

TOXALERT

Special Issue

July 2004

2003 Statistical Report

The Maryland Poison Center (MPC) is a division of the University of Maryland School of Pharmacy and is certified by the American Association of Poison Control Centers as a regional poison center for Maryland. In addition, the MPC serves as a consultation center for the Maryland Institute for Emergency Medical Services Systems. This report presents an overview of MPC poisoning data for 2003. In 2003, the MPC received 61,179 calls. While 35,156 of these calls involved a human exposure, the remaining 26,023 were requests for information or animal poisonings.

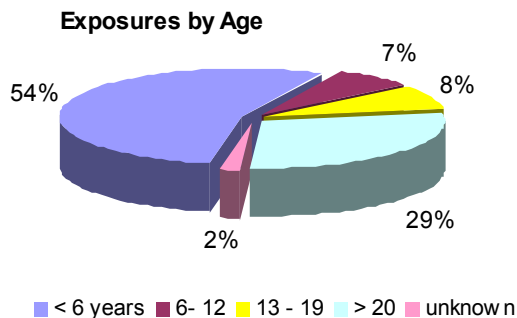
Saving lives, saving dollars is a simple way of stating what the Maryland Poison Center does.

This report provides an overview of the Maryland Poison Center experience during 2003.

The MPC is staffed by pharmacists and nurses who are nationally certified as Specialists in Poison Information.

Age

The majority of poison exposures involved children under the age of six, as shown in the graph below.



Gender

49% of exposures occurred in males, **51%** in females.

Animal Exposures

In 2003, a total of 2,175 animal exposures were reported.

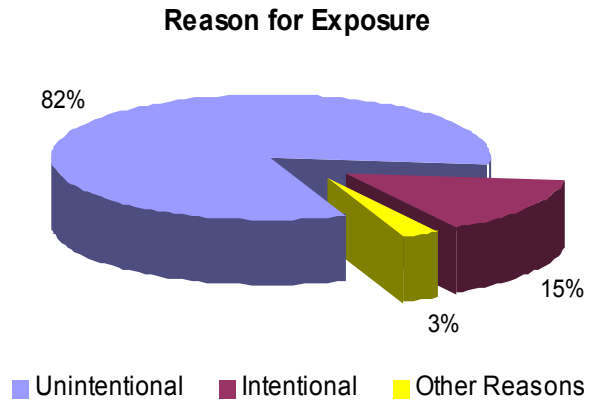
County	# of Human Exposures	%
Allegany	509	1.4
Anne Arundel	4,567	13.0
Baltimore	6,137	17.5
Baltimore (City)	5,272	15.0
Calvert	704	2.0
Caroline	234	0.7
Carroll	1,374	3.9
Cecil	848	2.4
Charles	903	2.6
Dorchester	265	0.7
Frederick	1,650	4.7
Garrett	235	0.7
Harford	2,129	6.0
Howard	2,073	5.9
Kent	180	0.5
Montgomery	1,556	4.4
Prince George's	1,732	4.9
Queen Anne's	324	0.9
Saint Mary's	840	2.4
Somerset	116	0.3
Talbot	307	0.9
Washington	1,011	2.9
Wicomico	664	1.9
Worcester	393	1.1
Other/Unknown	1,133	3.2
Total	35,156	100.0

For additional information, send an email to banderso@rx.umaryland.edu or visit our website at www.mdpoison.com.

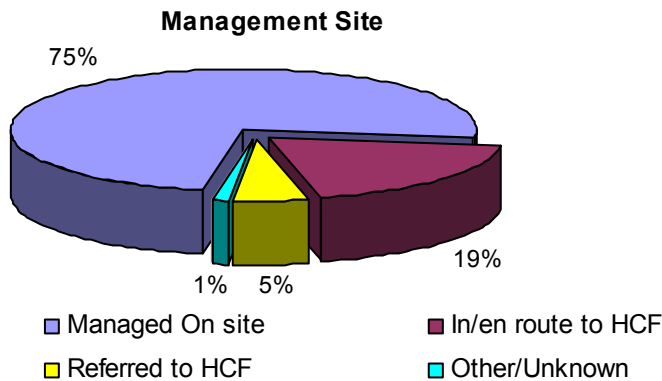
Reason for Exposure

Acute exposures accounted for 95% of the total calls, acute-on-chronic for 4%, and chronic exposures accounted for 1% of calls.

