A Progress Report on the Utah Youth Suicide Research Project

STATE OF UTAH
Office of the Medical Examiner

To: Health and Human Services Interim Committee
From: Disease Control and Prevention, Office of the Medical Examiner, Michael J. Staley, PhD
Subject: Youth Suicide Research Project - Statutorily Required Report

Executive Summary

1. Suicide among teens in Utah remains at a very high rate but is not increasing as it was between 2008 and 2015.
2. The Utah Youth Suicide Research Project (UYSRP) is a two-phase, mixed methods study that aims to develop targeted risk and protective factor profiles of teens who died by suicide in Utah to advance suicide prevention.
3. Interviews and other data collection for UYSRP are ongoing. A comprehensive report is expected summer 2022.
4. Several factors have been identified in UYSRP as major contributors to teen suicide in Utah; the extent to which these factors played a role is under study. Emerging factors include bullying and other traumatic life experiences. Additionally, teens who died by suicide often told someone in person or online of their intentions to end their own life.
5. The Sudden and Unexpected Death Surveillance System (SUDSS) provides complete demographic characteristics and a basic understanding of the circumstances that preceded a suicide or accidental/undetermined drug overdose. SUDSS has been successful at information gathering, as well as providing bereavement and crisis outreach.
6. The epidemiology staff at the Office of the Medical Examiner (OME) plays a significant role in:
   a. Providing data to university partners for research purposes
   b. Monitoring mortality related to behavioral health outcomes during the COVID-19 pandemic
   c. Assisting medical examiners in determining manner of death for equivocal cases
   d. Providing information to several fatality reviews

REPORT

An Update on Suicide Mortality among 10 to 17 year-olds in Utah

For most of the past 20 years, the rate of teen suicide in Utah has been higher than the national rate. Our fellow Rocky Mountain states have similar trends as Utah. The rate in Utah began to accelerate in 2007, but increased drastically between 2011 and 2015. That period, as a CDC report showed in 2018 represented a 141% increase. (Annor, Wilkinson, & Zwald, 2017). Since that time, the rate has leveled off, though it remains at a very high rate. We urge caution that this trend should not be interpreted as saying there’s a “new normal.” Our rate of suicide of 4 per 100,000, which represents 38 teens in the past year, is 38 too many. We must ensure that we not only prevent suicide among teens, but that we give them reasons to live. See Figure 1.
One of the key strategies to preventing suicide is to put time and distance between people who are suicidal and lethal means. From prior research in which the OME played a role, we know that 87% of people who attempt suicide with a firearm die (Barber et al., 2018). Many of those individuals had no history of prior suicide attempts. We also know that the urge to die by suicide passes for most people rather quickly. The suicidal state is one that typically goes away in a matter of minutes (Goulding & Goulding, 1976; White, 2018). Again, time and distance matters. Gun safes and gun locks are good ways to ensure a firearm is less likely to be used in a suicide. It is also effective to empower gun owners to store their guns with a trusted friend or family member until they’re through the darkest times. For a suicidal person, the safest firearm is one they do not have or cannot easily access.

In Utah, firearms played a significant role in teen suicide over the past five years: firearms were used in 48% of teen suicide deaths. Asphyxia accounted for 43% of teen suicide deaths. See Figure 2a. Many make the argument that reducing access to firearms pushes the suicidal person to use some other method. Indeed, some people sadly do go on to die by suicide using some other means. But, many do not. We can’t say for certain what caused the decrease in the use of firearms between 2018 and 2020, but this is a time period in which the distribution of gun locks and safes was at an all-time high in Utah. Doctors and other professionals were also being trained during this time to talk to parents and patients about safe storage of firearms. Over time, it appears that more teens died by asphyxia as firearm-related deaths decreased. It’s possible that firearm deaths would have continued to remain high or even increase in the absence of efforts to reduce access. When it comes to the hypothesis that teens who died by suicide switched their method, other research tells us that suicidal people are not likely to immediately switch to an different method if their planned method is interrupted (Daigle, 2005). Putting time and distance between a teen in crisis and a firearm is a proven method of suicide prevention. As the Harvard report tells us, 87% of the guns used in Utah in a teen’s suicide death were guns that were under the parent’s control (Barber et al., 2018). See Figure 2b.
The Utah Youth Suicide Research Project (UYSRP)

The Utah Youth Suicide Research Project, or UYSRP, is a research effort aimed at learning more about teens who died by suicide in Utah in order to prevent these deaths in the future. We began development of UYSRP in mid-2018 and conducted the first interviews in March 2019. Importantly, this is a progress report on UYSRP; we’re still gathering data, interviewing families, and only just beginning analysis.

