HEALTH
UNIVERSITY OF UTAH

UTAH POISON CONTROL CENTER

COLLEGE OF PHARMACY
L.S. SKAGGS PHARMACY INSTITUTE

2017

ANNUAL REPORT

MESSAGE FROM THE **DIRECTOR**

I want to start by expressing my sincere gratitude to all of our friends and supporters. The Utah Legislature, during the 2018 session, approved an ongoing supplemental appropriation for the Utah Poison Control Center (UPCC) that restores the funding gap created when our funding was redirected and cut in 2014. We are indebted to the Utah Legislature and to all who advocated tirelessly on our behalf. Thank you for your ongoing support and commitment. While technically this action took place in 2018, I didn't want to wait until the 2018 report to express my sincere gratitude.

In this 2017 report we feature ongoing collaboration with statewide partners to investigate potential public health threats; with nurses on the care of poisoned patients and with researchers to document the value of poison centers. UPCC continues to partner with healthcare, public health and public safety professionals to monitor emerging trends. We highlight our collaborative response to a public health threat involving a new synthetic cannabinoid ("Spice") compound that was labeled and sold as "CBD" oil in area smoke shops. The UPCC played a pivotal role with emergency department (ED) physicians in identifying the threat and mobilizing public health and public safety personnel in a coordinated response.

Also featured in this report is information about a multi-year analysis published online in 2016 and in print in 2017 that highlights the value of UPCC in preventing unnecessary ED visits and hospital charges. We also discuss the critical relationship the UPCC has with nurses on the front lines and the training program spear-headed by one of our nurse specialists.

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 the 2017 annual report.

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

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MEETING THE NEEDS OF **UTAH**

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 118 calls 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 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 63 years, the UPCC has provided more than 1.76 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.

MISSION

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

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

1-800-222-1222

MAKING A DIFFERENCE ACROSS UTAH

In 2017, the Utah Poison Control Center (UPCC) participated in **200** education events, provided over **850** hours of in-person education through presentations and health fairs and distributed nearly **200,000** educational materials across the state of Utah, covering urban centers, suburbs, and rural communities.

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 the poison center services. **Poisoning remains the most common cause of unintentional injury death, well ahead of firearms deaths and motor vehicle crashes.** Outreach education efforts to local health districts, schools, and communities are critical to reducing this trend. Understanding community needs and poisoning trends—both nationally and locally—are key to the UPCC's 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.

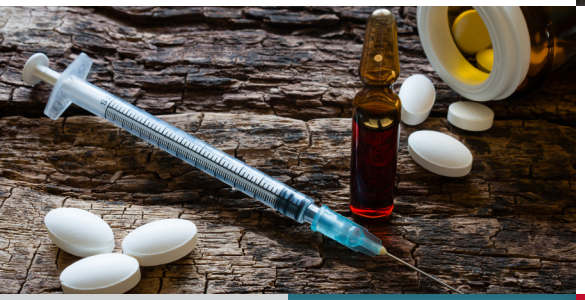
KNOWLEDGE AT YOUR FINGERTIPS utahpoisoncontrol.org

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.

Toxic Trends

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

- E-cigarettes
- Opioids
- Marijuana
- Most Common Poisoning Substances



Pinterest

The UPCC launched a Pinterest page this year that provides valuable poison prevention information.

- pinterest.com/utahpoison/pins

Professional Toxicology Education

Free education on pediatric environmental topics, such as:

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

@utahpoison

Back-to-School Poison Prevention Tools

During the first week of school, the UPCC conducted a social media campaign that educated people about common poison hazards found at schools, such as:

- School Supplies, Batteries, and Magnets
- Plants, Pesticides, and Insects
- Food Poisoning Risks

Utah Poison Control Center

Social Media Holiday Campaign: It Could Happen to You

During the holiday season, the UPCC conducted a campaign on Facebook, Twitter, and Pinterest, showing common holiday poison hazards, such as:

- Toys with Button Batteries
- Tree Ornaments
- Food Poisoning Risks

THE REAL **DEAL**

"The data speaks for itself. The UPCC provides the state of Utah with an enormous bang for the buck."

