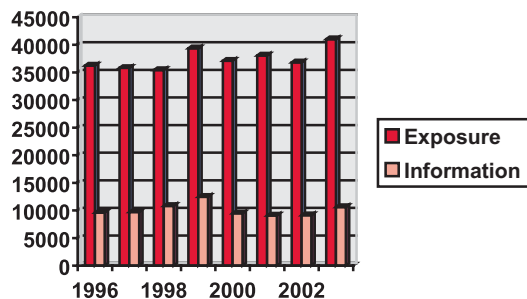




Poison Control Center

Annual Report

Service: The UPCC is a 24-hour resource for poison information, clinical toxicology consultation and poison prevention education. Established in 1971, the UPCC has responded to more than 1 million calls for assistance. The UPCC is a program of the University of Utah College Of Pharmacy, University of Utah Health Sciences Center. The following is a breakdown of poison exposure calls and information requests for the past eight years.



Mission: The mission of the Utah Poison Control Center is to prevent and minimize adverse health effects from a poison exposure through education, service, and research.

The major objectives of the Utah Poison Control Center are as follows:

1. To provide 24-hour emergency telephone service to the public and health professionals of Utah for assistance during a poisoning emergency.
2. To maintain accreditation as a regional poison control center by the American Association of Poison Control Centers.
3. To be a state resource for accurate and up-to-date poison information and clinical toxicology consultation to the public, health-care professionals, emergency service personnel, public health officials, and media.
4. To provide quality poison prevention education and awareness education throughout the state.
5. To be a leader in Utah for education of health professionals and health professional students in clinical toxicology.
6. To conduct clinical toxicology, poisoning epidemiology and poison prevention research.

7. To be an integral part of disaster planning and response through actively participating in state, local and University of Utah HSC and national disaster preparedness and response.

Staff: The UPCC is staffed twenty-four hours a day with registered pharmacists, nurses and physicians with additional training in clinical toxicology. Specialists in Poison Information (SPIs) undergo an extensive 12-week training program prior to independently answering poison exposure calls. Specialists are required to sit for the Specialists in Poison Information Proficiency Examination to become a Certified Specialist in Poison Information (CSPI) after completing 2000 hours (approximately one year) in the center and handling 2,000 poison exposure calls. Medical and clinical toxicologists are available to physicians and UPCC staff members for consultation at all times.

Standards of Excellence: The UPCC is nationally recognized as a Certified Regional Poison Control Center by the American Association of Poison Control Centers. The UPCC is one of 51 centers with such distinction. The American Academy of Pediatrics, the American College of Emergency Physicians and the American Medical Association endorse these standards.

National and State Recognition: Dr. Caravati is an Associate Editor (Toxicology) for the Annals of Emergency Medicine and a member of the National Poison Center Guidelines Consensus Panel of the Maternal Child Health Bureau, Health Resources and Services Administration (HRSA). Dr. Crouch serves as co-chair of the CSPI Examination Committee of the American Association of Poison Control Centers (AAPCC). This committee is responsible for the national examination to certify specialists in poison information. She also sits on the State HRSA Bioterrorism Grant Advisory Committee.

Advisory Board: A UPCC Advisory Board continues to represent the interests of the public, university and state, and to provide fiscal oversight. The following individuals serve on the Advisory Board:

- *Chair:* Jolie Coleman, Development Officer, College of Engineering, University of Utah



- *Vice Chair:* Patrice Deane, BS Pharm, University of Utah College of Pharmacy Alumnus
- Diana I. Brixner, PhD, Chair, Department of Pharmacy Practice, University of Utah
- Bennion Buchanan, MD, MBA, FACEP, Emergency Department Director, Mountain West Medical Center, Representative, Utah Chapter of the American College of Emergency Physicians
- Tim Cosgrove, MA, Specialist, Child Advocacy, Primary Children's Medical Center
- Larry Dew, MBA, CPA, Assistant Vice President for Health Sciences, University of Utah
- Carina Elsenboss, Program Manager, Lead Free Kids, Salt Lake Valley Health Department
- Trisha Keller, RN, MPH, Director, Bureau of Violence and Injury Prevention, Utah Department of Health
- John W. Mauger, PhD, Dean, College of Pharmacy, University of Utah
- Anthony R. Temple, MD, Vice President, Medical Affairs, McNeil Consumer & Specialty Pharmaceuticals
- Kim Wirthlin, BA, MPA, Assistant Vice President Legislative and Public Affairs, Health Sciences, University of Utah

Data: The UPCC participates in the American Association of Poison Control Center's Toxic Exposure Surveillance System (TESS). TESS is the single largest database of poison exposures in the United States. This database combines the experience of the UPCC and other poison centers in the United States. These data allow for the surveillance of trends in Utah and the United States to identify potential public health risks and to help direct education efforts aimed at decreasing adverse effects from poisoning.