The study aims to identify key demographic and other characteristics, as well as learn more about the circumstances leading up to the death of a teen. While many of the risk and protective factors associated with youth suicide are described in other research, UYSRP has a decidedly Utah-focus. Our aim is to provide a more targeted framework of risk and protective factors of teens who are at most risk for suicide in Utah. These improved risk and protective factors will measure the extent of Utah-specific risk factors that we hope will guide the state’s future suicide prevention efforts related to teens. Additionally, because of the qualitative nature of UYSRP, we are able to not just evaluate whether or not known risk factors play a role, but also able to understand factors we may have been unaware of in the past.

The criteria for the study includes teens who died by suicide who were between the ages of 10 and 17 as well as 18 year-olds who were enrolled in high school or who had graduated within three months prior to their death. We included deaths from four previous years, starting in 2016 and ending in 2019. Additionally, we limited our study to...
Utah residents.

UYSRP is a two phase, mixed methods study. Previous studies have conducted interviews, and others have looked at segments of data, but UYSRP is the first to combine primary interview data and multiple types of secondary data. In this way, it is the largest, most comprehensive study of teen suicide in the U.S.

The first phase of UYSRP is where we’ve put most of our time and energy for the past two years. We used a semi-structured interview protocol to gather information from parents or guardians of the teen, and then, when they were available, we asked similar questions to the teen’s friends, siblings, or others who knew the teen well.

The second phase focuses on data related to the teens who died by suicide that already exists. We are looking at data from the Utah State Board of Education, from databases at the Department of Health that catalog and categorize health care data (namely the Health Facilities Database and the All Payers’ Claims Database). We are also working closely with the Division of Child and Family Services (DCFS) and Juvenile Justice (JJS). In the near term, we will be working with the Division of Services for People with Disabilities (DSPD) and the Juvenile Courts. By looking at this data holistically, we hope to be able to identify opportunities for prevention within schools, healthcare, and DCFS, JJS, and DSPD and in the relationships these agencies already have.

Information we learned from families (Phase I), plus the information gleaned from partners (Phase II) will provide the best picture possible, and therefore contribute to the most informed and targeted approaches to suicide prevention.

After applying our criteria, 201 teens who died by suicide from 2016-2019 were included in the study. Figure 4 provides a breakdown on our progress as of October 31, 2021. We have completed 52 cases and have an additional 43 cases in which we were only able to speak to the teen’s parents or guardians. In some of these 43 cases, friends and siblings were not ready to talk to us or we were not able to determine who these friends are. Tragically, we heard several times from parents that there was no one else for us to talk—that their child had no close friends. After a suicide, families sometimes move. For that reason, there were 53 teens for which we were not able to contact a parent or guardian. We have identified 18 families, however, who we have new leads and are following up. Twenty-nine families requested to not participate. Only one parent seemed upset by our invitation; the others said that they were not able or willing to revisit their child’s death, and respectfully declined. And finally, we are in the process of conducting interviews related to the death of 24 teens. See Figure 4.

![Figure 4. Breakdown of phase one data collection (interviews) for UYSRP](image)

**A Sensitive Approach to Obtaining Difficult Information**

Our interviews ideally feel more conversational than they do like a survey. Most last an hour and a half to two hours. The longest interview we conducted ended at 1 am and was nearly 7 hours long. For many survivors of suicide loss, these interviews are the first time they’ve talked about their loss—and most were eager to talk. We never contact a
family for research purposes within six months of the death; in most cases we waited 18 months prior to contacting families. At that time, we sent out a letter of invitation and the informed consent letter, which indicates that we will call them in one to two weeks to discuss the study, and if they are willing, to schedule a time for an interview. We are careful to avoid sending letters or making phone calls on or around important days, like the deceased teens birthday, the holidays, or the anniversary of the teen’s death—unless the parent asks us to call them on those days. Even when a family opts to not participate in the study, we provide resources for bereavement care. Our approach is as compassionate as it possibly can be. Additionally, this study was approved by the Utah Department of Health Institutional Review Board (IRB).