Casey Tak, MPH

Imagine our state with no poison center. The fallout would be disastrous. Utah families would lose a free and immediately accessible resource that provides lifesaving information in moments of crisis. Physicians and nurses across the state would lose the pre-eminent source of toxicology information, essential to provide accurate diagnoses and top quality care for exposure patients. And, according to a recent multi-year study, hospital emergency departments (ED) would be flooded with unnecessary visits—leading to millions in avoidable hospital charges.

Casey Tak, a graduate student in the Department of Pharmacotherapy at the University of Utah, was part of a team that researched the economic value of a poison center in preventing unnecessary ED visits and associated hospital charges over multiple years.

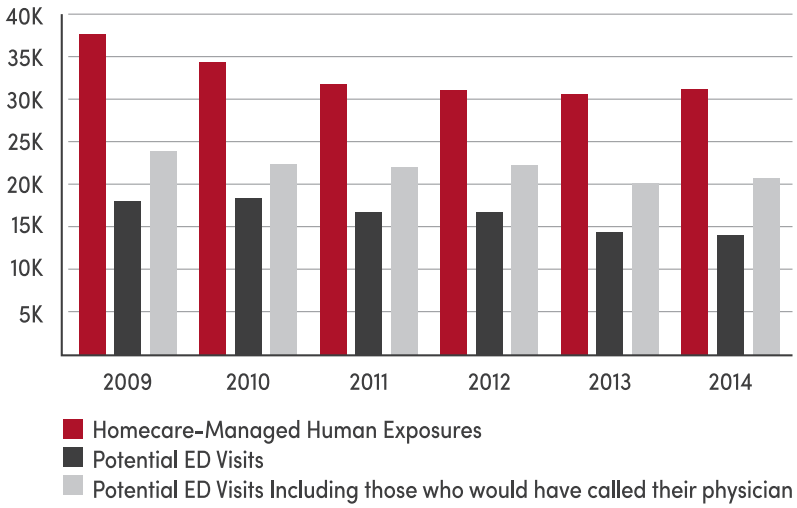
"No study had looked at value across multiple years, so our team decided to focus on the Utah Poison Control Center's (UPCC) call data over six years—2009 to 2014," said Tak.

Using survey data from UPCC callers, the research team was able to extrapolate some eye-opening information regarding the nearly 200,000 human exposure cases in Utah during those six years. For each year of the study, the UPCC managed 30,900 to 36,900 poison exposure cases at home. Using the proportion of those callers who would have visited an ED if the UPCC had not been available, the study calculated that between 14,400 and 16,800 potential ED visits were prevented each year.

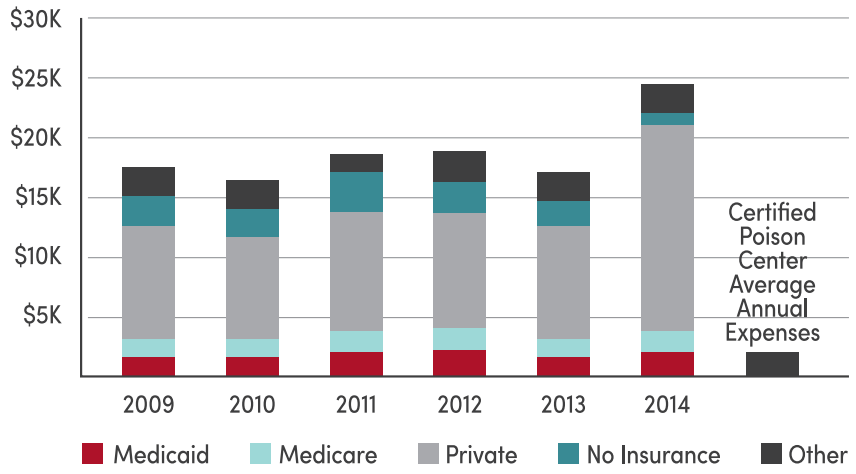
These averted trips to the ED not only freed up traffic to already stressed hospitals, which allowed physicians and nurses to focus on the patients that needed immediate care, but it also translated into big savings for Utah citizens who self-pay for healthcare, as well as for insurance providers, and the state of Utah. By using median hospital charges related to unintentional poisoning injury, the research showed that the UPCC averted $16.6 to $24.4 million dollars annually in unneeded medical charges. This study used very conservative estimates, but the value is unmistakable.

