

UTAH POISON CONTROL CENTER

COLLEGE OF PHARMACY L.S. SKAGGS PHARMACY INSTITUTE

2018 Annual report



MESSAGE FROM THE **DIRECTOR**



2018 was a monumental year for the Utah Poison Control Center (UPCC). The Utah Legislature approved an ongoing supplemental appropriation for the UPCC during the 2018 legislative session that restored stable funding. We are indebted to the Utah Legislature and to all who advocated tirelessly on our behalf.

2018 was also a year of transitions. In August, Michael J. Moss, MD joined the UPCC as medical director. Dr. Moss is trained in emergency medicine and medical toxicology. He completed a fellowship in medical toxicology at the Oregon Health and Science University where he worked closely with the UPCC interim medical director Zane Horowitz, MD. Dr. Moss took no time at all to establish himself as an invaluable

member of our team. We are so grateful he chose the UPCC.

We said good-bye to two longtime friends of the UPCC in 2018. E. Martin Caravati, MD, MPH, former UPCC medical director retired after more than 30 years of service to the University of Utah and the UPCC. He most recently served as an on-call consultant. B. Zane Horowitz, MD, served as interim medical director for the better part of 7 years for the UPCC while also serving as medical director of the Oregon Poison Center and I am very grateful that he helped mentor Dr. Moss in his new role in Utah. We are indebted to both of these esteemed medical toxicologists for their years of service to the UPCC and to the field of medical toxicology.

In this 2018 report we feature ongoing collaboration with state and community partners to combat the opioid epidemic. The UPCC remains very engaged in the public health response to the opioid problem in Utah. In fact, Governor Herbert mentioned the UPCC, among others, as a key partner in fighting the opioid crisis during his speech at the Solutions Summit on Opioid Awareness October 12, 2018.

Your support and advocacy is so important. Thank you for helping us continue to play a critical part in the health of our state. I hope you enjoy our 2018 annual report.



-Barbara Insley Crouch, PharmD, MSPH, DABAT, FAACT Executive Director, Utah Poison Control Center

> COLLEGE OF PHARMACY L.S. SKAGGS PHARMACY INSTITUTE

MAKING UTAH A SAFER PLACE

MISSION

Our mission is to prevent and minimize adverse health effects from a poison exposure through education, service, and research.

In a poison emergency, every second counts. Free, expert, and confidential help is only a call away.



Save this number to your phone. One day it may save you back.

As one of the first poison centers established in the United States, the Utah Poison Control Center (UPCC) has been helping to make Utah a safer place since 1954. Staffed by toxicology experts—including pharmacists, nurses, and physicians, the center is the first, last, and best line of defense against poison exposures and remains a vital resource for public health in Utah.

The UPCC manages an average of 119 cases per day, providing free consultations 24 hours a day, seven days a week, 365 days per year!

The UPCC provides Utah citizens from all 29 counties, including those who are deaf or hard of hearing and those with limited or no English proficiency, with instant answers about possible poison exposures, bug bites and stings, prescription drug reactions, contact with toxic plants and hazardous chemicals, and many other topics. The poison center's expert advice is faster and infinitely more reliable than internet searches. What's more, the UPCC consults with emergency department physicians, health care providers, and public health officials several times daily to help with exposure diagnoses and to provide treatment recommendations.

Over the past 64 years, the UPCC has provided more than 1.77 million consultations, reducing the burden on healthcare providers and saving countless lives in the process. And, since the majority of consultations can be managed over the phone, the poison center saves Utah families money and unnecessary visits to emergency departments.

DID YOU KNOW?

The Utah Poison Control Center (UPCC) receives calls from a wide array of people on a broad spectrum of topics. From **concerned parents** calling about a child who has been exposed to a dangerous substance, to **medical professionals** seeking advice on a diagnosis, to **public health officials** concerned about environmental hazards, to **law enforcement personnel** looking to discuss potentially fatal drug combinations, the UPCC is available 24/7 to provide **expert advice, fast and free of charge** to people in all corners of the state.





