



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 896,000 calls for assistance. The UPCC is a program of the University of Utah College of Pharmacy, and a cooperative public service of the Utah Department of Health and University of Utah Health Sciences.

Mission: The primary mission of the UPCC is to provide a 24-hour emergency service to the public and health professionals of Utah for assistance during a poisoning emergency. In addition, the UPCC's mission is to decrease the morbidity and mortality from poisoning and through professional education; reduce the overall occurrence of poisoning through public education efforts; and, finally, reduce health care costs associated with poisoning exposures by managing the majority of poisoning exposures on-site with telephone assistance and follow-up.

Standards of Excellence: The UPCC is nationally recognized as a Certified Regional Poison Control Center by the American Association of Poison Control Centers (AAPCC). In 1999, the UPCC received a five-year extension on its certification. The UPCC is one of 50 centers with such distinction. The American Academy of Pediatrics, the American College of Emergency Physicians and the American Medical Association endorse these certification standards.

Staff: The UPCC is staffed 24 hours a day with registered pharmacists, nurses and physicians with additional training in clinical toxicology. Medical and clinical toxicologists are available to physicians and UPCC staff for consultation at all times. The Specialists in Poison Information undergo a minimum of six weeks of training prior to independently answering poison exposure calls. After two years in the center and handling 2,000 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).

National recognition: In 1999, E. Martin Caravati, MD, MPH was granted Medical Toxicology Subspecialty Certification from the American Board of Medical Specialties. In addition, he was elected to the AAPCC Board of Directors in 1999 for a three-year term. He is currently the board liaison to the AAPCC Council of Medical Directors. Dr. Caravati is also a Consulting Editor (Toxicology) for the Annals of Emergency Medicine. Barbara Insley Crouch is also a member of the Board of Directors of the AAPCC and has been since 1994. Douglas E. Rollins, MD, PhD was named Medical Director, Doping Control for the Salt Lake Organizing Committee. His responsibilities include oversight of the drug testing of athletes during the 2002 Winter games.

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

- Jolie Coleman, BS, Development Officer, College of Engineering
- Tim Cosgrove, MA, Child Advocacy Specialist, Primary Children's Medical Center
- Patrice Dean, BS Pharm, University of Utah College of Pharmacy Alumnus, Clinical Pharmacist, University of Utah Hospitals and Clinics
- Larry Dew, CPA, Assistant Vice President for Health Sciences, University of Utah
- Elizabeth Grant, M.Ed., Principal, Lowell Elementary School
- Patricia Keller, RN, MPH, Manager, Violence and Injury Prevention Program, Utah Department of Health
- John W. Mauger, PhD, Dean, College of Pharmacy, University of Utah
- Douglas E. Rollins, MD, PhD, Interim Chair, Department of Pharmacy Practice, University of Utah
- Anthony R. Temple, MD, Executive Director, Medical Affairs, McNeil Consumer Products Company
- Kim Wirthlin, BA, Director, Government and Institutional Relations for the Health Sciences, University of Utah

Public Health: The UPCC staff play a key role in preparation for and response to a public health threat such as from a weapon of mass destruction. Dr. Caravati was a member of the Citizens Advisory Commission for Chemical Demilitarization,



Governor’s Office of Planning and Budget, State of Utah. He was appointed to this Commission by Governor Leavitt to provide advice on medical, toxic, and disaster issues regarding the destruction of chemical weapons at Tooele Army Depot. The UPCC actively participates in the following state and local committees involved in protecting the public from the threat of a chemical, biological or nuclear incident: Terrorism Working Group, Chemical Stockpile Emergency Preparedness Program, Metropolitan Medical Response System and the Center for Domestic Preparedness, Health and Medical Working Group. Dr. Caravati took part in a panel discussion entitled “Bio-Terrorism: A Case Study and Panel Exercise” at the Governor’s Annual Conference on Disaster and Emergency Preparedness.

Data: The UPCC participates in the American Association of Poison Control Center’s Toxic Exposure Surveillance System (TESS). TESS is the single largest database on poison exposures in the United States. This database combines the experience of the UPCC and other poison centers in the United States. The TESS 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 to the public and health professionals aimed at decreasing adverse effects from poisoning.

