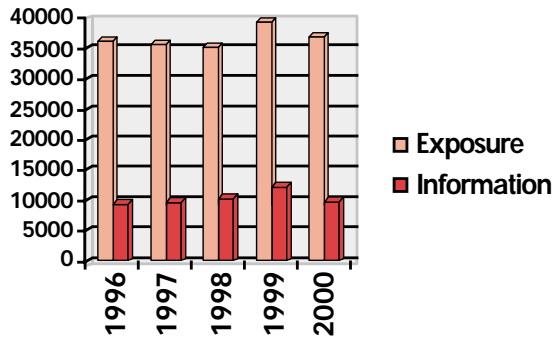




# Poison Control Center

# 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 940,000 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 five years.



**Administrative Changes:** In April 2000, Dr. Douglas E. Rollins stepped down as Medical Director after 20 years of service. He remains with the Utah Poison Control Center in the capacity of Associate Medical Director. Dr. Rollins is currently Medical Director, Doping Control for the Salt Lake Organizing Committee. He is busy preparing for the 2002 Winter games. Dr. Martin Caravati assumed the role of Medical Director. Prior to his role as Medical Director, Dr. Caravati served as Associate Medical Director since 1987.

**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.

**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 working at least one year at 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.

**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 through research efforts into the causes of 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.

**National Recognition:** Dr. Caravati is a member of the Board of Directors of the American Association of Poison Control Centers (AAPCC) and is the board liaison to the Council of Medical Directors. He is Consulting 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 Personnel Proficiency Committee. This committee is responsible for the national examination to certify specialists in poison information.



**Oversight Board:** A UPCC 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:

- \* Bennion Buchanan, MD, MBA, FACEP, Director Tooele Valley Emergency Department and 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 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
- \* 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 Affairs, McNeil Consumer Products Company
- \* 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.

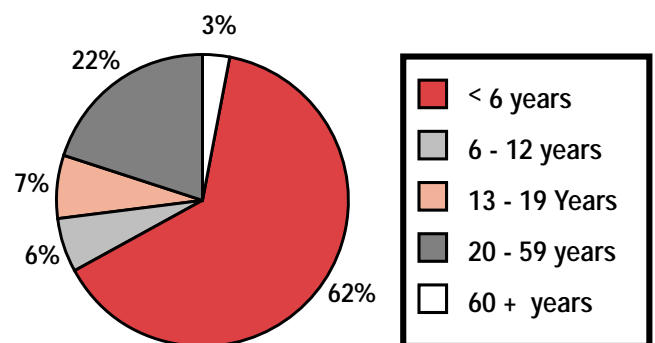
The UPCC is pleased to share with you the following highlights from 2000:

**Call Type:** The following chart breaks down the total number of calls to the UPCC during 2000. The majority of calls to the UPCC are actual poison exposures (38,229). 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 38,229 poison exposures, 1,043 involved animals—mostly dogs and cats.

Call Type	Number	Percent
Exposure	38,229	80.0
Drug identification	3,541	7.4
Drug information	2,360	5.0
Poison information	2,242	4.7
Medical information	670	1.4
Environmental information	444	0.9
Other information	154	0.3
Teratogenicity information	74	0.2
Confirmed Nonexposure	45	0.1
Occupational information	19	0.0
Prevention/safety information	18	0.0
<b>Total</b>	<b>47,796</b>	<b>100.0</b>

*The remainder of this report reflects the 37,186 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 (penetration) of reporting based on the population of each county. The average penetration reported by poison centers nationwide is 8.4 exposures per 1,000 population. The UPCC had a penetration of 17.2 in 2000.

