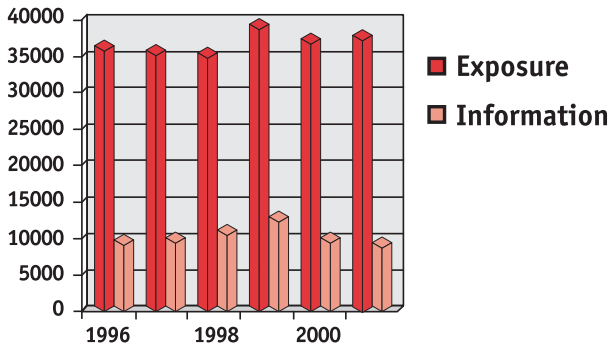




# Poison Control Center

# 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 990,000 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. The following is a breakdown of poison exposure calls and information requests for the past six 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 services personnel, and public health officials.
4. To provide quality clinical toxicology and poison prevention education to health care professionals, emergency service personnel, and the public.
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 reduce health care costs associated with poisoning exposures.

8. To participate in statewide disaster preparedness.

**Staff:** The UPCC is staffed around-the-clock with registered pharmacists, nurses and physicians with additional training in clinical toxicology. 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, UPCC staff members are required to sit for the Specialists in Poison Information Proficiency Examination to become a Certified Specialist in Poison Information. 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. 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 standards.

**National and State Recognition:** Dr. Caravati is a member of the Board of Directors of the American Association of Poison Control Centers (AAPCC). He is the board liaison to the Council of Medical Directors and a member of the nominating committee. He is Assistant Editor (Toxicology) for the Annals of Emergency Medicine. He was appointed as the American College of Emergency Physician's liaison to the AAPCC in 2000. Dr. Crouch is also a member of the Board of Directors of the AAPCC. She serves as co-chair of the CSPI Examination Committee. This committee is responsible for the national examination to certify specialists in poison information. Heather Hunter was



elected to the board of directors of the Health Education Association of Utah. Heather is an active member of the Public Education Committee of the AAPCC and also serves on the nominations subcommittee.

**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:

- 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
- Jolie Coleman, Development Officer, College of Engineering, University of Utah
- Tim Cosgrove, MA, Specialist, Child Advocacy, Primary Children’s Medical Center
- Patrice Deane, BS Pharm, University of Utah College of Pharmacy Alumnus
- Larry Dew, 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
- Gary M. Oderda, PharmD, MPH, Interim Chair, Department of Pharmacy Practice, University of Utah
- May Romo, Health Planner, Salt Lake Valley Health Department
- Anthony R. Temple, MD, Vice President, Medical and Regulatory 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.

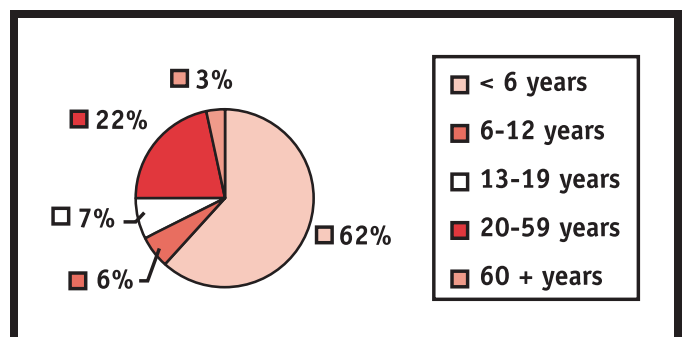
The UPCC is pleased to share with you the following highlights from 2001:

**Call Type:** The following chart breaks down the total number of calls to the UPCC during 2001. The majority of calls to the UPCC are actual poison exposures (39,365). 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 39,365 poison exposures, 1,250 involved animals—mostly dogs and cats.