MEET OUR NEW MEDICAL DIRECTOR

Michael Moss, M.D.

Medical Director, Utah Poison Control Center

In August, University of Utah Health announced that Michael Moss, M.D. had been named as the new medical director of the Utah Poison Control Center (UPCC). Along with his position as medical director, Moss also has a faculty appointment as an assistant professor in the College of Pharmacy and an adjunct appointment in the Division of Emergency Medicine.

I have been impressed with the UPCC long before I became medical director. As a toxicology fellow at the Oregon Poison Center, I had a lot of interaction with the UPCC and knew that Utah had a high quality, well-run center. Working here has only confirmed my initial assessment. Everyone is so dedicated to the mission and goes above and beyond their duties to make the center a success.

Here in Utah, we've been able to create a robust program with tremendous outreach efforts. Utah citizens know about us and consider our services to be a vital resource. In fact, we have the highest utilization rate with the public out of any poison center in the country!

In addition to serving our callers, one of my primary goals as medical director is to expand the toxicology training efforts of the center to include students from a wider range of disciplines. I've always liked to study about the reasons why things work—that's probably why I was drawn to toxicology. Getting to nerd out on a biochemical level and see

how different drugs affect the body—to understand why people are poisoned and how to treat them—is truly rewarding.

I also appreciate the strong relationship the UPCC has built up with the University of Utah and the open lines of communication between our numerous state and local partners. Agencies often get siloed and forget about the benefits of collaboration. But when we work together, we can accomplish so much more than by going it alone. Our poison specialists speak directly to the public, which gives us critical information that can inform state agencies and help to shape public policy, develop preventative measures, and devise emergency responses to a variety of poison exposure, drug misuse, and public health issues.

I know that Utah, like all other states, faces ongoing challenges related to poison exposures, but I can tell you this, here at the UPCC, we are ready to handle any situation that comes our way to best serve the people of Utah.

OUTREACH EDUCATION

Outreach education efforts to local health districts, schools, and communities are critical to reducing poison exposures. Understanding community needs and poisoning trends—both nationally and locally—are key to the Utah Poison Control Center's (UPCC) successful education programs. The UPCC constantly updates efforts to combat current poisoning trends, providing vital prevention information to local health districts when and where they need it.

A vital part of the UPCC's mission is education and prevention. Outreach education efforts focus on ways to prevent poisoning as well as generate awareness to poison center services. **Poisoning remains the most common cause of unintentional injury death, well ahead of deaths from firearms or motor vehicle crashes.** In 2018, the UPCC participated in 224 education events, provided over 1,078 hours of in-person education through presentations and health fairs and distributed 160,934 educational materials across the state of Utah, covering urban centers, suburbs, and rural communities.



utahpoisoncontrol.org

The UPCC is active online and on social media, providing comprehensive poison prevention resources, a searchable poisonous plant database, and timely posts for parents and caregivers about current poisoning concerns.









Instagram

The UPCC launched an Instagram page this year, which provides valuable poison prevention information and prevention tips through interesting visuals. instagram.com/utahpoison





Utah Poison Control Center

Toxic Trends

Get detailed information on current trends affecting Utah communities, such as:

- E-cigarettes
- Opioids
- Marijuana
- Algal Bloom Risks
- Most Common Poisoning Substances





In the first three weeks of 2018, Utah residents reported more than a dozen cases of toxicity from ingesting laundry detergent pods. Many of those cases involved kids accidentally eating them, but some of those cases were teens taking part in the "Tide Pod Challenge." The UPCC was at the forefront of informing the public of the dangers of ingesting the packets, which can lead to a loss of consciousness, seizures and/or respiratory problems. The concentrated formulas can also leave chemical burns in the esophagus and irritate a person's eyes upon contact.