	Human Exposures	Percent of Calls	Penetration
Beaver	89	0.2	14.9
Box Elder	588	1.5	13.7
Cache	1,408	3.8	15.9
Carbon	339	0.9	15.5
Daggett	16	0.0	22.1
Davis	3,946	10.6	16.4
Duchesne	235	0.6	16.2
Emery	151	0.4	14.5
Garfield	81	0.2	17.6
Grand	106	0.3	11.6
Iron	555	1.5	17.0
Juab	112	0.3	13.4
Kane	71	0.2	11.2
Millard	145	0.4	12.0
Morgan	71	0.2	9.7
Piute	29	0.1	17.2
Rich	22	0.1	11.7
Salt Lake	15,096	40.6	17.8
San Juan	81	0.2	5.9
Sanpete	263	0.7	11.8
Sevier	258	0.7	13.4
Summit	408	1.1	15.0
Tooele	677	1.8	18.4
Uintah	371	1.0	14.8
Utah	7,097	19.1	19.6
Wasatch	233	0.6	16.5
Washington	1,508	4.0	18.0
Wayne	43	0.1	16.5
Weber	2,894	7.8	15.5
Out of State	247	0.7	
Unknown	46	0.1	
<b>Total</b>	<b>37,186</b>		<b>17.2</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 clo-

sures, 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 Number	Site Percent
Own Residence	32,441	87.2
Other Residence	2,204	6.0
Workplace	830	2.2
Public Area	585	1.6
Restaurant/Food Service	311	0.8
School	269	0.7
Health Care Facility	108	0.3
Other	356	1.0
Unknown	82	0.2
<b>Total</b>	<b>37,186</b>	<b>100.0</b>

**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 44.5% in the age group of 13-19 years. The majority of exposures in adults were unintentional (69.1%). 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.

The UPCC gratefully acknowledges the following for their generosity in 2000:

**MCNEIL CONSUMER HEALTHCARE  
PEGUS RESEARCH, INC.**

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.**



Reason for Exposure	Number	Percent
Unintentional General	23,229	62.5
Environmental	617	1.7
Occupational	620	1.7
Therapeutic Error	2,911	7.8
Unintentional Misuse	1,680	4.5
Bite/Sting	1,759	4.7
Food Poisoning	1,256	3.4
Unintentional Unknown	5	0.0
<b>Total Unintentional</b>	<b>32,077</b>	<b>86.3</b>
Suicide	2,060	5.5
Intentional Misuse	970	2.6
Abuse	653	1.8
Intentional Unknown	16	0.0
<b>Total Intentional</b>	<b>3,699</b>	<b>9.9</b>
Tampering	300	0.8
Malicious	165	0.4
<b>Total Other</b>	<b>465</b>	<b>1.2</b>
Drug Reaction	764	2.1
Food Reaction	82	0.2
Other Reaction	79	0.2
<b>Total Adverse Reaction</b>	<b>925</b>	<b>2.5</b>
Unknown Reason	20	0.1
<b>Total</b>	<b>37,186</b>	<b>100</b>

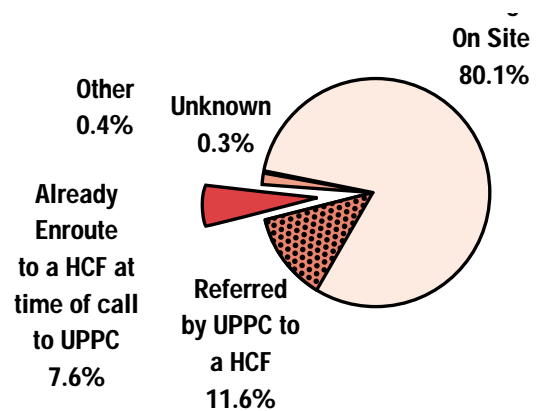
**Medical Outcome:** The majority of poison exposures are followed to a known outcome (64.8%). Less than 0.5% of poison exposures resulted in a major effect or fatal outcome. Serious adverse effects and death were more frequent in adults (67.8%) and when the reason for exposure was intentional (74.7%).