Call Type	Number	Percent
Exposure	39,365	81.2
Drug Identification	3,421	7.1
Drug Information	2,363	4.9
Poison Information	1,730	3.6
Medical Information	746	1.5
Environmental Information	610	1.2
Other Information	139	0.3
Teratogenicity Information	51	0.1
Confirmed Nonexposure	24	0.1
Prevention/Safety Information	17	0.0
Occupational Information	10	0.0
Substance Abuse	6	0.0
Other	3	0.0
<b>Total</b>	<b>48,485</b>	<b>100.0</b>

*The remainder of this report reflects the 38,115 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.





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 8.0 exposures per 1,000 population. The UPCC had a penetrance of 17.3 in 2001.

County	Human Exposures	Percent of Calls	Penetrance
Beaver	70	0.2	11.31
Box Elder	559	1.4	12.71
Cache	1,591	4.1	17.77
Carbon	312	0.8	14.20
Daggett	12	0.0	16.30
Davis	3,741	9.7	15.31
Duchesne	307	0.8	20.97
Emery	145	0.4	13.91
Garfield	73	0.2	15.59
Grand	97	0.3	10.68
Iron	594	1.5	17.77
Juab	124	0.3	14.45
Kane	66	0.2	10.05
Millard	142	0.4	11.68
Morgan	83	0.2	11.32
Piute	13	0.0	7.76
Rich	32	0.1	17.54
Salt Lake	15,522	40.1	18.05
San Juan	74	0.2	5.35
Sanpete	299	0.8	13.21
Sevier	298	0.8	15.31
Summit	344	0.9	11.60
Tooele	816	2.1	21.67
Uintah	320	0.8	12.67
Utah	7,469	19.3	20.23
Wasatch	273	0.7	18.77
Washington	1,522	3.9	17.74
Wayne	30	0.1	11.27
Weber	2,901	7.5	15.32
Out of State	286	0.8	
<b>Total</b>	<b>38,115</b>	<b>100.0</b>	<b>17.30</b>

**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 can help reduce the incidence 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	33,828	88.7
Other Residence	1,840	4.8
Workplace	776	2.0
Public Area	631	1.7
Restaurant/Food Service	310	0.8
School	262	0.7
Health Care Facility	110	0.3
Other	302	0.8
Unknown	56	0.2
<b>Total</b>	<b>38,115</b>	<b>100.0</b>

**Reason for Exposure:** The majority of poison exposures reported to the UPCC were un-intentional 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 42.1% in the age group of 13-19 years. The majority of exposures in adults were unintentional (65.3%). 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	23,409	61.4
Environmental	771	2.0
Occupational	584	1.6
Therapeutic Error	2,934	7.7
Unintentional Misuse	1,687	4.4
Bite/Sting	1,786	4.7
Food Poisoning	1,189	3.1
Unintentional Unknown	5	0.0
<b>Total Unintentional</b>	<b>32,365</b>	<b>84.9</b>
Suicide	2,289	6.0
Intentional Misuse	1,150	3.0
Abuse	647	1.7
Intentional Unknown	17	0.1
<b>Total Intentional</b>	<b>4,103</b>	<b>10.8</b>
Tampering	449	1.2
Malicious	187	0.5
<b>Total Other</b>	<b>636</b>	<b>1.7</b>
Drug Reaction	826	2.2
Food Reaction	61	0.1
Other Reaction	107	0.3
<b>Total Adverse Reaction</b>	<b>994</b>	<b>2.6</b>
Unknown Reason	17	0.0
<b>Total</b>	<b>38,115</b>	<b>100.0</b>

**Medical Outcome:** The majority of poison exposures are followed to a known outcome (58.1%). Less than 0.3% of poison exposures resulted in a major effect or fatal outcome. Serious adverse effects and death were more frequent in adults (76.5%) and when the reason for exposure was intentional (80.4%).