The people who call the MPC have several different reasons for their exposures. The graph to the right shows **Unintentional** exposures, which could be toddler exposures, occupational, environmental, bite/sting, or others; **Intentional** exposures, which could be due to misuse or abuse or suicide attempts; and **Other** which includes malicious or contaminant/tampering, adverse reactions to food or drugs, and unknown reasons for the exposure.



MPC Safely Manages Most Patients at Home



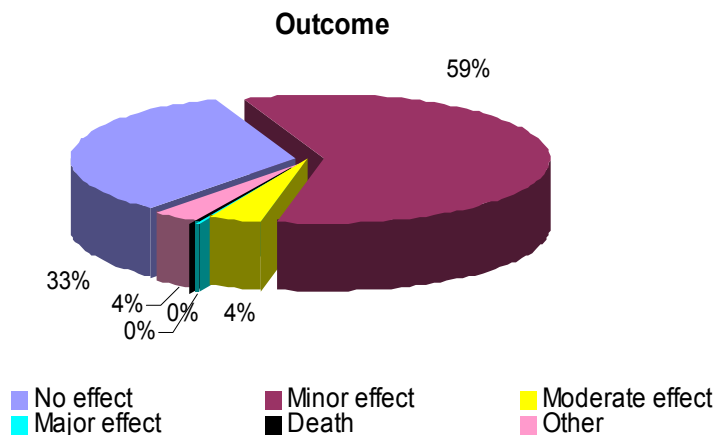
Management Site

In 2003, 75% of all poisoning cases were safely managed at home (on site). The graph to the left describes where the cases were managed. Safely managing patients at home **saves millions of dollars** in unnecessary health care costs. It also allows **more efficient and effective** use of limited health care resources. By calling the Maryland Poison Center, we can help save lives *and* save dollars.

Outcome

The true measure of the effectiveness of the MPC program is in patient outcomes. As shown in the figure to the right, the impact of the MPC is obvious: few cases had poor outcomes. There were 24 poisoning cases reported to the Maryland Poison Center that resulted in death (0.07%). The **Other** category includes unrelated effects and patients who were unable to be followed.

For all exposures, prompt attention is the best way to reduce the likelihood of developing severe toxicity. Whenever you have a poisoning question, call the experts at the Maryland Poison Center.



Substances Involved in Poisonings

Drug Substances

Analgesics	4,523
Sedatives	2,281
Antidepressants	1,915
Topicals	1,893
Cough & cold preparations	1,725
Cardiovascular drugs	1,173
Antihistamines	1,137
Antimicrobials	965
Gastrointestinal	865
Hormone	863
Vitamins	816
Stimulants/street drugs	739
Other	2,017
Total Drug Substances	20,912

Non-Drug Substances

Cosmetics/Personal Care	3,895
Cleaning	3,108
Foreign bodies	1,793
Alcohols	1,212
Insecticides	1,150
Plants	1,055
Arts & Crafts	912
Hydrocarbons	579
Chemicals	552
Bites & Stings	508
Food poisoning	414
Fumes/gases	410
Other	2,908
Total non-drug substances	18,496

Substances

The tables on the left list the substances that were most frequently responsible for poisonings in Maryland during 2003.

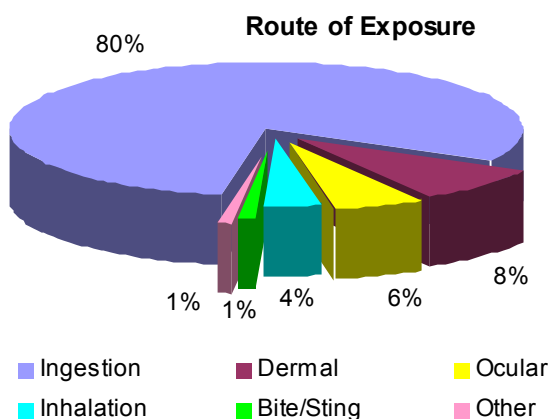
Please note: more substances are documented than poisoned patients because patients can be exposed to more than one substance in a poisoning event.