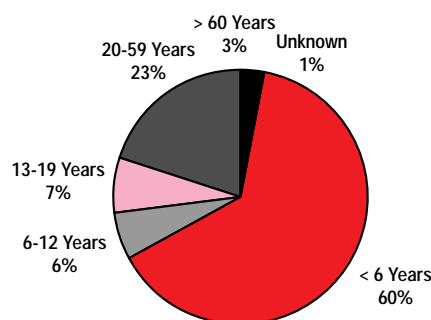
The UPCC is pleased to share with you the following highlights from 1999:

| Call Type | Number | Percent |
|-------------------------------|---------------|--------------|
| Exposure | 40,493 | 76.4 |
| Drug identification | 5,587 | 10.5 |
| Poison information | 2,951 | 5.6 |
| Drug information | 2,863 | 5.4 |
| Medical information | 584 | 1.1 |
| Other information | 228 | 0.4 |
| Teratogenicity information | 109 | 0.2 |
| Prevention/Safety information | 78 | 0.2 |
| Confirmed Nonexposure | 64 | 0.1 |
| Environmental information | 57 | 0.1 |
| Occupational information | 8 | 0.0 |
| Total | 53,022 | 100.0 |

Call Type: The preceding chart breaks down the total number of calls to the UPCC during 1999. The majority of calls to the UPCC are actual poison exposures (40,493). The remainder of calls are for information only. Information calls usually involve questions about proper use, storage and precautions regarding drugs and chemicals. Of the 40,493 poison exposures, 1,131 involved animals—mostly dogs and cats. In 64 calls initially classified as exposures, it was later determined that a poison exposure had not occurred.

The remainder of this report reflects the 39,362 actual human poison exposures reported to the UPCC.

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 especially “at risk” for a poison exposure.



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

| | Exposure Number | Site Percent |
|-------------------------|-----------------|--------------|
| Own Residence | 33,957 | 86.3 |
| Other Residence | 2,250 | 5.7 |
| Workplace | 1,066 | 2.7 |
| Health Care Facility | 103 | 0.3 |
| School | 293 | 0.7 |
| Restaurant/Food Service | 412 | 1.1 |
| Public Area | 723 | 1.8 |
| Other | 286 | 0.7 |
| Unknown | 272 | 0.7 |
| Total | 36,362 | 100.0 |



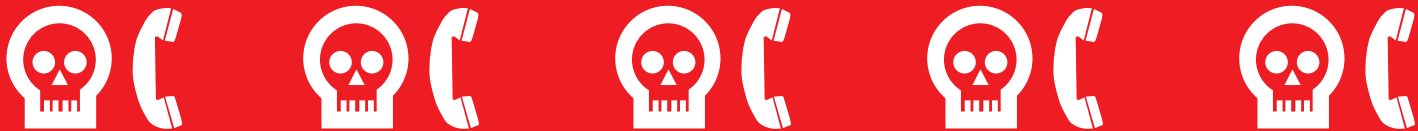
Location of Exposure: Human exposure calls to the UPCC originated in all 29 Utah counties. This table provides a breakdown of the number of human poison exposures reported for each county and the rate (penetrance) of reporting based on the population of each county. The average penetrance reported by poison centers nationwide is 8.4 exposures per 1,000 population. The UPCC had an average penetrance of 18.4 per 1,000 population in 1999.

| | Human Exposures | Percent of Calls | County Penetrance |
|--------------|-----------------|------------------|-------------------|
| Beaver | 81 | 0.2 | 13.8 |
| Box Elder | 705 | 1.8 | 16.9 |
| Cache | 1,498 | 3.8 | 17.1 |
| Carbon | 418 | 1.1 | 19.5 |
| Daggett | 12 | 0.0 | 16.3 |
| Davis | 4,273 | 10.9 | 18.1 |
| Duchesne | 250 | 0.6 | 17.4 |
| Emery | 191 | 0.5 | 17.6 |
| Garfield | 94 | 0.2 | 20.6 |
| Grand | 102 | 0.3 | 11.3 |
| Iron | 626 | 1.6 | 19.9 |
| Juab | 137 | 0.4 | 16.9 |
| Kane | 68 | 0.2 | 11.1 |
| Millard | 196 | 0.5 | 16.4 |
| Morgan | 100 | 0.3 | 13.8 |
| Piute | 21 | 0.1 | 12.8 |
| Rich | 28 | 0.1 | 15.3 |
| Salt Lake | 16,796 | 43.0 | 19.9 |
| San Juan | 113 | 0.3 | 8.3 |
| Sanpete | 281 | 0.7 | 13.1 |
| Sevier | 325 | 0.8 | 17.2 |
| Summit | 393 | 1.0 | 14.9 |
| Tooele | 663 | 1.7 | 18.5 |
| Uintah | 331 | 0.8 | 13.2 |
| Utah | 6,932 | 17.8 | 19.6 |
| Wasatch | 216 | 0.6 | 15.8 |
| Washington | 1,506 | 3.9 | 18.5 |
| Wayne | 23 | 0.1 | 9.1 |
| Weber | 2,662 | 6.8 | 14.3 |
| Out of State | <u>321</u> | | |
| Total | 39,362 | | 18.4 |

