.3%) cases reported.

Route of Exposure. Of the exposures reported, 28,517 (86.9%) were the result of an ingestion, the most frequent route of exposure for all age groups. Eye contaminations, which resulted in 1,736 cases (5.3%), ranked second. Skin contaminations and inhalation accounted for 942 (2.9%) and 923 (2.8%) calls, respectively. Injection was the route listed in 583 (1.8%) cases.

Substance Involved. *Table 1* gives a breakdown of exposure calls by substance and age. Oral medications continued to account for almost half (46.0%) of all the exposures. All of the drug categories include prescription and nonprescription drugs as well as medicinal products designed for external use. Most "street" drugs were included in the "other drugs" category.

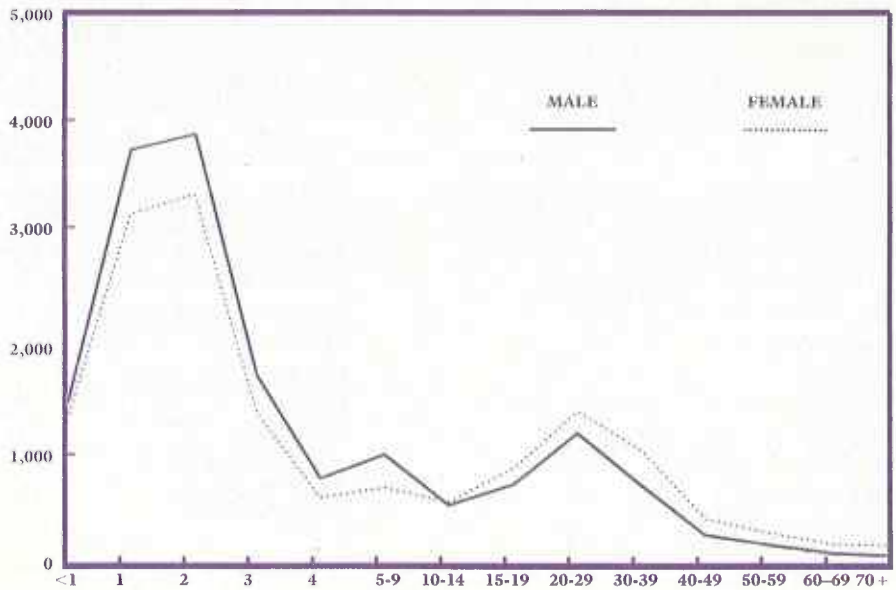
Treatment Location. Either no treatment or home treatment only was required in 26,800 (81.6%) cases. Fifteen percent required treatment in a health care facility; 3,227 (10.0%) were treated and released and 1,618 (5.0%) were admitted. Treatment was refused by 352 (1.1%) callers.

Fatalities. During 1983, 25 (0.08%) of the 32,828 exposures resulted in death. Almost all were intentional poisonings involving adults and oral medications.

Summary

Although there was a slight decrease in the number of calls received in 1983, the statistical breakdown is consistent with previous experience. The majority of calls involve unintentional exposures of pediatric patients who have taken oral medication and require no treatment or home treatment only. Serious poisoning exposures are more likely to involve patients in their twenties who have intentionally ingested large quantities of oral medications. (Additional statistical breakdowns of our 1983 data may be available upon request.)

Figure 4—Exposure Calls by Age and Sex



Educational Programs

In addition to its emergency service, the MPC provides a comprehensive program of professional and public education. In 1983, two grants from the McNeil Consumer Products Company—one for a clinical toxicology fellowship and another for program expansion—had a significant impact on our educational efforts.

Professional Education. Drs. Oderda and Klein-Schwartz continue as coursemasters for the pharmacy school's clinical toxicology course. In addition, the MPC staff presents numerous in-service programs for health care professionals each year. In 1983, clinical case conferences were held at Sinai Hospital of Maryland and the University of Maryland Hospital. These featured Dr. Anthony Temple of McNeil Consumer Products Company, Dr. James Lipsky of The Johns Hopkins Hospital and presenters from Sinai, St. Agnes, Greater Baltimore Medical Center, University of Maryland Hospital as well as the Maryland Poison Center staff.

The clinical toxicology fellowship grant allows a Pharm.D. graduate to obtain training in poison center administration, research, and teaching. Dr. Blaine E. Benson was selected as the first MPC clinical toxicology fellow in 1982-83. Dr. Wedin continues in this position, which includes serving as liaison to the University of Maryland Hospital adult emergency department.

Another feature of our professional educational program is *Toxalert*, a quarterly newsletter dealing with clinical toxicology topics. This is distributed statewide to over 600 emergency room personnel, family practice physicians and pediatricians.

Public Education. Poison prevention, public awareness and public relations are key parts of the MPC community education program. In 1983, 42 poison prevention programs were presented to community and business groups. The educational focus for 1983 was on warning labels. The MPC, with the help of the UMAB office of Institutional Advancement, developed an extremely popular campaign, "The Road to Poison Prevention is Clearly Labeled." Five hundred posters and 15,000 pamphlets were distributed throughout the year.

In May the MPC introduced a newly designed series of poison information cards on topics such as stings and bites, poisonous plants, poisonproofing the home and syrup of ipecac. These handouts are distributed—along with the MR. YUK © stickers and telephone stickers—through the MPC, pharmacies and hospitals.

From October to December, in-service programs, "Teaching about Poisons," were given to 249 educators in St. Mary's, Dorchester, Wicomico, Worcester, Prince Georges, Anne Arundel, Harford, Howard and Carroll counties.

During the year, MPC staff made 59 media appearances. Awareness activities included promotional campaigns such as Maryland Poison Prevention Week (MPPW-83) in March, "Dress for Success Against Bee Stings" in May, and "Holiday Safety" in November. These promotions included press releases and newspaper, radio and television interviews.