Treatment

The table at right describes the decontamination performed for poisoned patients. Most were managed conservatively with dilution (given something to eat or drink), irrigation or washing.

Note that as a result of ipecac efficacy studies and recent recommendations to abandon its use, ipecac administration was rare (111 total cases).

Treatment	Number	%
Dilute/irrigate/wash	23,172	67.5
Charcoal	3,126	9.1
Food/snack	1,001	2.9
Cathartic	988	2.9
Fresh air	821	2.4
Lavage	218	0.6
Ipecac	111	0.3
Multidose charcoal	53	0.2
Whole Bowel Irrigation	43	0.1
Other	4,786	14.0
Total	34,319	100.0



Route of Exposure

The most common way that patients in Maryland were exposed to toxins is by ingestion. This includes cases of children putting substances in their mouths, patients mistakenly ingesting someone else's medicines, people accidentally brushing their teeth with a product intended for topical use, etc. Dermal exposures were the next most common route of exposure.

Outreach and education are key elements of the MPC awareness campaign



The MPC provided speakers for more than 30 education programs reaching over 900 health professionals.

Public Education 2003

Education is a key to effectively preventing poisonings from occurring and making sure people know how to respond if a poisoning occurs.

Through the outreach efforts of the Maryland Poison Center public education team, nearly 300,000 pieces of educational materials were distributed at programs throughout Maryland. Thousands of additional materials were mailed out at the request of Maryland residents interested in keeping their families safe.

The Maryland Poison Center takes part in numerous health and safety fairs and presents education programs to public audiences across the state. The MPC staff participated in 46 programs reaching 17,761 people and provided materials to 66 programs reaching thousands more.

Many Marylanders pass along the poison prevention message of the Maryland Poison Center

to others in their communities. The MPC works closely with local health departments to include poison prevention education materials in existing injury prevention programs. SAFEKIDS Maryland State and local coalitions also promote poison prevention by including MPC materials at their events. Several Head Start programs are using the educational resources of the MPC to teach poison prevention to their students and families. Finally, a few of the local hospitals now include a poison center magnet and Mr. Yuk stickers in the discharge packets provided to new mothers as they leave the hospital with their newborn babies.

The Maryland Poison Center is always looking for partners to help promote poison safety messages. If you are interested in including Maryland Poison Center materials in your program, please contact Angel Bivens at 410-706-2151 or abivens@rx.umaryland.edu.

Professional Education 2003

The Maryland Poison Center is also involved in making sure health professionals know how best to manage poisoned patients. In 2003, over 30 professional education programs and lectures were provided throughout the state to physicians, pharmacists, Emergency Medical Services providers, nurses, physician assistants and a variety of health professional students. Topics ranged from bioterrorism to general management of poisoned patients, to management of patients exposed to new substances of abuse, and more. These programs were attended by over 900 health professionals.

The following programs were among those taught by MPC faculty and staff in 2003:

- Pediatric Education for Prehospital Providers (PEPP) training classes throughout Maryland
- ACLS for Experienced Providers in Anne Arundel County
- Chesapeake Emergency Department Consortium in the Baltimore Metro area
- EMS continuing education classes throughout the state
- Community College of Baltimore, Essex, paramedic program
- OTC Abuse. Maryland State Department of Education, March 2003

- No More Rotten Eggs: Intravenous Acetylcysteine for the Treatment of Acetaminophen Poisoning. Pharmacotherapy Rounds University of Maryland, Baltimore, March 2003
- Beyond Take-Homes: Buprenorphine for the Management of Opioid Dependence. Toxicology Grand Rounds North Texas Poison Center, Dallas TX, May 2003
- Increasing poison center utilization by health professionals. North American Congress of Clinical Toxicology, Chicago IL, September 7, 2003

The MPC and the University of Maryland School of Pharmacy have teamed up with the Maryland Department of Health Mental Hygiene to increase pharmacists' ability to respond to a bioterrorism release. MPC faculty have trained approximately 500 pharmacists in the state.