"One of the most interesting things we found in doing the research was that even though call volume to the poison center dropped during the years of the study, the savings continued to go up," Tak said. *"This is due, at least in part, to rising hospital charges, but it illustrates the tremendous value the UPCC provides and will continue to provide, no matter how much the call volumes fluctuate from year-to-year."*

Number of Human Exposure Cases and ED Visits by Year (2009-2014)



Base Case Analysis of Total Charges Prevented by Insurance Status and Year (2009-2014)



AN INCREDIBLE RESOURCE FOR UTAH'S HEALTH

The previous pages discussed the value of the Utah Poison Control Center (UPCC) in reducing ED visits and associated charges over multiple years, but the benefits the UPCC provides for Utah citizens and health care facilities run deeper and have a myriad of other important touch-points. The value starts with the way the UPCC assesses, triages, manages, and continually monitors patients with a poison exposure with no charge to the patient, practitioner or health care institution, providing a substantial savings to participants across the entire healthcare spectrum. With approximately 20% of UPCC's callers participating in Medicaid, Children's Health Insurance Program (CHIP), or other state insurance, there are significant direct savings to the state that are much greater than the cost to run the UPCC.

THANKS TO THE UTAH POISON CONTROL CENTER

14,400 TO **16,800** unnecessary ED visits are prevented each year in Utah.

THAT NUMBER JUMPS TO

20,000 TO **24,200** when averted visits to physicians are included.

THIS MEANS UTAH CITIZENS SAVE

$16.6 Million TO **$24.4 Million** 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 length of stay. So actual savings are likely much greater.

HOW THE UPCC PROVIDES VALUE TO UTAH HEALTHCARE FACILITIES

Helps decrease crowding in emergency departments

Minimizes unnecessary EMS ambulance transport

Frees critical emergency medical staff for true emergencies

Provides cost-effective treatment recommendations for hospitalized patients

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.

A VITAL PART OF UTAH'S PUBLIC HEALTH

In addition to providing poison prevention and education services, the UPCC 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.

Disaster Preparedness & Response

Disease Surveillance

Poison Prevention & Education

Response to Prescription Drug Epidemic

Public Safety

COMING TOGETHER TO AVERT **A CRISIS**

Dr. Steve Mooth & Dr. Holly Williams,
Emergency Department Physicians,
St. Mark's Hospital

Taking drugs is always a risky proposition, particularly when multiple drugs are combined or a substance is incorrectly labeled. So when multiple Utah citizens, including several teenagers, had loss of consciousness experiences as well as seizures, confusion, and slurred speech, after ingesting what they thought was CBD oil, the Utah Poison Control Center (UPCC) joined forces with Utah hospitals and state partners at the Utah Department of Health (UDOH) and the Utah Department of Public Safety (UDPS) to manage the crisis.

"A guy came into the ED who, in laymen's terms, was freaking out," said Steve Mooth, an ED physician at St. Mark's Hospital in Salt Lake City. *"His mind was ramped up to an 11 out of 10. The friends who brought him to the hospital claimed he was having a reaction to CBD oil. I didn't know what CBD oil was at the time, so I did what I do in situations like this, I called my lifeline, my phone a friend, the UPCC. I use their expertise all the time to help me diagnose patients and determine treatment."*

Understanding the Medical Issue

The UPCC was surprised to hear the supposed cause of the man's symptoms, because CBD oil is not supposed to have psychotropic properties. CBD is one of many compounds known as cannabinoids found in the cannabis plant. Marijuana contains both THC and CBD, but the compounds have different effects. While THC is known for the mind-altering "high" it produces, CBD does not change the state of mind of the person who uses it, though researchers are currently looking into possible medicinal benefits.

