



Maryland Poison Center

University of Maryland School of Pharmacy

2006 Annual Report

1-800-222-1222

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

*This report
provides an
overview of
the
Maryland
Poison
Center
experience
during 2006.*

From the Director...

It is always remarkable to look back at the past year's activities of the Maryland Poison Center (MPC). The level of activities and breadth of activities that take place each year by the faculty and staff of the MPC are truly amazing! One of the biggest changes that took place this past year was the relocation of the MPC, from the 7th floor of Pharmacy Hall to the 12th floor of the Saratoga Garage. It was a huge undertaking, but well worth it. Thanks to the dedicated efforts of Connie Mitchell, Nicole Dorsey, Angel Bivens, Lisa Booze, Bryan Hayes and the rest of the group, the move went as smoothly as could possibly be expected. Thanks also to the efforts of the folks at the National Capital Poison Center, who helped to manage our calls during the several hours that the actual move took place. There was no interruption of service while our phone system, computers, books, and all the other materials were physically being moved from place to place.

Some other quick highlights from 2006:

- ☠ Total calls: 63,662
- ☠ Human exposures: 33,005
- ☠ Drug ID calls: 19,490
- ☠ Underwent successful poison center accreditation; we continue to be a regional poison center certified by the American Association of Poison Control Centers
- ☠ Started partnership with Community College of Baltimore County Catonsville to apply Geographic Information Systems tools (GIS) to poison center data

Continued on page 2

The mission of the Maryland Poison Center is to decrease the cost and complexity of poisoning and overdose care while maintaining and/or improving patient outcomes. We are continuing to work towards this mission by conducting research on the management of poisoning and overdose patients, through public education to try to prevent poisonings from occurring, by training health professionals (pharmacists, nurses, physicians, paramedics) in the management of poisoning and overdose care, and by working with the public health infrastructure in Maryland to help recognize poisoning challenges and working to respond to those challenges.

In 2006, the Maryland Poison Center received 63,662 calls.

While 33,006 of these calls involved a human exposure, the remaining 30,656 were requests for information or animal poisonings.

From the Director... continued from page 1

These are just a few of the notable items that took place this past year. Please read through the entire MPC Annual Report for a more complete look.

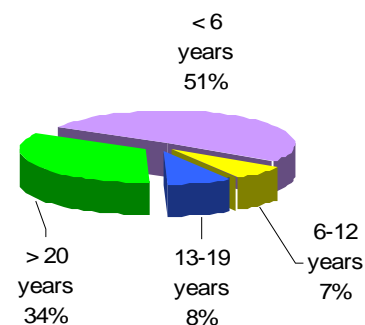
We would not be able to do what we do without a lot of help. Because of the continued support from the University of Maryland School of Pharmacy, the University of Maryland System and the U.S. Health Resources and Services Administration, we are able to continue to provide the highest quality poison information, prevention, awareness, and research services possible. Thanks also to the faculty and staff of the MPC; these are the folks who continue to work hard, cover all of the nights, evenings, weekends, and holidays and get the job done and get it done well.

Bruce D. Anderson, PharmD, DABAT
Director of Operations, Maryland Poison Center
Associate Professor, University of Maryland School of Pharmacy

County	Human	%
ALLEGANY	540	1.6%
ANNE ARUNDEL	4,371	13.2%
BALTIMORE	5,701	17.3%
BALTIMORE (CITY)	5,053	15.3%
CALVERT	726	2.2%
CAROLINE	243	0.7%
CARROLL	1,519	4.6%
CECIL	924	2.8%
CHARLES	892	2.7%
DORCHESTER	235	0.7%
FREDERICK	1,879	5.7%
GARRETT	245	0.7%
HARFORD	2,240	6.8%
HOWARD	1,832	5.6%
KENT	173	0.5%
MONTGOMERY	567	1.7%
PRINCE GEORGE'S	484	1.5%
QUEEN ANNE'S	361	1.1%
SAINT MARY'S	917	2.8%
SOMERSET	159	0.5%
TALBOT	365	1.1%
WASHINGTON	1,107	3.4%
WICOMICO	822	2.5%
WORCESTER	388	1.2%
UNKNOWN/OTHER	1,263	3.8%
TOTAL	33,006	100.0%

Age

The majority of poison exposures involve children under the age of five as shown in the graph below.