Reason for Exposure: The majority of poison exposures reported to the UPCC were unintentional and involved children orally exploring their environment. Ninety-nine percent (99.1%) of exposures in children less than six years of age were unintentional compared to only 49.2% in the age group of 13-19 years. The majority of exposures in adults (twenty years and older) were unintentional (68.5%). 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.

| Reason for Exposure | Number | Percent |
|-------------------------------|---------------|--------------|
| Unintentional General | 23,703 | 60.2 |
| Environmental | 924 | 2.4 |
| Occupational | 733 | 1.9 |
| Therapeutic Error | 3,296 | 8.4 |
| Unintentional Misuse | 1,938 | 4.9 |
| Bite/Sting | 1,831 | 4.7 |
| Food Poisoning | 1,499 | 3.8 |
| Unintentional Unknown | <u>12</u> | <u>0.0</u> |
| Total Unintentional | 33,936 | 86.2 |
| Suicide | 2,045 | 5.2 |
| Intentional Misuse | 855 | 2.2 |
| Abuse | 606 | 1.6 |
| Intentional Unknown | <u>16</u> | <u>0.0</u> |
| Total Intentional | 3,522 | 9.0 |
| Tampering | 411 | 1.0 |
| Malicious | <u>178</u> | <u>0.5</u> |
| Total Other | 589 | 1.5 |
| Drug Reaction | 1,036 | 2.6 |
| Food Reaction | 119 | 0.3 |
| Other Reaction | <u>115</u> | <u>0.3</u> |
| Total Adverse Reaction | 1,270 | 3.2 |
| Unknown Reason | <u>45</u> | <u>0.1</u> |
| Total | 39,362 | 100.0 |

Medical Outcome: The majority of poison exposures are followed to ensure that no ill effects occurred, or until all symptoms have resolved (70.2%). Less than 0.5% of poison exposures resulted in a major effect or fatal outcome. Serious adverse effects and death were more frequent in adults (76.8%) and when the reason for exposure was intentional (79.2%).



Substance Categories: The type of substances involved in a poison exposure run the full gamut of 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 household cleaning substances and cosmetics and personal care items (11.5% each); in children 6-12 years of age, it was bites and envenomations (9.3%); in 13-19 years of age, it was analgesics (18.1%); and in adults, it was analgesics (10.1%). Ibuprofen was the most common substance involved in a poison exposure, accounting for 1,259 (3.2%) exposures to the UPCC in 1999. The following are the most common substance categories involved in all poison exposures reported to the UPCC:

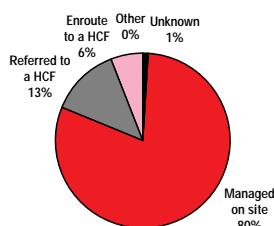
| Most Common Substances | Number | Percent |
|------------------------------------|--------|---------|
| Analgesics | 3,961 | 9.5 |
| Household Cleaning Substances | 3,772 | 9.1 |
| Cosmetics & Personal Care Products | 3,367 | 8.1 |
| Bites and Envenomations | 1,969 | 4.7 |
| Cold and Cough Preparations | 1,955 | 4.7 |
| Food Products and Food Poisoning | 1,862 | 4.5 |
| Plants | 1,858 | 4.5 |
| Topicals | 1,635 | 3.9 |
| Foreign Bodies, Toys, Misc. | 1,571 | 3.8 |
| Hydrocarbons | 1,165 | 2.8 |