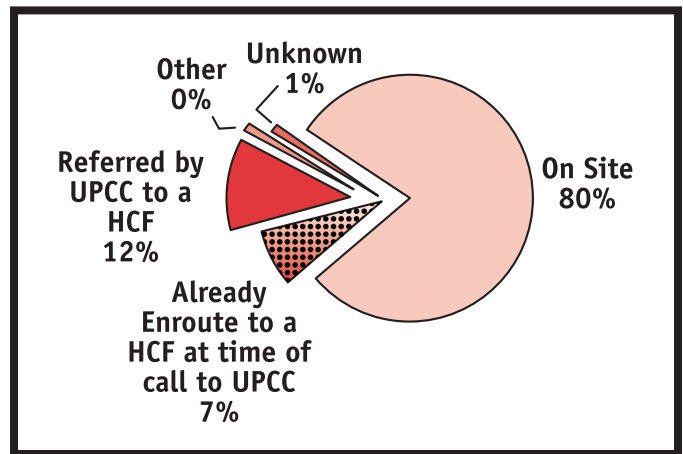


**Substance Categories:** The types of substances involved in poison exposures include products available in the home, workplace and the environment. The most common substance category involved in exposures in children less than six years of age was cosmetics and personal care items (12.5%); in children 6-12 years of age, bites and envenomations (9.2%) were most prevalent; in 13-19 years of age, analgesics (21.0%) were most prevalent; and in adults, analgesics (11.2%) were most prevalent. Ibuprofen was the most common substance involved in a poison exposure, accounting for 1,389 (3.3%) exposures to the UPCC in 2001. The following are the most common substance categories involved in all poison exposures reported to the UPCC:

Most Common Substances	Number	Percent
Analgesics	4,275	10.2
Household Cleaning Substances	3,701	8.8
Cosmetics & Personal Care Products	3,575	8.5
Bites and Envenomations	1,869	4.4
Cold and Cough Preparations	1,794	4.3
Topicals	1,761	4.2
Plants	921	3.7
Food Products and Food Poisoning	1,503	3.6
Foreign Bodies, Toys, Misc	1,498	3.6
Antidepressants	1,390	3.3
<b>Total</b>	<b>22,287</b>	<b>54.6</b>

**Health Care Facilities:** The majority of patients (81.4%) who required treatment in a health care facility were treated in an acute care hospital. Other management sites included urgent care clinics (5.0%) and practitioner offices (11.5%). The table displayed below is the distribution of poison exposures managed in acute care hospitals in Utah.

**Management Site:** The majority of poison exposures (79.7%) were managed on site with telephone follow-up. Children less than six years of age were more likely to be managed on-site (91.2%) as compared to those age 13-19 years (47.4%). Treatment in a health care facility was provided in 16.9% and recommended in another 2.2% of patients who refused the referral.



Hospital	Number of cases	Percent in HCF
Utah Valley Medical Center	339	5.26%
Primary Children's Medical Center	335	5.20%
Cottonwood Hospital Medical Center	333	5.17%
Alta View Hospital	326	5.06%
Pioneer Valley Hospital	304	4.72%
Univ. of Utah Hospitals and Clinics	280	4.35%
Jordan Valley Hospital	264	4.10%
St. Marks Hospital	256	3.97%
Davis Hospital and Medical Center	256	3.97%
American Fork Hospital	253	3.93%
Dixie Regional Medical Center	247	3.83%
McKay-Dee Hospital	246	3.82%
Logan Regional Hospital	187	2.90%
LDS Hospital	160	2.48%
Lakeview Hospital	137	2.13%
Mountain West Medical Center	117	1.82%
Mountain View Hospital	92	1.43%
Castleview Hospital	87	1.35%
Valley View Medical Center	81	1.26%
Ogden Regional Medical Center	80	1.24%
Brigham City Community Hospital	77	1.20%
Salt Lake Regional Medical Center	74	1.15%
Orem Community Hospital	70	1.09%
Ashley Valley Medical Center	67	1.04%
Timpanogos Regional Hospital	56	0.87%
Sevier Valley Hospital	53	0.82%
Heber Valley Medical Center	53	0.82%
Uintah Basin Medical Center	53	0.82%
Bear River Valley Hospital	46	0.71%
Sanpete Valley Hospital	39	0.61%
Rocky Mountain Medical Center	31	0.48%
Allen Memorial Hospital	27	0.42%
Kane County Hospital	25	0.39%
Central Valley Medical Center	24	0.37%
Veterans Administration Med. Center	22	0.34%
Gunnison Valley Hospital	20	0.31%
Delta Community Medical Center	19	0.29%
San Juan Hospital	11	0.17%
Fillmore Medical Center	10	0.16%
Beaver Valley Hospital	8	0.12%
Milford Valley Memorial Hospital	7	0.11%
Cache Valley Specialty Hospital	7	0.11%