The UPCC is pleased to share with you the following highlights from 2003:

Call Type: The following chart breaks down the total number of calls to the UPCC during 2003. The majority of calls to the UPCC are actual poison exposures (42,568). The remaining calls are for information only. Information calls usually involve questions about proper use, storage and precautions regarding drugs and chemicals. Of the 42,568 poison exposures, 1,495 involved animals—mostly dogs and cats.

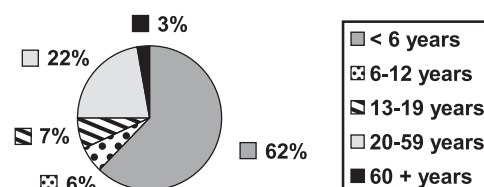
Call Type	Number	Percent
Exposure	42,568	80.0
Drug identification	5,153	9.7
Drug information	2,039	3.8
Poison information	1,085	2.0
Environmental information	710	1.3
Medical information	666	1.3
Substance Abuse	269	0.5
Prevention/safety information	235	0.4
Other information	163	0.3
Teratogenicity information	102	0.2
Confirmed Nonexposure	48	0.1
Occupational information	19	0.0
Other	187	0.4
Total	53,244	100.0

The remainder of this report reflects the 41,073 actual human poison exposures reported to the UPCC.

Exposure Site: The majority of poison exposures occur in the home, whether it is the patient's residence or another residence such as grandparents or caretakers. Use of child-resistant closures, keeping medicine and household products in locked cabinets, and other safety measures help reduce the occurrence of poisoning. However, even in the best poison-proofed home, poison exposures still occur because the majority of exposures occur when the product is in use.

Exposure Site	Number	Percent
Own Residence	36,460	88.8
Other Residence	1,922	4.7
Workplace	815	2.0
Public Area	515	1.2
Restaurant/Food Service	317	0.8
School	298	0.7
Health Care Facility	124	0.3
Other	354	0.9
Unknown	268	0.6
Total	41,073	100.0

Age Distribution: Children are naturally curious and orally explore their environment. Therefore, children less than six years of age (especially 12 months through two years) are particularly "at risk" for a poison exposure.





County	Human Exposures	Percent of Calls	Penetrance
Beaver	52	0.1	8.3
Box Elder	565	1.4	12.8
Cache	1,728	4.2	17.6
Carbon	300	0.7	15.3
Daggett	20	0.1	21.7
Davis	4,545	11.1	17.7
Duchesne	338	0.8	23.0
Emery	193	0.5	18.4
Garfield	70	0.2	15.5
Grand	94	0.2	11.1
Iron	578	1.4	15.9
Juab	132	0.3	15.2
Kane	93	0.2	15.7
Millard	172	0.4	14.1
Morgan	89	0.2	11.8
Piute	13	0.0	9.6
Rich	30	0.1	14.4
Salt Lake	15,942	38.8	17.0
San Juan	90	0.2	6.3
Sanpete	315	0.8	13.5
Sevier	297	0.7	15.4
Summit	456	1.1	13.4
Tooele	937	2.3	19.6
Uintah	366	0.9	14.1
Utah	8,137	19.8	19.8
Wasatch	327	0.8	18.8
Washington	1,713	4.2	16.2
Wayne	38	0.1	15.3
Weber	3,068	7.5	14.9
Out of State	375	0.9	
Total	41,073	100.0	17.1

Reason for Exposure	Number	Percent
Unintentional General	25,279	61.5
Therapeutic Error	3,607	8.8
Bite/Sting	1,842	4.5
Unintentional Misuse	1,757	4.3
Food Poisoning	1,256	3.0
Environmental	1,142	2.8
Occupational	582	1.4
Unintentional Unknown	19	0.1
Total Intentional	35,484	86.4
Suicide	2,235	5.4
Intentional Misuse	1,018	2.5
Abuse	672	1.6
Intentional Unknown	33	0.1
Total Intentional	3,958	9.6
Tampering	196	0.5
Malicious	130	0.3
Withdrawal	14	0.0
Total Other	340	0.8
Drug Reaction	911	2.2
Food Reaction	123	0.3
Other Reaction	110	0.3
Total Adverse Reaction	1,144	2.8
Unknown Reason	147	0.4
Total	41,073	100.0