Gender

48% of exposures occurred in males, and 44% in females (8% unknown).

Animal Exposures

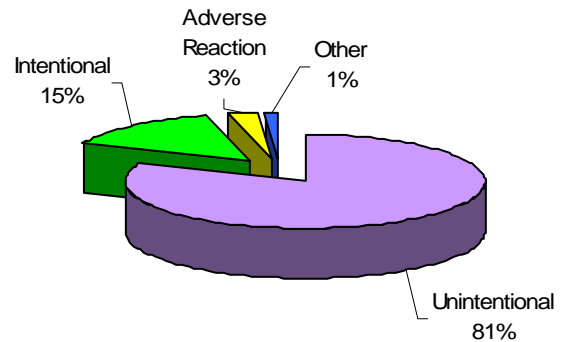
In 2006, a total of 1,676 animal exposures were reported.

Numbers for Montgomery and Prince George's counties reflect calls to the MPC only. The 800-222-1222 number automatically connects callers from these counties to the National Capital Poison Center in Washington D.C. Some callers reach the MPC by dialing local telephone numbers still in service.

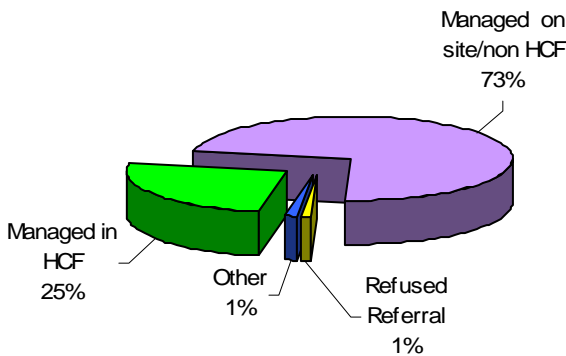
Circumstance

The people who call the MPC have several different reasons for their exposures:

- ☒ **Unintentional**, including exposures by toddlers, occupational, environmental, bite/sting, or others. Therapeutic errors (i.e. double-doses, wrong medicines taken, etc.) accounted for 11.2% of total exposures.
- ☒ **Intentional**, which could be due to misuse or abuse or suicide attempts(11.4% of total exposures).
- ☒ **Adverse reaction** to drugs, food and other substances;
- ☒ **Other or unknown** reasons, including malicious or contaminant/tampering .



MPC Safely Manages Patients at Home

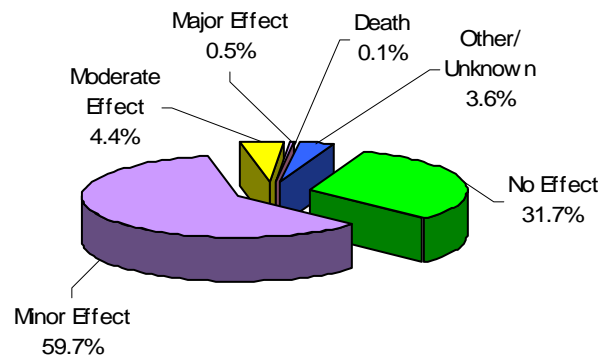


In 2006, 73% of all poisoning cases were safely managed at home (site of exposure). Safely managing patients at home **saves millions of dollars** in unnecessary health care costs compared with managing in a health care facility (HCF). It also allows **more efficient** and **effective** use of limited health care resources. Calling the Maryland Poison Center helps to save lives *and* save dollars!

Outcomes

The true measure of the effectiveness of the MPC program is in patient outcomes. Although there were 38 cases reported to MPC that resulted in death (0.1%), the impact of the MPC is obvious: few cases had poor outcomes. 91% of cases resulted in (or were expected to result in) no or minor effects. For all exposures, prompt attention is the best way to reduce the likelihood of developing severe toxicity.