Professional Toxicology Education

Links to free education on pediatric environmental topics, such as:

- Marijuana Exposure in Children
- Toxicology of Hydraulic Fracturing
- Pesticides and Child Health





Poisons Under the Sun

During the summer, the UPCC conducted a social media campaign focused on keeping families safe and attuned to exposure hazards common in the summer months, including:

- Crypto in Swimming Pools
- Bites and Stings
- Food Safety for Cookouts and Picnics
- Bug Sprays and Pesticides
- Sunburns
- Glow Sticks and Fireworks







Angela C. Dunn, MD, MPH State Epidemiologist State of Utah Department of Health

6 | Utah Poison Control Center

BETTER TOGETHER

The Utah Department of Health (UDOH) considers our partnership with the Utah Poison Control Center (UPCC) to be vital to the health of Utah citizens. When there are outbreaks, the UPCC is on the front lines, taking phone calls from the public. This means they are usually the first to recognize clusters of cases that may be the start of larger environmental concerns. People call the UPCC with symptoms and because of their toxicology expertise, they are able to quickly assess the syndromic picture and determine where there is a mass exposure risk. This helps us at UDOH get a jump on developing plans to mitigate potential emergencies and start to execute those plans through our local health departments.

At UDOH, we have to rely on experts because we don't see patients firsthand, but we are responsible for making recommendations to the public. The UPCC helps us understand the facts on the ground, which allows us to utilize our resources quickly and efficiently. For example, this past year a doctor called UDOH about a patient who was developing necrotic lesions. The doctor Googled the symptoms and thought the lesions might be the result of the patient ingesting an odd drug, Krocodil. If this turned out to be true, it would be Utah's first case of seeing the health effects of what's commonly known as the "flesh-eating" drug—and huge concern. We turned to the UPCC for their assessment and because of their knowledge and expertise, they determined the patient had a MRSA infection from heroin use. Still very serious, but not a new public health crisis.

The poison center specialists are all so smart, friendly, and willing to help. I also appreciate that they know what they don't know, which is so important when it comes to health issues. Of course, when they don't immediately have an answer, they have the resources to quickly find the proper solutions.

Beyond assisting us with major public health issues and in partnering with us on educational programs to inform the public on a wide variety of poison exposure and drug issues, the UPCC is such a trusted resource for Utah citizens, providing reliable information 24/7. The internet often gives wildly conflicting information regarding drug interactions and poison exposures, but the UPCC provides the correct answers every time. This reduces the burden on our healthcare resources and saves Utah families from paying unnecessary medical bills. Without the everyday services of the UPCC, state resources and emergency departments would become stretched even thinner.

Anna Fondario Program Manager, Violence & Injury Prevention Program Utah Department of Health Lisa Nichols Associate Vice President of Community Health Intermountain Healthcare

FIGHTING THE OPIOID EPIDEMIC

The United States is in the midst of an opioid epidemic and Utah has not escaped the crisis. As recently as 2014, more than 7,000 opioid prescriptions were filled in the state every day. And while the number of prescriptions is going down, opioid misuse, addiction, and overdose deaths remain a major public health emergency with far-reaching effects. The problem crosses ages, genders, ethnicities, and socioeconomic factors. From individuals struggling with addiction to families dealing with the aftermath of an overdose to the state's economy that has been hampered by lost productivity, every Utah citizen has been impacted by the opioid crisis.

In 2017, Utah was ranked 24th in the nation for prescription opioid overdose deaths, far from ranking 4th in 2014. Still, one person dies nearly every day from opioid misuse in the state.

To address the opioid crisis, both the Utah Department of Health (UDOH) and Intermountain Healthcare are leading collaborative efforts to decrease the burden of opioid misuse and overdose deaths through a variety of initiatives, including public awareness campaigns, provider education, drop boxes for the safe disposal of unused medications, improving access to treatment, educating the public on naloxone use, and facilitating the distribution of naloxone kits. **Lisa Nichols**, Associate Vice President of Community Health at Intermountain and **Anna Fondario**, Program Manager, Violence & Injury Prevention Program at UDOH, spoke about the joint efforts to combat the crisis. Lisa: Intermountain Healthcare has made the opioid crisis a top priority and have put significant human resources and \$5.5 million in financial resources into the collaboration. We understand that forming partnerships with state agencies and community allies is the only way to fight opioid misuse. Each partner in the collaboration brings unique strengths and resources to a complex issue that would be impossible to tackle in isolation.