**Substance Categories:** The type of substances involved in a poison exposure 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 (12.5% each); in children 6-12 years of age,

bites and envenomations (10.7%) were most prevalent; in 13-19 years of age, analgesics (25.2%); and in adults, analgesics (13.2%) were most prevalent. Ibuprofen was the most common substance involved in a poison exposure, accounting for 1,348 (3.6%) exposures to the UPCC in 2000. The following are the most common substance categories involved in all poison exposures reported to the UPCC:

Most Common Substances	Number	Percent
Analgesics	4,030	10.8
Household Cleaning Substances	3,543	9.5
Cosmetics & Personal Care Products	3,388	9.1
Bites and Envenomations	1,816	4.9
Cold and Cough Preparations	1,804	4.9
Plants	1,668	4.5
Topicals	1,664	4.5
Food Products and Food Poisoning	1,587	4.3
Foreign Bodies, Toys, Misc	1,486	4.0
Antidepressants	1,301	3.5
<b>Total</b>	<b>22,287</b>	<b>60.0</b>

**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 (91.0%) as compared to those age 13-19 years (47.5%). Treatment in a health care facility was provided in 17.1% and recommended in another 2.5% of patients who refused the referral.





Of the 6,197 poison exposures that were managed in a health care facility:

- \* 75.3% were treated and released from the emergency department
- \* 6.3% were admitted for medical care in an intensive care setting
- \* 4.8% were admitted for medical care in a non-intensive care setting
- \* 4.1% were admitted for psychiatric care
- \* 9.5% were lost to follow-up and/or left against medical advice

**Health Care Facilities:** The majority of patients (73.2%) who required treatment in a health care facility were treated in an acute care hospital. Other management sites included urgent care clinics (5.8%) and practitioner offices (13.2%). Below is the distribution of poison exposures managed in acute care hospitals in Utah:

**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. Support for printing and distribution of the newsletter was provided by Pegus Research, Inc, Salt Lake City in 2000.

The following are a list of other publications involving UPCC staff in 2000:

Crouch BI, Caravati EM, Comes P: Trends in child and teen OTC drug abuse in Utah. 2000 American Society of Health-System Pharmacists (ASHP) Midyear Clinical Meeting, Las Vegas, NV, Dec. 6, 2000.

Caravati EM, Grover J: Arsine poisoning from recycling of computer chips. *J Toxicol: Clin Toxicol* 2000;38:543-544. North American Congress of Clinical Toxicology, Tucson, AZ, Sept. 17, 2000. (poster)

Grover J, Caravati EM: Oral overdose of N-acetylcysteine in an infant. *J Toxicol: Clin Toxicol* 2000;38:571-572. North American Congress of Clinical Toxicology, Tucson, AZ, Sept. 18, 2000. (poster)

Stromness J, Crouch BI, Caravati EM: Lead exposures from indoor firing ranges. *J Toxicol: Clin Toxicol* 2000;38:547. North American Congress of Clinical Toxicology, Tucson, AZ, Sept 17, 2000. (poster)

Caravati EM: Unintentional pediatric acetaminophen ingestion in children and the risk of hepatotoxicity. *J Toxicol: Clin Toxicol* 2000;38(3):291-296.

Anderson DL, Shane-McWhorter L, Crouch BI, Andersen SJ. Prevalence and Patterns of Alternative Medication Use in a

Hospital	Number of cases	Percent in HCF			
			Tooele Valley Regional Medical Center	85	1.4
			Salt Lake Regional Medical Center	81	1.3
			Timpanogos Regional Hospital	73	1.2
			Sevier Valley Hospital	70	1.1
			Brigham City Community Hospital	67	1.1
			Ashley Valley Medical Center	63	1.0
			Orem Community Hospital	55	0.9
			Heber Valley Medical Center	47	0.8
			Rocky Mountain Medical Center	37	0.6
			Bear River Valley Hospital	34	0.5
			Uintah Basin Medical Center	31	0.5
			Sanpete Valley Hospital	30	0.5
			Central Valley Medical Center	27	0.4
			Allen Memorial Hospital	24	0.4
			Kane County Hospital	23	0.4
			Delta Community Medical Center	19	0.3
			Gunnison Valley Hospital	19	0.3
			Fillmore Medical Center	17	0.3
			Veterans Administration Med. Center	17	0.3
			San Juan Hospital	14	0.2
			Garfield Memorial Hospital	13	0.2
			Milford Valley Memorial Hospital	12	0.2
			Beaver Valley Hospital	11	0.2
Cottonwood Hospital Medical Center	330	5.3			
Alta View Hospital	327	5.3			
Primary Children's Medical Center	324	5.2			
Utah Valley Medical Center	293	4.7			
Pioneer Valley Hospital	260	4.2			
Dixie Regional Medical Center	239	3.9			
Univ. of Utah Hospitals and Clinics	232	3.7			
McKay-Dee Hospital	225	3.6			
Jordan Valley Hospital	221	3.6			
St. Marks Hospital	213	3.4			
American Fork Hospital	198	3.2			
Davis Hospital and Medical Center	196	3.2			
Logan Regional Hospital	157	2.5			
LDS Hospital	126	2.0			
Lakeview Hospital	115	1.9			
Mountain View Hospital	109	1.8			
Castleview Hospital	92	1.5			
Valley View Medical Center	87	1.4			
Ogden Regional Medical Center	85	1.4			