Human exposure calls to the UPCC originated in all 29 Utah counties. The following table provides a breakdown of the number of human poison exposures reported for each county and the rate (penetrance) of reporting based on the population of each county. The average penetrance reported in 2002 by poison centers nationwide was 8.2 exposures per 1,000 population. The UPCC had a penetrance of 17.1 in 2003.

Reason for Exposure: The majority of poison exposures reported to the UPCC were unintentional and involved children orally exploring their environment. Ninety-nine percent of exposures in children less than six years of age were unintentional compared to only 48.7% in the age group of 13-19 years. The majority of exposures in adults were unintentional (67.5%). Adult unintentional exposures involved therapeutic errors (taking the wrong dose or wrong medication) as well as ocular and dermal exposures to household chemicals, pesticides and automotive products.

Medical Outcome: The majority of poison exposures are followed to a known outcome (57.2%). Less than 0.4% of poison exposures resulted in a major effect or fatal outcome. Serious adverse effects and death were more frequent in adults (78.5%) and when the reason for exposure was intentional (76.4%).

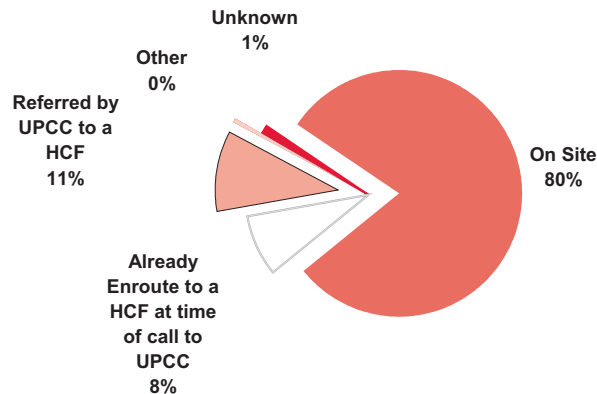
Substance Categories: The types of substances involved in poison exposures include products available in the home, workplace and the environment. The most common substance category involved in exposures in children less than six years of age were cosmetics and personal care items (12.6%); in children 6-12 years of age, foreign bodies/toys (8.7%) were most prevalent; in 13-19 years of age, analgesics (19.1%) were most prevalent; and in adults, analgesics (11.5%) were most prevalent. Ibuprofen was the most common analgesic involved in a poison exposure, accounting for 1,619 (3.6%) exposures to the UPCC in 2003. The following are the most common substance categories involved in all poison exposures reported to the UPCC:



Most Common Substances	Number	Percent
Analgesics	4,739	10.4
Cosmetics & Personal Care Products	3,898	8.6
Household Cleaning Substances	3,875	8.5
Cold and Cough Preparations	2,071	4.6
Foreign Bodies, Toys, Misc	1,939	4.3
Bites and Envenomations	1,928	4.2
Topicals	1,878	4.1
Food Products and Food Poisoning	1,591	3.5
Sedatives/Hypnotics/Antipsychotics	1,526	3.4
Antidepressants	1,439	3.2
Pesticides	1,368	3.0
Plants	1,350	3.0
Vitamins	1,348	3.0
Gastrointestinal Drugs	1,114	2.5
Antihistamines	1,043	2.3
Antimicrobials	1,038	2.3
Hydrocarbons	1,009	2.2
Total	33,154	73.1

Management Site: The majority of poison exposures (80.2%) were managed on site with telephone follow-up. Children less than six years of age were more likely to be managed on-site (91.6%) as compared to those age 13-19 years managed on-site (49.3%). Treatment in a health care facility was provided in 16.0% and recommended in another 2.2% of patients who refused the referral.