Anna: The Utah Poison Control Center (UPCC) has always played a key role in the state's efforts to combat the opioid crisis and they remain vital to our current efforts to not only prevent addiction and overdose deaths, but to also support those misusing opioids and to boost recovery efforts.

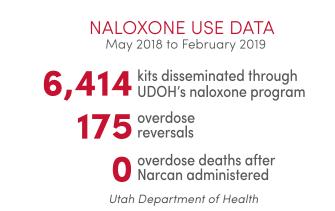
Lisa: The UPCC talks directly to people all over the state, so they can pinpoint data to specific locations. Through them we get a firsthand look at how the issue impacts communities across Utah.

Anna: The UPCC not only gathers data, they have the toxicology expertise to interpret the data and use it to help us devise effective strategies that make a difference in crafting public awareness messaging, devising plans to provide better access to treatment, facilitating discussions about pain management with medical providers and patients, and addressing policy needs with the state legislature.

Lisa: The people at the poison center are extremely innovative in coming up with ideas on how to track data, use data, and reach the public with messaging. Anna: One of the UPCC's greatest strengths is the trust they've built up with the public. Utah citizens know the poison control center is a safe place to call, where they'll get expert advice with no judgment.

Lisa: Because the UPCC is trusted, people are more apt to report their use of naloxone—an antidote that reverses overdoses and helps to get someone breathing again— to them.

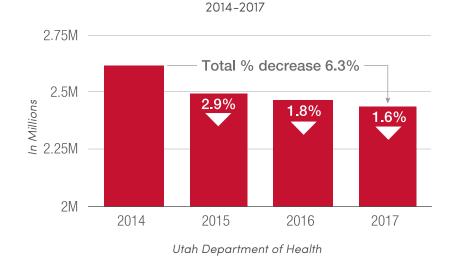
Anna: The poison center has contributed to an unmet need in tracking the use of naloxone and in training efforts. This has helped us get replacement kits out to those who need them and make sure community stakeholders are properly trained on the use and administration of naloxone.



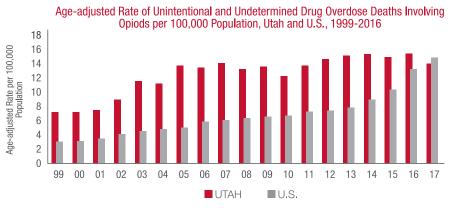
Lisa: Physicians are also important participants in the opioid crisis and play a central role in turning around the epidemic. Educating medical providers about the risks of overprescribing and teaching about alternatives to opioids is a key part of Intermountain's efforts and a primary goal of the collaboration. Anna: We couldn't ask for a better partner to help with messaging than the UPCC. Like they have with the public, the poison center has built up great trust with emergency room physicians and other medical professionals who regularly call the UPCC for advice on all types of exposures and drug overdose cases.

Lisa: Intermountain has made a huge effort to reduce the number of opioid prescriptions. In 2018, our care providers prescribed 3.8 million less pills than the previous year. Other healthcare providers and medical professionals across Utah are following suit.

UTAH OPIOID PRESCRIPTIONS DISPENSED



Anna: By joining together and battling the crisis on many fronts, our message seems to be getting through. There is a much greater public awareness that opioids have a strong potential for addiction and abuse. Medical providers across the state are participating in continuing education regarding opioid prescriptions and prescribing according to best practices and recommendations. The public is being hit with messages about the safe use, storage, and proper disposal of unused medication, in addition to opioid risks, signs of an overdose, and naloxone. We are seeing a greater use of naloxone kits. And even though the opioid crisis is growing exponentially in most states, here in Utah, we're actually seeing a decrease in opioid deaths.



Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2017 on CDC WONDER Online Database, released December, 2018. Data are from the Multiple Cause of Death Files, 1999-2017, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program

Lisa: The numbers are going down, but we're not out of the woods, not by a long shot. But as long as we have great partners, like the UPCC, continuing to crunch the data, look at the issue through multiple angles, and come up with innovative approaches to combat the problem, we will continue to make a difference.

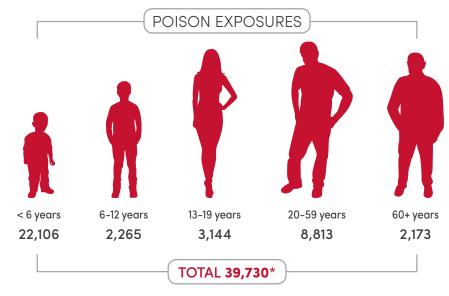
IN 2018, THE UTAH POISON CONTROL CENTER HANDLED **43,586 CASES**

The Utah Poison Control Center (UPCC) manages an average of 119 new cases per day. Some are from individuals seeking information about the proper use, storage, and precautions regarding drugs and chemicals. But most of the consults are from concerned Utahns and health professionals regarding a poison exposure.

CASE BREAKDOWN			
Exposure	Number	Percent	
Human Exposures	39,730	91.2	
Animal Exposures	1,026	2.3	
Drug Information	950	2.2	
Poison Information	364	0.8	
Drug Identification	326	0.7	
Environmental Information	219	0.5	
Medical Information	119	0.3	
Confirmed Non-Exposure	33	0.1	
Other	819	1.9	

AGE **DISTRIBUTION**

The danger of poison exposure is greatest among Utah's children. Children are naturally curious and orally explore their environment. This means that children less than six (especially 12 months through two years) are particularly at risk for poison exposure.



*This total number includes the following human exposures: Unknown age: **171** | Unknown child: **135** | Unknown adult: **923**

CUSTOMER SATISFACTION GUARANTEED

Rated the specialists as good or excellent in terms of courtesy, knowledge, understanding, and helpfulness

99.4%

99.3% Rated the UPCC overall as good or excellent **99.4%** Will consult the UPCC again

SUBSTANCE CATEGORIES

The types of substances involved in poison exposures include products available in the home, workplace, and the natural environment. Because children under six represent such a large proportion of poison exposures, it is important to note the substances most common in this group.

	CHILDREN UNDER AGE SI	x	
	TYPE OF SUBSTANCE	#	%
1.	Household Cleaning Substances	2,951	13.3%
2.	Cosmetics and Personal Care Product	s 2,950	13.3%
3.	Analgesics (Pain Medications)	2,351	10.6%
4.	Vitamins and Minerals	1,563	7.1%
5.	Foreign Bodies, Toys, Misc.	1,479	6.7%
6.	Dietary Supplements/Herbals/Homeopat	nic 1,218	5.5%
7.	Topical Preparations	1,039	4.7%
8.	Antihistamines	911	4.1%
9.	Gastrointestinal Preparations	645	2.9%
10.	Pesticides	601	2.7%

RANKING OF TOP 10 SUBSTANCE CATEGORIES

	ALL AGES*				
	TYPE OF SUBSTANCE	#	%		
1.	Analgesics (Pain Medications)	5,349	13.5%		
2.	Household Cleaning Substances	4,053	10.2%		
3.	Cosmetics and Personal Care Products	3,606	9.1%		
4.	Antidepressants	2,429	6.1%		
5.	Vitamins and Minerals	2,063	5.2%		
6.	Sedatives, Hypnotics, and Antipsychotics	2,048	5.2%		
7.	Foreign Bodies, Toys, Misc.	1,903	4.8%		
8.	Antihistamines	1,853	4.7%		
9.	Dietary Supplements/Herbals/Homeopathic	1,769	4.5%		
10.	Pesticides	1,351	3.4%		

*More than one substance was involved in 18.4% of ALL human exposures.