University Hospital Outpatient Clinic Serving Rheumatology and Geriatric Patients. *Pharmacotherapy* 2000;20: 958-966.

Drs Caravati, Crouch and Dahl gave several presentations to paramedics in the Salt Lake Valley on Drugs of Abuse as part of the Salt Lake City paramedic continuing education program. In addition, the following presentations were made to health professionals by the UPCC staff in 2000:

“Counter Terrorism: The Pharmacist’s Perspective”. American Society of Health-System Pharmacists Midyear Clinical Meeting, Las Vegas, Nevada, December 2000 (B. Crouch)

“Update on the Utah Poison Control Center”. Utah Pharmaceutical Association, Salt Lake City, Utah, November 2000. (B Crouch)

“Update on Date Rape Drugs”, Regional Family Planning Conference, Salt Lake City Utah, May 8, 2000. (B. Crouch)

“Inhalant Abuse”, Injury Prevention 2000 Conference, Park City, Utah, April 17, 2000. (B. Crouch)

“Identifying Toxicity with Alternative Medicines”, School of Medicine University of Utah, April 6, 2000. (B. Crouch)

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.

**Public Education:** Outreach activities targeted-children, parents, ethnic populations, families and seniors. Over 65,000 pieces of poison prevention education materials (brochures, phone stickers) were distributed throughout Utah in 2000. In addition, the UPCC participated in over 15 health and safety fairs in the community, schools, and workplace. Examples of some of the health fairs attended are:

- \* The Canine Carnival, Intermountain Therapy Animals
- \* Developing Reservation Based Efforts addressing Mortality and Morbidity (DREAMM):  
Ute Mountain Ute Reservation, White Mesa;  
Navaho Reservation, Monument Valley
- \* Healthy Sandy Fair
- \* Hispanic American Festival
- \* The Junior League of Salt Lake’s Community Assistance and Resource (CARE) Fair
- \* Safe Kids Fair
- \* Senior Expo
- \* Boy Scout Expo

- \* Utah Issues Resource Fair
- \* Discover Financial Services Health Fair
- \* Beehive Clothing Safety Fair

The UPCC staff participated in more than 25 interviews with the local media. The UPCC staff gave several presentations using the Risk Watch Program in area elementary schools. Governor Leavitt joined the staff of the UPCC in recognizing 2000 National Poison Prevention Week (NPPW) by signing a proclamation encouraging increased community awareness of poison dangers and preventive measures to decrease risk of an unintentional poisoning.

### UTAH POISON CONTROL CENTER STAFF

#### Specialists in Poison Information

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

\*CSPI denotes AAPCC Certified Specialist in Poison Information.

#### Director

Barbara Insley Crouch, PharmD, MSPH, ABAT

#### Medical Director

E. Martin Caravati, MD, MPH, ACMT

#### Associate Medical Director

Douglas E. Rollins, MD, PhD

#### Outreach Education Provider

Heather Foulger, MS, CHES

#### Consultant

Gary M. Oderda, PharmD, MPH

#### Office Support

Renate Hulen