Of the 6,573 poison exposures that were managed in a health care facility:



- 70.7% were treated and released from the emergency department
- 8.0% were admitted for medical care in an intensive care setting
- 5.6% were admitted for medical care in a non-intensive care setting
- 4.6% were admitted for psychiatric care
- 11.0% were lost to follow-up and/or left against medical advice

Health Care Facilities: The majority of patients (83.0%) who required treatment in a health care facility were treated in an acute care hospital. Other management sites included urgent care clinics (4.3%) and practitioner offices (13.2%). The following is the distribution of poison exposures reported to the UPCC and managed in acute care hospitals in Utah:

Hospital	Number	Percent in HCF
Primary Children's Medical Center	339	5.2
Alta View Hospital	321	4.9
Cottonwood Hospital Medical Center	306	4.7
Jordan Valley Hospital	285	4.3
McKay-Dee Hospital	265	4.0
Utah Valley Medical Center	261	4.0
Pioneer Valley Hospital	258	3.9
Davis Hospital and Medical Center	256	3.9
Univ. of Utah Hospitals and Clinics	248	3.8
American Fork Hospital	243	3.7
St. Marks Hospital	241	3.7
Dixie Regional Medical Center	211	3.2
Logan Regional Hospital	181	2.8
LDS Hospital	174	2.7
Mountain West Medical Center	152	2.3
Lakeview Hospital	145	2.2
Mountain View Hospital	122	1.9
Ogden Regional Medical Center	110	1.7
Timpanogos Regional Hospital	100	1.5
Castleview Hospital	86	1.3
Uintah Basin Medical Center	77	1.2
Valley View Medical Center	74	1.1
Salt Lake Regional Medical Center	72	1.1
Ashley Valley Medical Center	64	1.0
Brigham City Community Hospital	58	0.9
Heber Valley Medical Center	56	0.9
Orem Community Hospital	47	0.7
Sevier Valley Hospital	39	0.6
Sanpete Valley Hospital	33	0.5
Central Valley Medical Center	30	0.5
Veterans Administration Med. Center	30	0.5
Bear River Valley Hospital	29	0.4
Kane County Hospital	26	0.4
Allen Memorial Hospital	25	0.4
Gunnison Valley Hospital	24	0.4
Delta Community Medical Center	17	0.3
Garfield Memorial Hospital	16	0.2
Beaver Valley Hospital	15	0.2
Fillmore Medical Center	12	0.2
San Juan Hospital	11	0.2
Cache Valley Specialty Hospital	11	0.2
Milford Valley Memorial Hospital	3	0.1



Public Education

Outreach activities targeted parents of children under age six, racial/ethnic groups and seniors. Nineteen media interviews were conducted by UPCC staff. National Poison Prevention Week was celebrated by distributing outreach materials to pharmacies and pediatricians throughout the state. The national toll-free poison control number, 800-222-1222 continues to be a major focus of all outreach activities.

Train the Trainer Program: The UPCC developed a train-the-trainer program designed to build community capacity to teach poison prevention education. UPCC educators held training programs in each of the 12 health districts in Utah. Training reached local health educators, pharmacists, nurses, public safety professionals, day care providers, and other safety advocates.

Mercury Thermometer Exchange Program: The UPCC, in cooperation with Smith's Food & Drug Stores, Utah Department of Environmental Quality, Environmental Health Division of the Salt Lake Valley Health Department, and Primary Children's Medical Center, initiated a mercury thermometer exchange program the week of June 9th, 2003. The public was invited to bring in old mercury thermometers in exchange for a coupon for 50% off of a digital thermometer. The program was a huge success. Residents from St. George to Logan turned in 2,116 mercury thermometers.

Poison Education Materials: A total of 142,844 pieces of poison prevention education materials were distributed throughout Utah in 2003. Materials were distributed to individuals, state and local health departments, fire departments, law enforcement agencies, hospitals, physician offices, schools, universities, church groups, scouts, businesses and county agencies throughout the state.

Presentations: The staff of the UPCC and pharmacy students enrolled in a Poison Prevention Elective gave 58 poison prevention presentations to various organizations and groups including Head Start staff, elementary, middle school, high school and university students, senior citizens, public health professionals, and day care providers. Over 3,000 people attended these presentations.