A few days after Dr. Mooth's case, a rash of teenage patients flooded St. Mark's and were treated by ED physician Holly Williams. *"I thought the first patient was a typical party overdose, but I could soon see that things were far from typical,"* said Dr. Williams. *"Within a half hour, another young woman from the same party came in with the same symptoms. She knew the*

Stephen Gilley
Intelligence Analyst, Utah Department of Public Safety

Roberta Horth
Lieutenant, U.S. Public Health Service
Epidemic Intelligence Service Officer,
Centers for Disease Control and Prevention

reaction was from CBD oil, because she had bought it at a local smoke shop. Shortly after these patients were treated, another young man came in with similar symptoms. But he had been at a different party in a different part of town. This is when I thought something really bad might be out there and I called the UPCC."

Clarifying the Legal Issues

Fearing a potential outbreak, the UPCC turned to its state partners at the Utah Department of Health (UDOH) and the Utah Department of Public Safety (UDPS) to manage the crisis via an innovative program called the Drug Monitoring Initiative (DMI). The DMI monitors emerging drug-related trends to keep law enforcement, the medical community, and the public up-to-speed. This issue was muddy from the start for law enforcement because of gaps in Utah law regarding CBD oil, which is legal to possess and use if you have a hemp exemption card, but illegal to sell or distribute.

"None of the overdoses were people with exemption cards, so on the surface, they were using the product illegally," said Stephen Gilley, Intelligence Analyst for UDPS. *"It turned out the substance was not even CBD oil, but a mislabeled product—and one not on the controlled substance list—so we've had to work through many issues regarding both the users of the product and the shops that sold it."*

Partnerships to Protect Public Health

While the legal ramifications were complicated, all parties involved understood the immediate concern was to protect the safety of Utah citizens. Fortunately, with the strong DMI partnership already in place, the group was able to quickly roll out a plan of attack.

"We immediately started to research if there were other similar cases happening anywhere else in the country," said Gilley. *"You want to arm yourself with as much information as possible."*

The research found a small cluster of cases in North Carolina, but nothing on the scale of the issue in Utah.

"Every time I close my eyes, I feel as though I die. And then suddenly, I wake up in a flash, like in a scary movie."

"We knew we had a substance labeled as CBD oil, but the symptoms were not consistent with CBD," said Roberta Horth, Epidemic Intelligence Service Officer for the Centers for Disease Control and Prevention (CDC) and liaison for UDOH. *"The medical symptoms sounded a lot like Spice, but to be sure, we needed to obtain a sample that had not been tampered with."*

A sample of the mislabeled CBD oil was obtained at a local smoke shop, so that tests could be performed on the product. As expected, the product had no CBD, but instead contained a new synthetic cannabinoid not on the controlled substance list. Synthetic cannabinoids are man-made chemicals that bind to the same receptor in the brain as marijuana, but are much more potent. They are commonly called "Spice."

"Once we knew what we were dealing with, the UPCC put out a press release," said Horth. *"The UDPS sent out its own release to law enforcement. And UDOH sent information about the fake CBD oil to local health departments, so they could be on the lookout for new cases."*

The UPCC saw a spike in these fake CBD oil cases the week after the press releases went out, most likely due to the new awareness of the issue, but after that week, cases dropped significantly as tobacco shops voluntarily pulled the product. There have been only a couple of new cases since January. *"This issue would not have been identified without the UPCC – at least not so quickly,"* said Gilley.