REASON FOR **EXPOSURE**

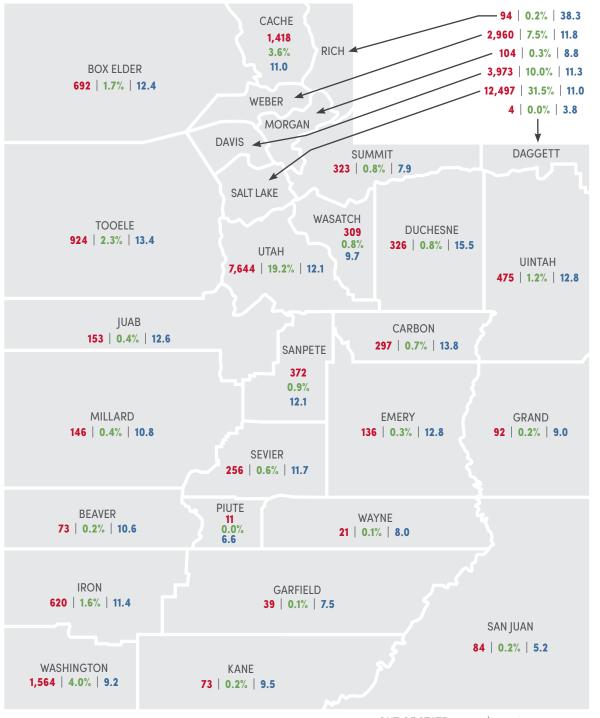
The majority of poison exposures reported to the Utah Poison Control Center (UPCC) were unintentional and involved children orally exploring their environment. 99% of exposures in children less than six years of age were unintentional compared to only 31% in the age group of 13-19 years. The majority of exposures in adults were unintentional (60%). Adult unintentional exposures involved therapeutic errors (taking the wrong dose or wrong medication) as well as eye and skin exposures to household chemicals, pesticides, and automotive products.

Reason for Exposure	Number	Percent
Unintentional General	20,912	52.6%
Therapeutic Error	4,717	11.9%
Unintentional Misuse	3,146	7.9%
Environmental	1,499	3.8%
Occupational	552	1.4%
Bite/Sting	534	1.3%
Food Poisoning	480	1.2%
Unintentional Unknown	42	0.1%
Total Unintentional	31,882	80.2%
Suicide	4,056	10.2%
Intentional Misuse	1,202	3.0%
Abuse	642	1.6%
Intentional Unknown	212	0.5%
Total Intentional	6,112	15.3%
Drug Reaction	743	1.9%
Food Reaction	77	0.2%
Other Reaction	119	0.3%
Total Adverse Reaction	939	2.4%
Tampering	429	1.1%
Malicious	181	0.5%
Withdrawal	67	0.2%
Total Other	677	1.8%
Unknown Reason	120	0.3%
TOTAL	39,730	100%

EXPOSURE **SITE**

The UPCC reports 39,730 human poison exposures in 2018, the majority of which occurred in homes. Use of child-resistant closures and other safety precautions help, but even in the best poisonproofed homes, the majority of exposures occur when the product is in use.

	Own Residence	34,296	86.3%
	Other Residence	1,810	4.6%
=	Public Area	843	2.1%
	Workplace	675	1.7%
	School	390	1.0%
••	Health Care Facility	118	0.3%
	Restaurant/Food Serv	vices 68	0.2%
?	Unknown/Other	1,530	3.8%
	TOTAL	39,730	100%



COUNTY **DISTRIBUTION**

With **39,730** human exposure cases in 2018, poison exposures are clearly a statewide concern.

The poison center was consulted on cases that originated from all 29 counties. Penetrance is the rate of reporting based on the population of each county (rate is per 1,000 population). The Utah Poison Control Center's penetrance of 12.6 is more than twice the national average. The high utilization likely translates to more cost-effective, quality care for Utah residents.