Health and Safety Fairs:

The UPCC was represented at 56 health and safety fairs in 2003. Nearly 50,000 people attended these health and safety fairs. The following are some

examples of the health and safety fairs where the UPCC was represented:

- SAFE KIDS Fair
- Senior Expo
- The Junior League Community Assistance and Resource Fair (CARE)
- Discover Financial Services Employee Health Fair
- Neighborhood House Fair, Salt Lake County
- Night Out Against Crime, Salt Lake & Utah Counties
- University of Utah Neuropsychiatric Institute Kid's Fair
- Greenbacks Single Mother Resource Fair
- Hispanic American Festival Resource Fair
- Intermountain Trauma Network Conference

Professional Education

Publications

The UPCC continues to distribute UTOX Update, a newsletter for health professionals throughout the state. The newsletter is published quarterly and is distributed statewide. Timely clinical toxicology related articles are included. Topics for 2003 included atypical antipsychotics, methemoglobinemia, physostigmine and nutmeg. Support for printing and distribution of the newsletter was provided by McNeil Consumer & Specialty Pharmaceuticals in 2003.

The following are a list of other publications involving UPCC staff in 2003:

Cannon G, Caravati EM, Filloux FM. Hydrogen peroxide neurotoxicity in childhood: case report with unique magnetic resonance imaging features. *J Child Neurol* 2003 Nov; 18(11): 805-808.

Juenke J, Caravati EM, Crouch BI, McMillin GA. Brodifacoum poisoning: Case report. *Therapeutics and Toxins News* 2003;18(3):8-11.

Klein-Schwartz W, Shepherd JG, Gorman S, Dahl B. Characterization of gabapentin overdose using a poison center case series. *J Tox Clin Toxicol.* 2003;41:11-15.

Tyler LS, Fox ER, Caravati EM. Use of expired antidotes. *Ann Emerg Med* 2003;42:157-159.

Presentations

"Antidote Update", AirMed Program, UUMC, June 27, 2003. (Caravati)

"Chemical Agents of Mass Destruction", Emergency Preparedness in the Healthcare Setting: Bioterrorism and other WMD conference, Utah Department of Health

- | | |
|----------------|-------------------------------|
| April 17, 2003 | Salt Lake City, Utah (Crouch) |
| April 25, 2003 | Ogden, Utah (Crouch) |
| May 30, 2003 | Price, Utah (Caravati) |
| June 19, 2003 | Provo, Utah (Crouch) |
| July 11, 2003 | Logan, Utah (Crouch) |



General Poisoning Lecture, Health Class, Salt Lake Community College, November 2003 (Dahl)

General Poisoning Lecture, EMT Training program, 10 throughout the year (Dahl)

“Health Risks Associated with Investigating Methamphetamine Labs”, First Annual Drug Endangered Children Conference, Sheraton Hotel, Salt Lake City, UT, March 28, 2003. (Caravati)

“Medical Emergencies: The Poisoned Patient”, Internal Medicine Resident’s Lecture Series, UUMC, LDS Hospital and VA Hospitals, July 2003. (Caravati)

“Update on Club Drugs”, Division of Pulmonary and Critical Care Medicine, University of Utah HSC, January 30, 2003. (Caravati)

“Teen OTC Drug Abuse in Utah”, Pediatric Emergency Medicine Research Conference, July 2, 2003 (Crouch)

“Teen OTC Drug Abuse in Utah”, Family Practice Grand Rounds, November 12, 2003 (Crouch)

“The poison center’s role in hazardous materials incidents.” Statewide Hazardous Materials Conference, Ogden Utah. May 22, 2003 (Crouch)

“The poison center’s role in response to weapons of mass destruction.” This presentation was part of prehospital training for the Chemical Stockpile Emergency Preparedness Program. March 27, 2003 (Crouch)

“Weapons of Mass Destruction: Chemical Agents”, Department of Emergency Medical Services, University of Utah HSC, June 4, 2003. (Caravati)

UPCC staff members also participate in teaching at the University of Utah College of Pharmacy and School of Medicine. Doctorate and undergraduate PharmD students, pediatric emergency medicine fellows, medical students and clinical pharmacy residents rotate through the UPCC to further their education and experience in clinical toxicology. In addition, the staff of the UPCC teach a didactic class in Clinical Toxicology which is required for the third professional year pharmacy students.

The UPCC gratefully acknowledges the following for their generosity in 2003:
MCNEIL CONSUMER & SPECIALTY PHARMACEUTICALS

And, for their support, the UPCC would also like to acknowledge:

UTAH DEPARTMENT OF HEALTH
UNIVERSITY OF UTAH HEALTH SCIENCES
UNIVERSITY OF UTAH COLLEGE OF PHARMACY
UNIVERSITY OF UTAH
FORD MOTOR COMPANY
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