Understandably, these interviews can be difficult for parents, family members, and friends (i.e., informants) answering the question and for the person asking the questions. We train our interviewers to be sensitive to the emotions of the informant and follow their lead, we take breaks, allow the informant to tell us stories that recall positive memories as well as painful ones, and if necessary, stop the interview to ensure the well-being of informants. We assess the informant’s well-being and ensure their safety before we end an interview. When there is critical concern, we train our interviewers to follow a practiced crisis protocol to get help quickly. When there is moderate concern, we make warm hand offs (with the informant’s permission) to excellent bereavement and mental health care, namely Caring Connections at the University of Utah, or with our psychiatrist consultants at Huntsman Mental Health Institute and Primary Children’s Hospital.

A week or two after our interview, we follow up with families to see how they are doing. Many tell us the day following the interview was emotionally difficult, but several mention that we brought up factors they had not considered. Many have told us the experience was beneficial to them and that they were grateful to talk about the child or friend they lost to suicide.

The interviews are conducted by advanced medical and health science students, first and second-year psychiatry residents, sociology graduate students, and OME interns with experience. These interviewers are carefully selected and vetted for this role. Additionally, this experience helps future physicians and researchers to engage with bereaved people—an area many are afraid to approach, and yet an area in which nearly all physicians will have to be present and for which we need a great deal more research. In this way, we’re training future physicians and researchers to be sensitive to those who lost someone close to suicide, and to not be afraid to engage and care for bereaved people.

Importantly, I meet with every interviewer after they complete an interview to debrief, discuss any concerns and allow the interviewer to reflect and process any unresolved emotions they are feeling as a result.

Initial Observations by Topic Area from Phase I of UYSRP

Demographic Characteristics. We ask about demographic information about the deceased teen, including race, ethnicity, tribal affiliation, sexual orientation, gender identity, where the decedent attended school, how many times they moved, religious affiliation and religiosity and more.

Avocational Interests. We ask about avocational interests; through these questions, we identified a grouping of teens who died by suicide who had a common interest and were able to provide outreach through the Utah State Board of Education and impacted school districts. What seemed like a way to break the ice with those who we were interviewing turned out to be very valuable information.

Media Exposure. We take as complete of an inventory of the deceased teen’s exposure to suicide related media, as well as their presence in virtual spaces like Instagram, Twitter, and Snapchat. The preliminary data tells us that nearly all of the teens who died had a social media account, many of them posted something their friends said was suicidal or death-centric in the previous year, and most asked for some form of help on social media in the past year. The CDC review of teen suicides in Utah showed that being restricted from an electronic device was a risk factor for teens (Annor et al., 2017); our preliminary data confirms that finding so far.

Connectedness and School Experiences. We ask questions about connectedness to community, which includes the teen’s experiences at school. Nearly all of the people we spoke to said their child or friend had friends they could count on in a crisis and were happy with their friendships, but interestingly, most said that the teen who died did not feel like they belonged in their community. Break ups with romantic partners was also a theme. Additionally, four out of five teens who died by suicide reportedly had a friendly relationship with a teacher, coach, or administrator—
someone the informant said the deceased student trusted.

**Bullying and Cyberbullying.** Other research shows bullying and cyberbullying are associated with increased suicide ideation and attempts (Astor & Benbenisty, 2019; Hinduja & Patchin, 2019). Our preliminary data tells us that these are factors in suicide death also. Measuring the extent of bullying and cyberbullying is something we are still working to understand that as we get more data.

**Traumatic Life Experiences.** We asked parents, family members, and friends whether or not the deceased teen experienced any trauma, which includes physical, sexual, emotional victimization and abuse, as well as generalized trauma—experiences such as having your home destroyed in a natural disaster or being in a serious car wreck. All of these factors emerged strongly in these young people’s lives prior to their suicides. If the interviewer had concerns for the safety of siblings or other children with whom the perpetrator still has access, we made appropriate reports to Child Protective Services.

**Law Enforcement and Correctional History** We ask about the teen’s experience with law enforcement and their correctional history. We have a lot of gaps in information here that need to be addressed from other data sources.

**Physical and Mental Health History.** We also take a comprehensive inventory of the teen’s physical and mental health. While we are learning about a great deal about physical and mental health—things like traumatic brain injury, the impact of depression and anxiety, etc.—we are still gathering information on these items.

**Prescription Drug, Alcohol, Illicit Drug, Tobacco and Marijuana Use.** Substance use and abuse played a role in some teen’s deaths. We asked about these items in great detail and are still analyzing this information.