Human ExposuresPercentagePenetrance

EXPOSURE MANAGEMENT AND TREATMENT

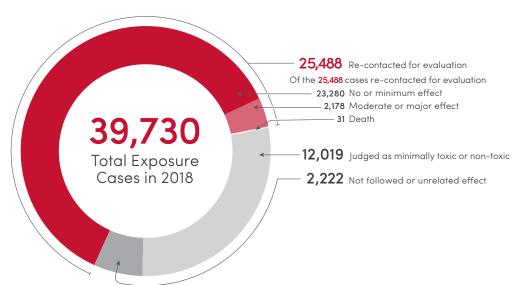
Due to the expertise and efficiency of the Utah Poison Control Center (UPCC) call center staff, the majority of poison exposures (75%) were managed on site with telephone follow-up. Children less than six years old are even more likely than older children or adults to be managed on site (92%). Treatment in a health care facility was provided in 22% of the exposures and recommended in another 1% of patients who refused the referral.

The UPCC was involved in the care of 8,645 poison exposures that were managed in a health care facility. The health care facilities included all acute care hospitals throughout the state as well as urgent care clinics and doctor's offices.

Breakdown of 6,645 cases managed in a nearin care racinity			
Management Site	Number	% of All Exposures	
Treated and released from ED	4,861	12.2%	
Admitted to a non-critical care unit	1,154	2.9%	
Admitted to a psychiatric facility	1,128	2.8%	
Admitted to a critical care unit	979	2.5%	
Lost to follow-up and/or left AMA	523	1.3%	
Total	8,645	21.7%	

Breakdown of 8 645 cases managed in a health care facility

MEDICAL OUTCOME



DID YOU KNOW?

The UPCC boasts partnerships with both public and private entities and organizations across the state to reach Utah citizens where they live and work. From the University of Utah College of Pharmacy and Utah State University, to the Utah Department of Health and local health **departments**, to city and county law enforcement agencies, health care providers, hospitals, and medical personnel, the UPCC continues to broaden its reach by partnering with those who share the goal of keeping Utah safe.



REDUCING THE BURDEN ON HEALTH CARE PROVIDERS

Because the poison experts at the UPCC are able to manage the majority of poison exposures outside of a healthcare facility, the time and resources of 911 dispatchers, emergency department staff, EMS staff, and other health care providers are freed up to focus on the critically ill. This is especially important in Utah's rural communities that have limited health care resources.

HOW THE UPCC PROVIDES VALUE TO UTAH HEALTHCARE FACILITIES



Helps decrease crowding in emergency departments



Minimizes unnecessary	
EMS ambulance transpo	r



Frees critical emergency medical staff for true emergencies



Provides cost-effective treatment recommendations for hospitalized patients

A VITAL PART OF UTAH'S PUBLIC HEALTH

In addition to providing poison prevention and education services, the UPCC responds to public health emergencies and plays a critical role in disease surveillance, disaster readiness and response, and prescription drug epidemic response. Public health officials rely on the UPCC for its expertise and state-of-the-art resources when responding to public safety issues, including hazardous chemical spills, contaminated water supplies, and product tampering.

HELPING UTAH FAMILIES SAVE MONEY



unnecessary ED visits are prevented each year in Utah.

THAT NUMBER JUMPS TO



20,000 when averted visits to physicians are included

THIS MEANS UTAH CITIZENS SAVE



each year in unneeded medical charges!