Health Care Facilities: The majority of patients (77%) who required treatment in a health care facility were treated in an acute care hospital. Other management sites included urgent care clinics (7.2%) and practitioner offices (15.8%). The following is the distribution of poison exposures managed in acute care hospitals in Utah. In some cases patients were managed in more than one acute care hospital:

| Hospital | Number of cases in HCF | Percent | Hospital | Number | Percent |
|---------------------------------------|------------------------|---------|-------------------------------------|--------|---------|
| Alta View Hospital | 321 | 5.0 | Ogden Regional Medical Center | 76 | 1.2 |
| Cottonwood Hospital Medical Center | 318 | 4.9 | Orem Community Hospital | 65 | 1.0 |
| Utah Valley Medical Center | 286 | 4.4 | Ashley Valley Medical Center | 60 | 0.9 |
| Primary Children's Medical Center | 284 | 4.4 | Timpanogos Regional Hospital | 59 | 0.9 |
| Pioneer Valley Hospital | 275 | 4.3 | Uintah Basin Medical Center | 39 | 0.6 |
| Univ. of Utah Hospitals and Clinics | 242 | 3.8 | Bear River Valley Hospital | 38 | 0.6 |
| St. Marks Hospital | 242 | 3.8 | Sevier Valley Hospital | 37 | 0.6 |
| Dixie Regional Medical Center | 241 | 3.7 | Sanpete Valley Hospital | 33 | 0.5 |
| McKay-Dee Hospital | 222 | 3.5 | Allen Memorial Hospital | 29 | 0.5 |
| Jordan Valley Hospital | 209 | 3.3 | Central Valley Medical Center | 26 | 0.4 |
| Davis Hospital and Medical Center | 196 | 3.0 | Gunnison Valley Hospital | 26 | 0.4 |
| Logan Regional Hospital | 190 | 3.0 | Wasatch County Hospital | 26 | 0.4 |
| American Fork Hospital | 177 | 2.8 | Veterans Administration Med. Center | 21 | 0.3 |
| LDS Hospital | 173 | 2.7 | Kane County Hospital | 20 | 0.3 |
| Lakeview Hospital | 131 | 2.0 | Fillmore Medical Center | 17 | 0.3 |
| Castleview Hospital | 118 | 1.8 | Delta Community Medical Center | 15 | 0.2 |
| Valley View Medical Center | 100 | 1.6 | San Juan Hospital | 14 | 0.2 |
| Mountain View Hospital | 93 | 1.4 | Beaver Valley Hospital | 12 | 0.2 |
| Salt Lake Regional Medical Center | 90 | 1.4 | Garfield Memorial Hospital | 12 | 0.2 |
| Tooele Valley Regional Medical Center | 84 | 1.3 | Milford Valley Memorial Hospital | 11 | 0.2 |
| Brigham City Community Hospital | 82 | 1.3 | Hospital, other state | 43 | 0.7 |
| | | | Unknown Utah Hospital | 27 | 0.4 |



Management Site: The majority of poison exposures (80%) were managed on site with telephone follow-up. Children less than six years of age were more likely to be managed on-site (91%) as compared to those age 13-19 years (52%). Treatment in a health care facility was provided in 16.3% and recommended in another 2.7% of patients who refused the referral.



Of the 6,430 poison exposures that were managed in a health care facility (HCF):

- 77.6% were treated and released from the emergency department
- 5.3% were admitted for medical care in an intensive care setting
- 4.1% were admitted for medical care in a non-intensive care setting
- 4.2% were admitted for psychiatric care
- 8.8% were lost to follow-up and/or left against medical advice

Public Education: The UPCC has expanded its outreach education activities in Utah. In September 1999, the UPCC added a full-time educator, Pati Comes. Her responsibilities include building community capacity for poison prevention, outreach to high-risk populations and development of materials in Spanish.