**Suicide Warning Signs.** Suicide warning signs are things like feeling as though you are a burden on those close to you, feeling trapped, cognitive rigidity, hopelessness, purposelessness, expressing suicidal ideation, etc. We asked informants if their child or friend exhibited these warning signs. Of the cases we’ve analyzed, all teens exhibited at least two or more warning signs.

**Parent and Family History.** Because parents and family play such central role to teens, we also asked questions about parents, including whether or not a parent was dependent on alcohol or prescription drugs, experienced job loss, etc.

**UYSRP Proposed Timeline**

When it comes to ending teen suicide, the urgency is real and there is no time to waste. We are working as diligently as we can to get our findings into the hands of policymakers, advocates, health care professionals, educators, parents and anyone who will listen. Our goal is to provide the most actionable and accurate data possible. The timeline for the UYSRP moving forward is as follows:

- **December 2021:**
  - Complete interviews
  - Complete data sharing agreements with state partners
- **January 2022:**
  - Complete data entry of completed interviews
- **February 2022:**
  - Receive secondary data from state partners
- **March to May 2022:**
  - Data analysis
- **Summer 2022:**
  - Report of Initial Findings
- **Fall 2022:**
  - Limited and deidentified data made available to university research partners

This data is extremely dense and there are many opportunities for quality research. There are over 800 variables in the interview data alone; that will surely double when the secondary data is added. We need more hands and more eyes on this data to maximize its use, timeliness, and usefulness – all while ensuring the confidentiality we promised to families when we interviewed them.
Other Surveillance and Research Activities at the Office of the Medical Examiner

The Youth Suicide Research Project is one of several projects underway at the OME. 640 people die by suicide each year in Utah, and we do not have the ability to conduct a full psychological autopsy of all of them. However, we wanted to define a method of gathering data and connecting with families that was helpful in preventing suicide and providing bereavement support. We are extremely proud of this work, which we call the Sudden and Unexpected Death Surveillance System (SUDSS).

The purpose of SUDSS is to:
- Improve baseline demographic information
- Obtain other key circumstantial information related to suicide and accidental or undetermined drug overdose deaths
- Provide life-saving bereavement and crisis support

Our goal is to monitor trends in suicide and drug overdose mortality and provide timely responses to shifts in trends, suicide contagion and clusters, and groupings of drug overdose deaths.

In these short interviews (27 to 29 primary questions), we confirm the demographic information we have on hand and obtain additional information about the decedent. Questions included:
- Were they homeless or unemployed
- Where did they work and for how long
- What were they worried about
- Were they married
- Did they identify as LGBTQ
- Were they active military or veterans
- What was their race and ethnicity

We also get basic information about the circumstances leading up to the death to better understand trends. One area we explored starting in spring 2020, for example, was the role of the COVID-19 pandemic. We are still collecting data on this issue, but very few informants told us that COVID-19 was acutely on the minds of individuals who died by suicide. The impact of COVID-19 on behavioral health broadly speaking is still under study.

These conversations with newly bereaved families often make a big impact. Not only do we gather information about the person who died to improve our prevention efforts, we also assess how the next of kin is faring, and if there is anyone they are particularly worried about. We intervene in situations in which the trajectory of grief is going in the wrong direction. It is important to understand that depression is not grief; grief tends to become more bearable over time whereas depression does not and often grows worse. And yet, these two experiences can appear the same. We connect suicide and drug overdose survivors to people who can help them:
- Caring Connections at the University of Utah
- The American Foundation for Suicide Prevention in Utah
- The Sharing Place
- The Bradley Center
- Individual therapists and others

We also ask the survivor if they are thinking about suicide. Although infrequent, we sometimes hear yes. We make sure we get those folks to help as quickly as possible. And lastly, we ask informants if they are homicidal. Survivors in these circumstances rightfully—or not so rightfully—can place blame on someone else and wish them dead. Those thoughts pass, but we are diligent to ensure that everyone remains safe. When these thoughts turn into plans, we alert local authorities. Because we take confidentiality seriously, we assess the seriousness of these threats carefully and notify the informant that we intend to contact the authorities in high risk situations. Fortunately, we have not yet had to make any such report, but we are prepared in case this situation should ever arise.

Figure 5 displays a breakdown of the status of the conversations we had following a suicide death starting August 1, 2020 through May 31, 2021—a time when we were most adequately staffed. We called 479 next of kin following a suicide death of the 532 we identified in that August to May time period with a working phone number. We spoke to 326 and are still in the process of contacting 73 survivors in this timeframe.