Of the 6,443 poison exposures that were managed in a health care facility:

- 73.7% were treated and released from the emergency department
- 6.2% were admitted for medical care in an intensive care setting
- 5.7% were admitted for medical care in a non-intensive care setting
- 4.9% were admitted for psychiatric care
- 9.5% were lost to follow-up and/or left against medical advice

**Public Education** Outreach activities targeted parents of children under age 6, ethnic populations, and seniors. Twenty-six media interviews were conducted with UPCC staff. Governor Leavitt signed a proclamation encouraging increased community awareness of poison dangers during 2001 National Poison Prevention Week. Planning in 2001 resulted in the announcement of the new national toll-free poison control number at a press conference in January 2002. Senator David Steele, Dr. Martin Caravati, Dr. Barbara Crouch, and Ms. Alyson O’Steen were the speakers for this statewide event. The press conference was held in conjunction with the national launch of the new number sponsored by the AAPCC in Washington D.C.

**Poison Education Materials:** A total of 164,440 pieces of poison prevention education materials were distributed throughout Utah in 2001. These materials were distributed to individuals, health departments, fire departments, hospitals, physician offices, schools, universities, church groups, scouts, businesses and county agencies throughout the state.

**Presentations:** The staff of the UPCC gave 18 presentations to Head Start classes, university and public school students, public health and health care professionals, and day care providers. Approximately 1200 people attended the presentations.

**Health and Safety Fairs:** The UPCC was represented in 50 health and safety fairs in 2001, reaching more than 69,600 people. Examples of the fairs attended are:

- SAFE KIDS Fair
- Snow College Family Fair
- The Junior League of Salt Lake’s Community Assistance and Resource Fair
- Senior Expo

- Discover Financial Services Employee Health Fair
- US Food Service Workers Fair
- Neighborhood House Fair, Salt Lake County
- Night Out Against Crime, Salt Lake & Utah Counties
- U of U Novell Showdown
- Heber Valley Medical Center Health Fair
- Greenbacks Single Mother Resource Fair

## Professional Education

**Publications:** The UPCC continues to distribute **UTOX** Update, a newsletter for health professionals. The newsletter is published quarterly and is distributed statewide. Timely clinical toxicology related articles are included. Topics for 2001 included marine envenomations, kava, lithium and snake bites. Support for printing and distribution of the newsletter was provided by McNeil Consumer & Specialty Pharmaceuticals in 2001.

The following are a list of other publications involving UPCC staff in 2001:

Caravati EM, Herman B. Treatment of two adolescent girls with severe ethylene glycol poisoning without hemodialysis. *J Tox Clin Toxicol.* 2001;39:481.

Caravati EM, Knight HH, Linscott MS, Stringham JC. Esophageal laceration and charcoal mediastinum complicating gastric lavage. *J Emerg Med* 2001; 273-276.

Crouch BI, Caravati EM, Summers E. Jimsonweed Toxicity. *J Pain and Symptom Control.* 2001;9:25-30.

Dahl B, Caravati M, Dunson W. Surreptitious brodifacoum poisoning. *J Tox Clin Toxicol.* 2001;39:475-476.

Green DI, Caravati EM. Coma in a toddler from low-dose carisoprodol. *J Tox Clin Toxicol.* 2001;39:503.