"The UPCC provides such a personal touch, paying close attention to each call individually, while also focusing on the big picture," said Horth. *"And with their great record keeping, they were quickly able to detect the increase in these fake CBD oil cases and spring into action."*

"The data provided by the UPCC is invaluable, it gives us a broader picture of drug use and medical issues beyond overdoses and hospitalizations," continued Gilley. *"It gives us a better idea on how many people are using and abusing drugs and if there are any trends or spikes in use. It fits in perfectly with our other data sources."*

Keeping Utah Safe

From October 2017 to the end of January 2018, 52 people became ill from using the fake CBD product. Most patients reported getting sick within a minute of using the product and felt ill for up to three days. And while one case is too many, the quick work of the UPCC and its DMI partners helped to avert what potentially could have been a full-blown crisis.

"Right from the start, the safety of the patient was the most important—both to us and to the UPCC," said Dr. Mooth. *"It's all about saving lives and doing what's best for the patient."*

"Having the UPCC is huge and not just for me," said Dr. Williams. *"I have a lot of toxicology training and I still need guidance. And for patients it's an incredibly important resource."*

"If the UPCC weren't around to help, I would have had to research CBD oil and possibly spend hours trying to determine the best treatment approach," said Dr. Mooth. *"The UPCC knew how to respond immediately. To have a service like them is priceless, particularly when it comes to drug cases and overdoses, because what people are ingesting is always a moving target."*

Speaking of moving targets, the state of Utah is now in the process of identifying and cataloging the fake CBD compound that caused the cluster of cases so it can be added to the list of controlled substances. And you can rest assured that the UPCC will be ready to jump into action if and when another situation such as this arises in the future.

IN 2017, THE UTAH POISON CONTROL CENTER HANDLED **43,217 CASES**

The Utah Poison Control Center receives an average of 118 consults 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	39,475	91.3
Animal Exposures	869	2.0
Drug Information	848	2.0
Drug Identification	412	1.0
Poison Information	365	0.8
Environmental Information	283	0.7
Medical Information	119	0.3
Confirmed Non-Exposure	47	0.1
Other	799	1.8

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.

POISON EXPOSURES

TOTAL **39,475***

**This total number includes the following human exposures:*
Unknown age: **110** | Unknown child: **122** | Unknown adult: **561**

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.

RANKING OF TOP 10 SUBSTANCE CATEGORIES

CHILDREN UNDER AGE SIX

	TYPE OF SUBSTANCE	#	%
1.	Cosmetics and Personal Care Products	3,104	13.7%
2.	Household Cleaning Substances	2,996	13.2%
3.	Analgesics	2,553	11.3%
4.	Vitamins and Minerals	1,619	7.1%
5.	Foreign Bodies, Toys, Misc.	1,392	6.1%
6.	Topical Preparations	1,107	4.9%
7.	Dietary Supplements/Herbals/Homeopathic	1,076	4.7%
8.	Antihistamines	951	4.2%
9.	Gastrointestinal Preparations	661	2.9%
10.	Pesticides	598	2.6%

ALL AGES*

	TYPE OF SUBSTANCE	#	%
1.	Analgesics	5,709	14.5%
2.	Household Cleaning Substances	4,064	10.3%
3.	Cosmetics and Personal Care Products	3,674	9.3%
4.	Antidepressants	2,389	6.1%
5.	Vitamins and Minerals	2,051	5.2%
6.	Sedatives, Hypnotics, and Antipsychotics	1,983	5.0%
7.	Antihistamines	1,915	4.9%
8.	Foreign Bodies, Toys, Misc.	1,814	4.6%
9.	Dietary Supplements/Herbals/Homeopathic	1,586	4.0%
10.	Topical Preparations	1,337	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 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 30% in the age group of 13-19 years. The majority of exposures in adults were unintentional (61%). 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	21,791	55.2%
Therapeutic Error	4,486	11.4%
Unintentional Misuse	3,041	7.7%
Environmental	1,299	3.3%
Bite/Sting	570	1.4%
Occupational	510	1.3%
Food Poisoning	352	0.9%
Unintentional Unknown	34	0.1%
Total Unintentional	**32,083**	**81.3%**
Suicide	3,857	9.8%
Intentional Misuse	1,228	3.1%
Abuse	547	1.4%
Intentional Unknown	177	0.4%
Total Intentional	**5,809**	**14.7%**
Drug Reaction	733	1.8%
Food Reaction	63	0.2%
Other Reaction	114	0.3%
Total Adverse Reaction	**910**	**2.3%**
Tampering	284	0.7%
Malicious	145	0.4%
Withdrawal	66	0.2%
Total Other	**495**	**1.3%**
Unknown Reason	**178**	**0.4%**
TOTAL	**39,475**	**100%**