Our mission is to decrease the cost and complexity of care while maintaining and/or improving patient outcomes. These data clearly show that we're meeting our mission.



Substances Involved in Poisonings

The tables below list the most common substances involved in poisonings in 2006.

Note: A patient may be exposed to more than one substance in a poisoning event. Percentages are calculated based on the total number of human exposures.

Drug Substances	#	%
Analgesics	4,419	13.4
Sedative/Hypnotics/Antipsychotics	2,482	7.5
Antidepressants	1,766	5.4
Cold And Cough Preparations	1,680	5.1
Topical Preparations	1,490	4.5
Cardiovascular Drugs	1,343	4.1
Antihistamines	1,045	3.2
Antimicrobials	915	2.8
Vitamins	865	2.6
Gastrointestinal Preparations	768	2.3
Others	4,925	14.9

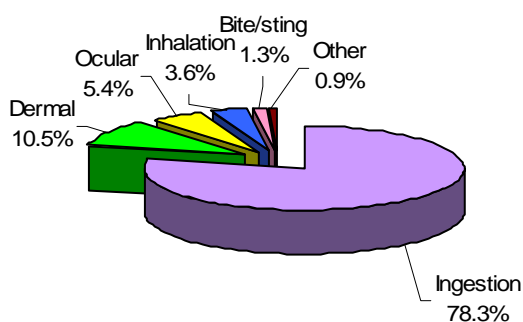
Non-Drug Substances	#	%
Cosmetics/Personal Care Products	3,663	11.1
Cleaning Substances (Household)	2,758	8.4
Foreign Bodies/Toys/Miscellaneous	1,811	5.5
Alcohols	1,312	4.0
Pesticides	1,138	3.4
Plants	795	2.4
Arts/Crafts/Office Supplies	704	2.1
Food Products/Food Poisoning	530	1.6
Hydrocarbons	528	1.6
Bites And Envenomations	491	1.5
Others	3,435	10.4

Treatment The tables below list antidotal therapies and decontamination treatments used for poisonings in Maryland during 2006. Most patients were managed conservatively with dilution (given something to eat or drink), irrigation or washing.

Antidotal Therapies	#
Naloxone	382
Oral acetylcysteine	198
IV acetylcysteine	183
Alkalinization	167
Calcium	32
Fomepizole	32
Atropine	29
Flumazenil	23
Glucagon	22
Other Antidotes	46
TOTALS	1,114

Decontamination Techniques	#
Dilute/Irrigate/Wash	21,449
Single Dose Activated Charcoal	2,648
Food/Snack	1,014
Fresh Air	824
Cathartic	533
Other Emetic	135
Lavage	118
Multi-dose Activated Charcoal	55
Whole Bowel Irrigation	43
Ipecac	25
TOTALS	26,844

Route of Exposure



The most common way that patients in Maryland were exposed to toxins was 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. The dermal route was the next most common route of exposure.

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.

The MPC led 136 education programs for public and health professional groups, reaching over 13,600 people.

Educational materials were distributed throughout Maryland at programs, health fairs, and by community organizations.

Public and Professional Education 2006

The Maryland Poison Center (MPC) is well known for being an emergency telephone service that helps those who have been poisoned, including unintentional poisonings in small children, exposures to household products, occupational exposures, and intentional overdoses. But did you know that the MPC also educates thousands of people each year about poisonings and overdoses?

Our **public education** efforts are intended to help increase the awareness of the poisons that are found in every home, business, and school, and to help prevent poisonings from occurring. The MPC strives to make sure that everyone knows that they can quickly and easily get information by contacting the Maryland Poison Center, 24/7, if a poisoning occurs. In 2006, the MPC provided speakers and/or materials for 88 programs in 16 Maryland counties and Baltimore City. Public Education Coordinator Angel Bivens participated in health fairs and led classes that were attended by over 12,000 people. Several organizations partnered with the MPC to provide education to their patients, customers, clients and students. These organizations included fire departments, hospitals, health departments, schools, police departments, childcare agencies, pharmacies, hospital perinatal education programs, CPR instructors, parish nurses, Red Cross, Head Start and Healthy Start programs. In all, just under 34,000 pieces of educational materials (brochures, magnets, telephone stickers, Mr. Yuk stickers, teacher's kits and other pieces) were distributed at these programs and by these organizations. Over

143,000 additional materials were mailed to people and groups who requested them.