Grover J, Caravati EM. Right bundle branch block and delayed seizure associated with citalopram and fluoxetine ingestion. *J Tox Clin Toxicol.* 2001; 39:491.

**Presentations:** The following presentations were made to health professionals by the UPCC staff in 2001:

“Illicit Drugs of Abuse”, Internal Medicine Residents Conference, Department Of Medicine, University of Utah, December 4, 2001. (EM. Caravati)

“The UPCC: How can we help you?”, Jordan Valley Hospital ER Nursing Staff, West Jordan, Utah, November 29, 2001. (B. Garrett)  
 “Club Drugs”, Jordan Valley Medical Center, Salt Lake County, Utah, November 21, 2001. (B. Crouch)

“The UPCC: How can we help you?”, University of Utah Hospital ER Nursing Staff, Salt Lake City, Utah, November 13, 2001. (B. Garrett)

“Methamphetamine Toxicologic Risk for Public Safety and Decontamination Workers”, Occupational Medicine Grand Rounds, LDS Hospital, Salt Lake City, Utah, November 1, 2001. (EM. Caravati)



“Bioterrorism II”, Conference Panel Member, Division of Infectious Disease, University of Utah Hospital, October 29, 2001. (EM. Caravati)

“Pediatric Overdose Case Presentations”, Pediatric Residency Program, Primary Children’s Medical Center, October 12, 2001. (EM. Caravati)

“But it has a Child Proof Cap!”, Utah Society of Health Systems Pharmacists, Salt Lake County, Utah, September 21, 2001. (B. Dahl)

“Club Drugs”, Utah Society of Health Systems Pharmacists, Salt Lake County, Utah, September 21, 2001. (B. Crouch)

“The UPCC: How can we help you?”, Davis North Hospital ER Nursing Staff, Layton, Utah, September 20, 2001. (B. Garrett)

“Case Studies in Adolescent Substance Abuse”, Pediatric Residency Program, Primary Children’s Medical Center, September 5, 2001. (EM. Caravati)

“The UPCC: How can we help you?”, Lakeview Hospital ER Nursing Staff, Bountiful, Utah, August 30, 2001. (B. Garrett)

“Community Preparedness”, Conference Panel Member, Chemical Preparedness National Conference, Portland, Oregon, July 26, 2001. (B. Crouch)

“Medical Emergencies: The Poisoned Patient”, Internal Medicine Residents Lecture Series, UUMC, LDS Hospital and VA Hospitals, July 2001. (EM. Caravati)

“The UPCC: How can we help you?”, St. Marks Hospital ER Nursing Staff, Salt Lake City, Utah, May 31, 2001. (B. Garrett)

“Crotaline Envenomation and the New Fab Antivenom”, Internal Medicine Resident Conference, Department of Medicine, University of Utah, May 30, 2001. (EM. Caravati)

“Hydrogen Peroxide Toxicity: Case Discussion”, Pediatric Residents Conference, Primary Children’s Hospital, April 24, 2001. (EM. Caravati)

“Update on the Utah Poison Control Center”, Wasatch Study Group, Salt Lake County, Utah, January 31, 2001. (B. Dahl)

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.

The UPCC gratefully acknowledges the following for their generosity in 2001:

**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  
 AFAB, LLC  
 PERS, Inc.

**UTAH POISON CONTROL CENTER STAFF**

**Specialists in Poison Information**

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- Bradley D. Dahl, PharmD, CSPI\*
- David Evans, PharmD, CSPI\*
- Bruce Garrett, RN, BSN, CSPI\*
- Francine Goitz, RN, BSN, CSPI\*
- David Green, RN, BSN, CSPI\*
- Jennifer Grover, PharmD, CSPI\*
- John Johnson, BS Pharm, RPh, CSPI\*
- Ed. T. Moltz, RN, BSN
- Michael Montoya, BS Pharm, RPh
- Deborah Moss, RN, BSN, CSPI\*
- John Stromness, BS Pharm, RPh, CSPI\*

\*CSPI denotes AAPCC Certified Specialist in Poison Information.

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