The MPC also hosted nearly 100 paramedic students, 12 emergency medicine residents, 50 pharmacy students, several pediatrics residents and fellows, family practice residents, and others. These health professionals did rotations in the MPC to see and hear how we manage poisoning patients and learn how best to manage the poisoned patients they will encounter in their workplaces.

The Maryland Poison Center presents and publishes original research.

The MPC publishes two newsletters for health professionals: *Toxalert* and *Toxtidbits*.

Publications and Research

The faculty and staff of the Maryland Poison Center conduct research on the prevention and treatment of poisonings. Much of this research is presented at scientific meetings and published in medical journals.

- Lofton AL. Window to a Paperless World: Development and Implementation of a Poison Center Intranet Site. Poster Session, ASHP Midyear Clinical Meeting. New Orleans, LA. December 2003
- Lofton AL, Klein-Schwartz W. Retrospective Evaluation of Toxicity Following Exposures to Lamotrigine. Poster Session, ASHP Midyear Clinical Meeting. New Orleans, LA. December 2003
- Spiller HA, Klein-Schwartz W, Bangh SA. Late activated charcoal use in acetaminophen overdose. North American Congress of Clinical Toxicology. Chicago, Illinois, September 9, 2003
- Retrospective Evaluation of Toxicity Following Exposures to New Anticonvulsants. Eastern States Residency Conference, Baltimore, May 2, 2003
- Spiller HA, Colvin JM, Villalobos D, Johnson PB, Anderson DL, Klein-Schwartz W. Clopidine ingestion in children. North American Congress of Clinical Toxicology. Chicago, Illinois, September 6, 2003
- Lofton AL, Klein-Schwartz W. Retrospective Evaluation of Toxicity Following Exposures to New Anticonvulsants. Poster Session, University of Maryland School of Pharmacy, May 16 2003
- Klein-Schwartz W. Pediatric methylphenidate exposures: 7 year experience of poison centers in the U.S. *Clin Pediatrics* 2003; 42:159-164
- Palmer ME, Haller C, McKinney PE, Klein-Schwartz W, et al. Screening adverse events associated with dietary supplements: A multiple U.S. poison control center study. *Lancet* 2003; 361:101-106
- Klein-Schwartz W, McGrath JC. Poison centers experience with methylphenidate abuse in pre-teens and adolescents. *J Amer Acad Child Adolescent Psych* 2003; 42(3):288-294
- Klein-Schwartz W, Shepherd JG, Gorman S, Dahl B. Prospective multicenter case series of gabapentin ingestions. *Journal of Toxicology-Clinical Toxicology* 2003; 41(1):11-15
- Watson WA, Litovitz TL, Rodgers GC, Klein-Schwartz W, Youniss J, Rose SR, Borys D, May ME. 2002 Annual Report of the American Association of Poison Control Centers Toxic Exposure Surveillance System. *Am J Emerg Med*, 2003; 21(5):353-421
- Anderson BD. Implementation of a novel backup system for poison centers: Poison Center in a Box. *J Toxicol Clin Toxicol*, 2003;41:687
- Doyon S, McGrath JM. Hyperphosphatemia and cardiac arrest following inhalation of dry chemical fire extinguisher. *Clin Toxicol*, 2003; 41(5): 38 (abstract)

Toxalert and Toxtidbits

The Maryland Poison Center also publishes two newsletters, *Toxalert* (quarterly) and *Toxtidbits* (monthly), for health professionals. Newsletter topics in 2003 included cyanide, buprenorphine, rodenticides, arsenic, lindane, diphenhydramine, ricin and more. Both newsletters are mailed, faxed or emailed to over 3500 health care providers, facilities, organizations, and others.

Past and current issues of *Toxalert* and *Toxtidbits* can be found on the Maryland Poison Center's website: www.mdpoison.com. To receive *Toxalert* and *Toxtidbits* by email, send an email request to lbooze@rx.umaryland.edu.





Maryland Poison Center

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website at
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- AstraZeneca Pharmaceuticals
- Maryland Institute for Emergency Medical Services Systems (MIEMSS)
- SAFE KIDS Maryland State and local coalitions

Call 410-706-7604 to see how you can help support the Maryland Poison Center.

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