In social science research, the vast majority of cold calls go unanswered. That only 25% either refused or we just
could not get ahold of is a big deal. That speaks volumes that survivors of suicide loss want and need to talk. We provide them that opportunity and we are met with gratitude regularly.

We brought our drug overdose outreach program online several months after we implemented SUDSS for suicide deaths. Between January 1, 2021, and June 30, 2021, we attempted to reach 235 next of kin. We spoke to 134 survivors. Nine percent refused to talk to us. We could not located 66 survivors and 37 of these cases are still in progress.

Engaging with survivors of suicide and drug overdose death: postvention is prevention

The impact of suicide in Utah is extensive. Six hundred and forty—the average number who die by suicide in our state each year—is devastatingly high, but also a bit misleading when it comes to measuring the scope of suicide. In the 1950s, Ed Schneidman famously reported that there were six people directly impacted by every suicide death. That number was later revised to 10. But when suicidologists did the research, the real number was 135 people after every single suicide death (Cerel et al., 2019). In Utah, that means that well over a third of the population has been impacted by a suicide death directly—and that’s only if we go back to 1999. The sting of losing a child or spouse to suicide is a lifelong, generational tidal wave. A recent study by the Gardner Center at the University of Utah, part of the evaluation campaign for the Live On Campaign, found that 91% of Utahns had been impacted by suicide: either the loss of someone close, a suicide attempt, or knowing someone close who attempted suicide, but survived (Institute, 2020). The impact of suicide is pervasive and is an epidemic.
The Office of the Medical Examiner (OME), the Violence and Injury Prevention Program (VIPP) at UDOH, and our partners at the Utah Division of Substance Abuse and Mental Health (DSAMH) are pioneers in the area of suicide surveillance and research. Other states look to us as a model. But some of the most meaningful work we do happens when we contact someone who is in the worst throes of grief. These individuals are experiencing the tragedy of their lifetime and we are saying “you’re not alone and I’m here to listen.” If we’re lucky, our conversation will steer the course of their grief a few degrees in a better direction. That may sound insignificant when we weigh the tragedy of suicide and drug overdose, but consider this: suicide loss survivors are between 1.7 and 22 times more likely to die by suicide, depending on their relationship to the deceased person, following their initial loss than the general public (Erlangsen & Pitman, 2017). That is the distress we aim to interrupt for the better. This work is lifegiving.

Other Updates from the Epidemiology Section of the OME

Monitoring Trends in Behavioral Health During COVID-19. While other states were going through the COVID-19 pandemic and only imagining the behavioral health impacts, we were able to monitor morbidity and mortality of behavioral health indicators using real data, in near-real time. As of the end of June 2021, suicide and drug overdose mortality has remained flat through the course of the pandemic.

Assisting with Death Investigation in Equivocal Deaths. Our skill set is employed at the OME when medical examiners are unable to determine the manner of death based on the death investigation and examination. We interview families and other who knew the deceased person well and use that information to better inform the decision making process.

Providing Better Data for Fatality Reviews. We also conduct interviews and psychological autopsies for the several fatality reviews organized by the Department of Health (see list below). These interdisciplinary reviews lead to innovative prevention. In that vein, we’re working with health care systems engaged in ZeroSuicide, a care delivery model for health care, to identify opportunities for system improvement, better treatment, and improved engagement with community partners. As one of our psychiatrist colleagues likes to say, “20mg of fluoxetine will not alleviate the distress of someone who is suicidal because they cannot pay their rent or buy food.” These types of crises require a different approach from health care providers—one that many did not learn in medical school.

Fatality Reviews in which the OME provides interview data:
- Child Fatality Reviews (coordinated by VIPP)
- Opioid Fatality Reviews (co-coordinated by VIPP and the OME)
- Peri-maternal Fatality Reviews (coordinated by the Maternal and Infant Health Program)
- Suicide Fatality Reviews (coordinated by the OME)
- Domestic Violence Fatality Reviews (coordinated by VIPP)

Contact Information
Michael J. Staley, PhD
Suicide Prevention Research Coordinator
mstaley@utah.gov

Megan Broekemeier, MPH, CHES
Drug Overdose Prevention Research Coordinator
mbroekemeier@utah.gov

Erik D. Christensen, MD
Chief Medical Examiner
edchristensen@utah.gov
REFERENCES


http://dx.doi.org/10.1080/15388220.2018.1492417