EXPOSURE **SITE**

The UPCC reports 39,475 human poison exposures in 2017, the majority of which occurred in homes. Use of child-resistant closures and other safety precautions help, but even in the best poison-proofed homes, the majority of exposures occur when the product is in use.

Own Residence	34,530	87.5%
Other Residence	1,979	5.0%
Public Area	732	1.9%
Workplace	627	1.6%
School	296	0.8%
Health Care Facility	119	0.3%
Restaurant/Food Services	91	0.2%
Unknown/Other	1,101	2.7%
TOTAL	**39,475**	**100%**

CUSTOMER SATISFACTION **GUARANTEED**

99.0%

Rated the UPCC overall as good or excellent

99.4%

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

99.6%

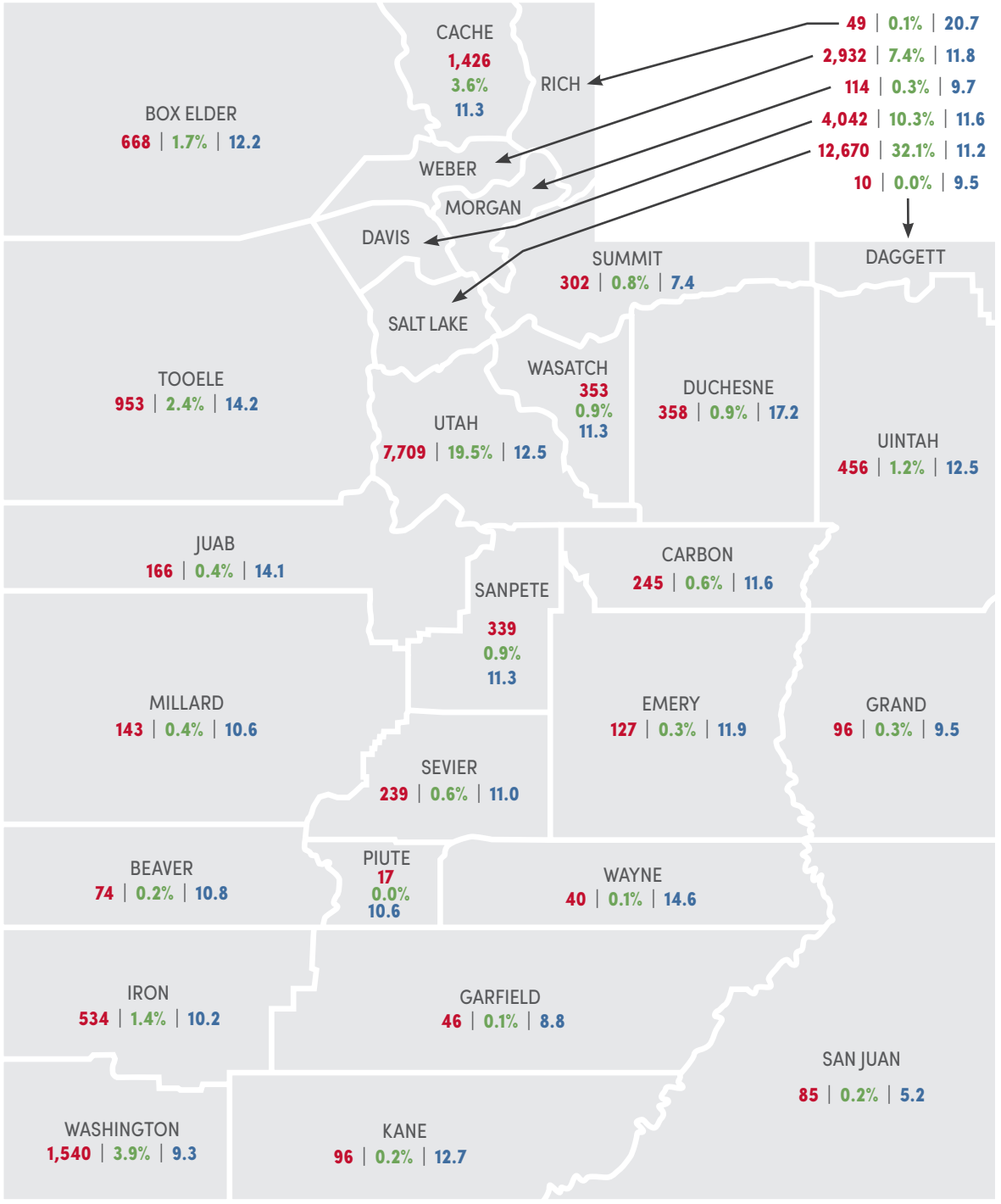
Will consult the UPCC again

COUNTY **DISTRIBUTION**