Maryland Governor Harry Hughes and Baltimore City Mayor William Donald Schaefer issued proclamations in conjunction with Maryland Poison Prevention Week-83 (MPPW). Dr. William J. Kinnard, Jr., Dean of the University of Maryland School of Pharmacy, served as MPPW-83 Honorary Chairman. At our MPPW-83 kick-off program for health educators, Odonna Mathews, consumer advisor for Giant Food, introduced Giant's new "Read the Label" program and Dr. Benson presented the results of his study on warning labels.

MPC staff members continue to serve on a variety of state and national committees. Dr. Oderda serves as consultant to the accident prevention committee of the Maryland chapter of the American Academy of Pediatrics. He continued on the National Poison Center Network's advisory committee and serves on the American Association of Poison Control Centers (AAPCC) data collection, personnel proficiency and legislative affairs committees.

Table 1—Exposure Calls by Substance and Age

Substance/Age	<1	1	2	3	4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	60–69	70+	Unk	Total	(%)
Alcoholic beverages	3	17	24	6	0	5	20	107	278	179	70	39	11	7	72	838	(2.6)
Analgesics	55	258	629	302	103	93	144	369	382	194	74	44	21	15	90	2,773	(8.4)
Antidepressants	1	13	16	10	5	9	17	42	154	124	45	21	20	5	25	507	(1.5)
Antihistamines	10	70	172	99	31	43	36	98	103	53	15	2	1	2	9	744	(2.3)
Sedative hypnotics	1	12	11	3	1	12	16	70	186	105	44	25	13	15	41	555	(1.7)
Tranquilizers	9	51	53	28	16	17	30	87	285	228	77	59	22	12	58	1,032	(3.1)
Other drugs	346	1,533	2,529	1,276	530	527	301	571	718	410	168	133	80	98	208	9,428	(28.7)
Drain cleaners	8	35	13	7	2	5	5	4	14	11	5	3	2	1	3	118	(0.3)
Hydrocarbons	16	114	103	36	20	23	51	87	109	63	23	12	5	1	38	701	(2.0)
Personal care products	246	1,153	1,177	320	93	90	56	35	54	46	12	22	19	40	49	3,412	(10.0)
Pesticides	31	157	102	31	22	45	20	15	58	45	20	12	7	3	34	602	(1.7)
Plants	732	562	361	143	77	98	33	14	35	21	9	5	3	8	23	2,124	(6.1)
Other nondrugs	1,029	3,010	2,162	833	450	733	415	369	810	652	263	179	139	100	561	11,705	(34.0)
Total	2,487	6,985	7,352	3,094	1,350	1,700	1,144	1,868	3,186	2,131	825	556	343	307	1,211	34,539	(100.1)

Note: The total number of substances is larger than the total number of exposures because more than one substance is reported in many cases.

Dr. Klein-Schwartz was elected to the AAPCC executive committee and served on the personnel proficiency and annual meeting abstract committees. Dr. Gorman, who is the director of the pediatric emergency room at University of Maryland Hospital, is a member of the accident prevention committee of the Maryland chapter of the American Academy of Pediatrics. Ms. Lucy continues on the Board of Directors of the Safety Council of Maryland and she serves as the co-chairperson of the AAPCC public education committee. Drs. Oderda, Klein-Schwartz, Gorman, Wedin, Ms. Pennente and Lucy represented the MPC at the AAPCC annual meeting in Boston.

In April, Ms. Booze, Disney and Pennente participated in the first annual American Association of Poison Control Centers certification examination for poison information specialists and received the AAPCC designation of Certified Poison Information Specialist (CPIS).

Research

Research is an important feature of the MPC program. During 1983, the MPC staff participated in a multi-center evaluation of the use of syrup of ipecac in children from 6 months to one year of age. In conjunction with MPPW-83, Dr. Benson conducted a pilot survey to determine parental awareness of the toxicity information delivered by warning labels. To determine the interest and need for distributing syrup of ipecac or poison prevention materials to new or expectant mothers, Ms. Lucy, Ms. Booze, and Pharm. D. candidate Anne Hom surveyed hospitals with maternity units.

Throughout 1983, the MPC staff was involved in producing several articles for publication, including: W. Klein-Schwartz, G. Oderda and L. Booze, "Poisoning in the Elderly," *Journal of the American Geriatric Society*; B. Benson, W. Klein-Schwartz, G. Oderda and J. Lucy, "Warning Labels: A Source of Toxicity Information for Parents," *Clinical Pediatrics*; T. Litovitz, W. Klein-Schwartz, G. Oderda and J. Easom, "Poison Information Providers: An Assessment of Proficiency," *American Journal of Emergency Medicine*; G. Oderda and W. Klein-Schwartz, "Lunar Cycle and Poison Center Calls," *Clinical Toxicology*, "Poisoning Public Awareness Survey," *Public Health Reports*, "Jimson Weed Intoxication in Adolescents and Young Adults," *American Journal of Diseases of Children*; and W. Klein-Schwartz, R. Gorman, G. Oderda and A. Baig, "CNS Depression from Ingestion of Nonprescription Eyedrops," *American Journal of Emergency Medicine*.

Staff Members

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Coordinator of Education/Communications:
Jacquelyn S. Lucy, M.A., M.Ed.

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Lucy A. King, B.S. Pharm.
M. Terry Payer, B.S. Pharm.
Cynthia M. Pennente, B.S. Pharm., CPIS

Office Secretary: Annette L. Hurst

The MPC employs additional pharmacists and pharmacy students on a part-time basis to provide round-the-clock coverage.

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