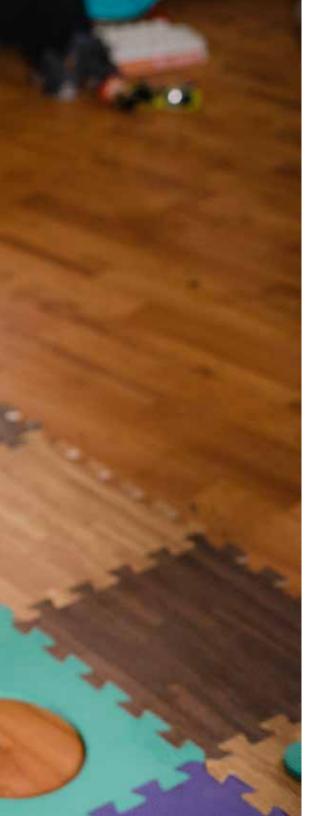
This doesn't include physician charges, ambulance charges, or account for other potential health care savings, such as decreased hospital length of stay. So actual savings are likely much greater.

Amanda and Mikey

1

100

5



PLAYING IT **SAFE**

I went to change my son Mikey one night when he was just 10 months old. As I was placing him down on the bed, he somehow managed to grab hold of a bottle of Wellbutrin that was on the nightstand. The pills scattered everywhere. I quickly gathered up the tablets and counted them as I put them back into the bottle. Though the count seemed right, I was still worried that Mikey might have got one into his mouth.

I watched him closely for about a half hour. Even though he seemed fine, my motherly worry hadn't gone away, so I decided it was better to be safe than sorry and I called the Utah Poison Control Center.

The woman who answered the phone was amazing—so empathetic and informative. She was so sweet as she asked me questions about how Mikey was acting. As I answered her questions, she told me it was unlikely that he had ingested any of the medication, but she listed out several things that I should look for over the next hour or so. The conversation made me feel so much better and I was immediately able to calm down.

As a new mother trying to figure things out, I am definitely a worrier. The whole experience of having this little person to take care of can feel overwhelming at times. That's why it's so great to have a resource available 24 hours a day. And the poison center gives you straight answers without judgment. They don't make you feel like a bad mom when you call for advice.

Without the poison center, I probably would have rushed out into the cold night and taken Mikey to the emergency room. Instead, because I have the phone number on my fridge, I simply made a call and got the information I needed from an expert.

The poison center even called me back the next morning to follow up and make sure Mikey was okay. It's such a relief to know that I have an amazing resource there for me exactly when I need help the most.

THANK YOU

The Utah Poison Control Center (UPCC) is only as good as its staff and supporters. Fortunately, we have the best and brightest in both categories. A sincere thanks to the following:

Specialists In Poison Information

Kathleen T. Anderson, PharmD, CSPI* Michael Q. Andrus, PharmD, CSPI* Kaitlyn M. Brown, PharmD, CSPI*, DABAT[†] Christian R. Clark, PharmD, CSPI* Candice S. Colby, PharmD, CSPI* Brad D. Dahl, PharmD, CSPI* Sam Flegal, PharmD Paul M. Hinckley, PharmD, CSPI* Amberly R. Johnson, PharmD, DABAT[†] Brittani J. Petersen, PharmD, CSPI* Taylor J. Rhien, PharmD, CSPI* Simón A. Rodriguez, PharmD Cathie L. Smith, RN, BSN, CSPI*

*CSPI denotes Certified Specialist in Poison Information

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Ben T. Davies, BS, PharmD

Additional Medical Toxicology On-Call

E. Martin Caravati, MD, MPH, FACMT

Oregon Health and Sciences University Medical Toxicologists

[†] DABAT denotes Diplomat of American Board of Applied Toxicology

ADVISORY BOARD

A UPCC Advisory Board was established in 1998 and continues to represent the interests of the public, university, and state, and to provide fiscal oversight.

Chair

Brian S. Oliver, MD Utah Emergency Physician Intermountain Medical Center

Chair-Elect

Jenny Johnson, MPH, CHES® Public Information Officer Utah Department of Health

Immediate Past Chair

Per Gesteland, MD, MSc Associate Professor, Pediatrics University of Utah Health

Members

David Browdy, MS Associate VP of Finance and CFO Office of Senior Vice President University of Utah Health

Hilary A. Hewes, MD Assistant Professor, Division of Emergency Medicine Department of Pediatrics University of Utah Health

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