With **39,475** human exposure cases in 2017, 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 12.7 is about twice the national average. The high utilization likely translates to more cost-effective, quality care for Utah residents.

- Human Exposures
- Percentage
- Penetrance



EXPOSURE MANAGEMENT AND TREATMENT

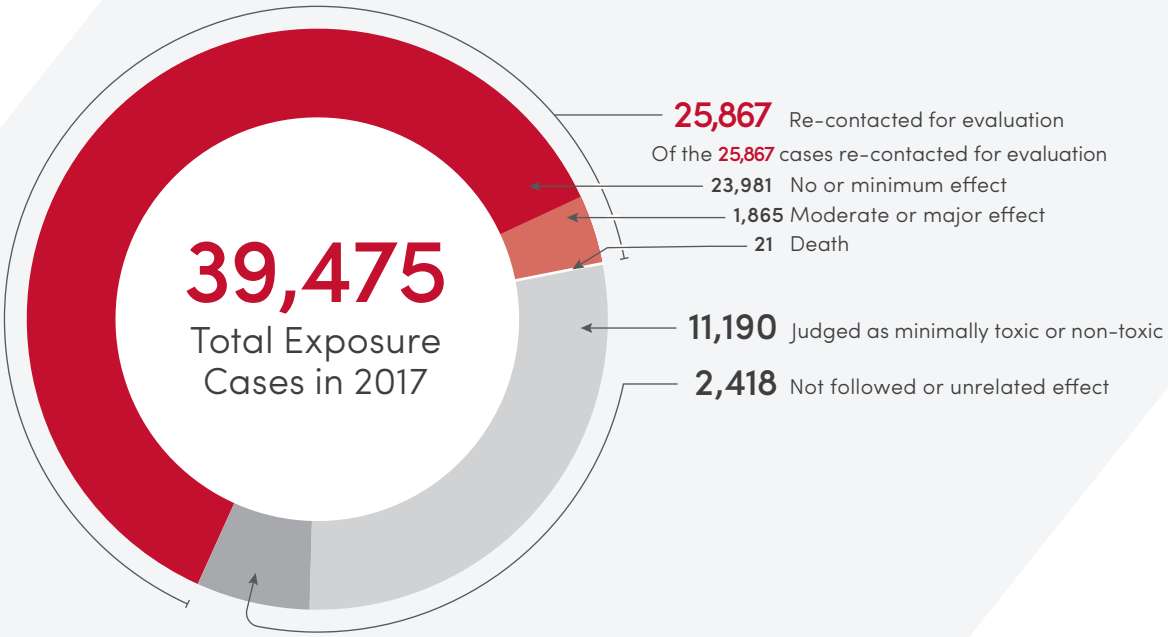
Due to the expertise and efficiency of the Utah Poison Control Center (UPCC) call center staff, the majority of poison exposures (75%) were managed on site with telephone follow-up. Children less than six years old are even more likely than older children or adults to be managed on site (92%). Treatment 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 8,569 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 8,569 cases managed in a health care facility