The staff of the MPC is also an important resource for the media. Several media appearances were made to discuss various poison-related topics. In 2006, the poison center participated in 3 radio interviews and appeared in 7 television interviews.

Professional education is targeted towards the special needs of health professionals. Programs and materials are designed to help the clinician better manage poisoning and overdose cases that end up in a health care facility. The professional education program is coordinated by Lisa Booze. In 2006, 48 programs were conducted at hospitals, fire departments, colleges and state and regional conferences. These programs were attended by over 1600 physicians, nurses, EMS providers, pharmacists, physicians assistants and others in 13 counties and Baltimore City. The MPC also provides professional education through publications. ToxTidbits and ToxAlert provide up-to-date toxicology information for health professionals. Articles written by Maryland Poison Center staff are often published in the Maryland Nurse, Maryland Pharmacist, EMS News and other professional journals and newsletters.

The Maryland Poison Center also provides on-site training for physicians, pharmacists and paramedics. More than 100 health professionals came to the MPC in 2006 to learn about the assessment and treatment of poisoned patients.

Visit the MPC Website at www.mdpoison.com

Outreach, education, and research are key elements of the MPC's services.

ToxTidbits and ToxAlert reach more than 4,000 health care providers.

Presentations and Publications

Publications and presentations at national meetings by the faculty and staff of the MPC in 2005 are listed below:

Spiller HA, Winter M, Klein-Schwartz W, Bangh SA. Late activated charcoal use in acetaminophen overdose. *Journal of Emergency Medicine*, 2006;30:1-5.

Love JN, Howell JM, Klein-Schwartz W, Litovitz TL. Lack of toxicity from pediatric beta-blocker exposures. *Human & Experimental Toxicology*, 2006; 25(6):341-346.

Lai M, Klein-Schwartz W, Rodgers GC, Abrams J, Haber D, Bronstein A, Wruk K. 2005 Annual report of the American Association of Poison Control Centers' national poisoning and exposure database. *Clinical Toxicology*, 2006; 44(6-7):803-932.

Spiller HA, Klein-Schwartz W. Clonidine ingestion in children is not uneventful. *Journal of Pediatrics*, 2006; 148:850-851. (In reply: Letter to editor).

Spiller HA, Klein-Schwartz W. Clonidine exposures, not toxicity. *Journal of Pediatrics*, 2006; 149 (2):282-3. (In reply: Letter to editor)

Klein-Schwartz W. Clinical Toxicology, In Helms RA, Quan DJ, Herfindal ET, Gourley DR (editors). *Textbook of Therapeutics: Drug and Disease Management*, 8th edition, Philadelphia: Lippincott Williams & Wilkins, 2006, 73-90.

Klein-Schwartz W. Clinical Toxicology Case, Online (Accompanies *Textbook of Therapeutics: Drug and Disease Management*, 8th edition.

Klein-Schwartz W, Crouch BI. Poisoning. In: Handbook of Nonprescription Drugs, 15th edition, Washington D.C.: American Pharmaceutical Association, 2006, 403-415.



ToxTidbits and ToxAlert

The Maryland Poison Center publishes two newsletters for health professionals: *ToxTidbits* and *ToxAlert*. *ToxTidbits* is faxed monthly to every Maryland emergency department and emailed to over 3,100 health professionals. In 2006, *ToxAlert*, reached over 4,000 health care providers by email

and mail. 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 a request to subscribe@marylandpoison.com.

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- ☒ Maryland Institute for Emergency Medical Services Systems (MIEMSS)
- ☒ SAFE KIDS Maryland State and Local Coalitions

Call 410-706-7604 or send an email to banderso@rx.umaryland.edu to see how you can support the Maryland Poison Center.



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