Outreach activities targeted children, parents, racial and ethnic populations, families and seniors. In 1999, the UPCC participated in 51 health and safety fairs including 21 community events, 12 schools, 8 worksites and 5 church events. Examples of some of the health fairs attended are:

Community events

- The Canine Carnival, Intermountain Therapy Animals
- Developing Reservation Based Efforts Addressing Mortality and Morbidity (DREAMM): Ute Mountain Ute Reservation, White Mesa Utah and the Shoshoni Tribe, Brigham City Utah
- Greenbacks Foundation Single

- Mothers Conference
- Healthy Sandy Fair
- Hispanic American Festival
- The Junior League of Salt Lake's Community Assistance and Resource (CARE) Fair
- March of Dimes Walk-a-Thon
- Safe Kids Fair
- Senior Expo
- Senior Fair- Central City
- Utah Issues Resource Fair
- West Jordan Public Safety Community Safety Fair

Schools

The majority of school fairs attended included elementary schools in the greater Salt Lake Valley such as the Bennion Elementary Bosnia Awareness Night and Health Fair. In addition, UPCC provided information at the Salt Lake Community College Wellness Days and the University of Utah Student Health Fair.

Worksite

- Discover Financial Services Health Fair
- The Governor's Council on Health and Physical Activity Worksite Health Conference
- Postal Worker's Health Fair, sponsored by the University of Utah
- Questar Employee Health
- Senior Expo

Monthly poison prevention tips were provided on the Channel 2 (KUTV) noon news program. In addition more than 40 interviews were conducted with statewide print and electronic media.

The UPCC began publishing a newsletter called *Poison Smart Utah* in 1999. This newsletter provides general poison prevention information and includes poison prevention tips for pets. **Poison Smart Utah** is distributed to over 1500 statewide including pediatricians, daycare centers, family physicians, state and local health educators and other interested individuals.

UPCC staff also gave several presentations on the poison center and poison prevention to high school and college students and various community groups. A National Poison Prevention Week poster contest was held at two elementary schools in 1999. The winning entry was submitted to the National Poison Prevention Week Poster contest. All participants received a coupon for a free ice cream donated by McDonalds and winners received a gift certificate



donated by Toys R Us. A special thank you to the following judges: Tina Aramaki, Utah Society of Health-Systems Pharmacists, Linda Tyler and Patrice Deane, University of Utah Hospitals and Clinics, Susan Gallagher, Utah Arts Council, and Francine Goitz, Utah Poison Control Center. The winning posters were displayed at Whitmore library and the University of Utah Medical Center.

Professional Education:

Publications: The UPCC initiated a newsletter for health professionals called **UTOX** Update. The newsletter is published quarterly and is distributed statewide. Timely clinical toxicology related articles are included. The UPCC is grateful to Pegus Research, Inc., Salt Lake City, Utah for their support of this newsletter.

The following are a list of other publications involving UPCC staff in 1999:

- **Grover J, Dahl B, Caravati M.** Death Camus: Mistaken Identity at an Herb Farm. *J Toxicol Clin Toxicol* 1999;37: 618-619(abstract).
- **Caravati EM, Dahl B, Crouch BI.** Severe Anaphylaxis from Gila Monster Envenomation. *J Tox Clin Toxicol* 1999;37:613(abstract).
- **Diller EM, Crouch BI, Martin AC, Caravati EM.** Clinical Manifestations of Poisonings in the Elderly. *J Tox Clin Toxicol* 1999;37:594(abstract).
- **Martin AC, Caravati EM, Crouch BI, Diller EM.** Poison Exposures in the Elderly. *J Tox Clin Toxicol* 1999;37:593(abstract).
- **Litovitz TL, Klein-Schwartz W, Caravati EM, Youniss J, Crouch B, Lee S.** 1998 Annual Report of the American Association of Poison Control Centers Toxic Exposure Surveillance System. *Am J Emerg Med* 1999;17:435-487.

Presentations: The UPCC staff participated in a number of presentations to health professionals in 1999. Didactic lectures were provided on toxicology and poison prevention to Family Practice Residents in Ogden and to University of Utah pharmacy, medicine, and public health students. As a visiting professor for the University of Texas at Southwestern Medical School, the UPCC's Associate Medical Director Dr. Douglas Rollins presented a lecture on clinical toxicology to second year medical students. In addition to

students, Dr. Crouch participated in Grand Rounds on Inhalant Abuse at Primary Children's Medical Center and provided a presentation on clinical toxicology and the poison center to employees at ARUP Laboratories.

The UPCC gratefully acknowledges the following for their generosity in 1999:

MCNEIL CONSUMER PRODUCTS COMPANY WHITEHALL-ROBINS

Manfred and S. Karin Hechtle
Nancy J. Matyunas
The Plant Guy

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

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Ford Motor Company
AFAB, LLC
PERS, Inc.

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