Management Site	Number	% of All Exposures
Treated and released from ED	4,842	12.3%
Admitted to a non-critical care unit	1,217	3.1%
Admitted to a critical care unit	982	2.5%
Admitted to a psychiatric facility	892	2.2%
Lost to follow-up and/or left AMA	636	1.6%
Total	**8,569**	**21.7%**

MEDICAL OUTCOME



"The strength of poison specialists is how we can quickly assess different chemical compositions and provide treatment information, but it's nurses who assess firsthand how a patient reacts to the treatment. It's one thing to offer a recommendation, it's another to see how the treatment is working—to determine if a revised assessment is needed. This means the information going back to the poison center from nurses is equally important as the information coming from the poison specialist to the nurses. It's truly a great and effective partnership."

Cathie Smith, RN, BSN,
Certified Specialist in Poison Information,
Utah Poison Control Center

STRONGER TOGETHER

Nurses are on the front line when it comes to healthcare, so it's no surprise that they are relentless advocates for their patients. Nurses are the caregivers in the room, the ones caring for patients 24 hours a day, closely monitoring conditions and continually assessing and reacting to changes.

Cathie Smith, RN, BSN, a Certified Specialist in Poison Information at the Utah Poison Control Center (UPCC) understands the vital role of nurses because she has been one for nearly 30 years, working both in Emergency Department and in Newborn Intensive Care Units. She knows that the more information nurses have about poison exposures, the better they will be able to care for their patients.

"Nurses have to be ready for anything, because cases come into the ED every day with all kinds of different ingestions," said Smith. *"There are so many drugs and drug combinations out there leading to different symptoms, which may or may not match what the patient is saying they ingested."*

Of course, the UPCC provides support every day to nurses in both bustling healthcare centers in the city and small rural hospitals, answering questions about exposures and providing expert toxicology information, diagnoses, and treatment recommendations. But the support the UPCC gives to nurses goes far beyond phone consultations. To best serve these vital caregivers, the UPCC conducted a needs assessment. Based on the feedback from the nursing community, a team at the UPCC, lead by Smith, developed a TOXIDROME TRAINING PROGRAM.

Toxidromes are a group of signs and symptoms constituting the basis for diagnosis of poisoning. The UPCC's TOXIDROME TRAINING was designed to be as efficient as possible—both in approach and materials—with in-person presentations, as well as online and printed materials.

"Nurses on the floor are busy," said Smith. *"They don't have a lot of time for additional training, so we wanted to develop our training in a way that would engage nurses immediately—so that they learn to quickly recognize different types of exposures and how to handle them."*

The content of the training uses real-world clinical scenarios and questions that nurses encounter every day.

Which of the following scenarios should you triage first?

- The 2-year-old who swallowed a mouthful of bleach and vomited once prior to arrival?
- The 78-year-old woman who accidently took one of her husband's blood pressure pills?
- The 15-year-old who swallowed a mouthful of gasoline while siphoning?
- The 18-month-old child who ingested one glyburide tablet?

Nurses across the state have taken advantage of the training, often incorporating the materials into their own hospital events. The training has been so successful, that Smith and the poison center continue to develop additional materials.

The partnership between nurses and the UPCC is powerful and extremely effective, precisely because of the strengths of both partners and the passion they share in providing patients with the best possible care.

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

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Christian R. Clark, PharmD, CSPI*
Candice S. Colby, PharmD, CSPI*
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*CSPI denotes Certified Specialist in Poison Information

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