

Utah Health Status Update:

Characteristics of Decedents From Unintentional Prescription Opioid Related Overdose

April 2010

Utah Department of Health

Prescription-related drug overdose death has been a growing problem in the U.S. and in Utah. Since this is a relatively new epidemic, little is known about the factors that may predispose someone using a prescription opioid to have a fatal overdose.

In order to identify these factors, an investigation was conducted of all drug overdose deaths under the jurisdiction of the Utah Medical Examiner by interviewing the relative or friend most knowledgeable about the decedent's life. Interviews were conducted for Utah residents ages 12 and older who died between October 26, 2008–October 25, 2009.

Of the 2,086 cases seen by the Medical Examiner in this timeframe, 432 were unintentional drug overdose deaths (Figure 1). The majority (64%, N=278) of these involved at least one opioid. Of the 432 drug-related overdose deaths in the study period, interviews were completed on 385 cases. Overdose deaths involving only illicit drugs were most common from ages 18–44 while overdose deaths involving nonillicit drugs were most common from ages 25–54 (Figure 2).

Of the 240 opioid-related, nonillicit drug overdose deaths*, 51% of decedents were female and 78% were ages 25–54. Oxycodone was the drug most frequently mentioned as a contributing cause of death, followed by methadone, hydrocodone, and alprazolam (Figure 3). The respondents reported that 83% of decedents suffered from chronic or ongoing pain (Figure 4).

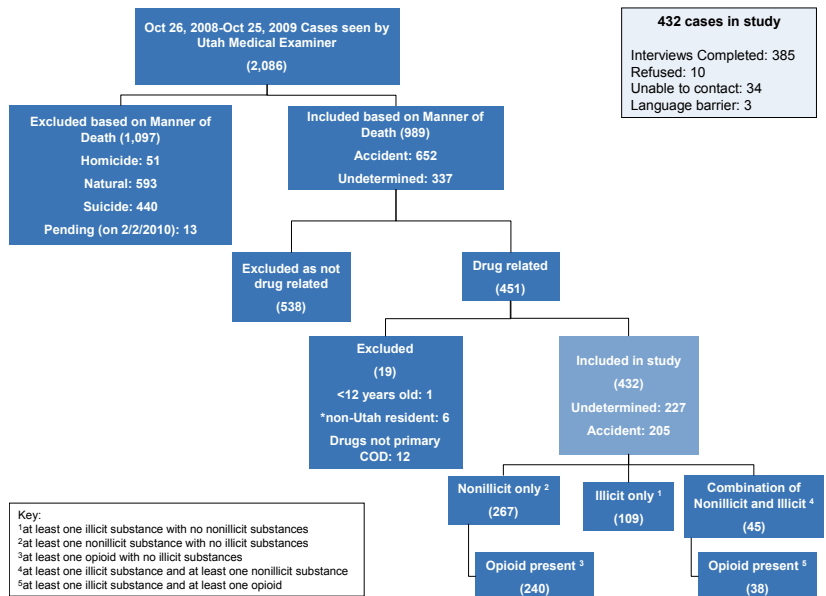
The results illuminated three characteristics that appear to be strongly correlated to overdose deaths: financial problems, past history of substance abuse, and mental illness (Figure 4).

Financial problems:

- 63% of decedents were unemployed during the last two months of life.

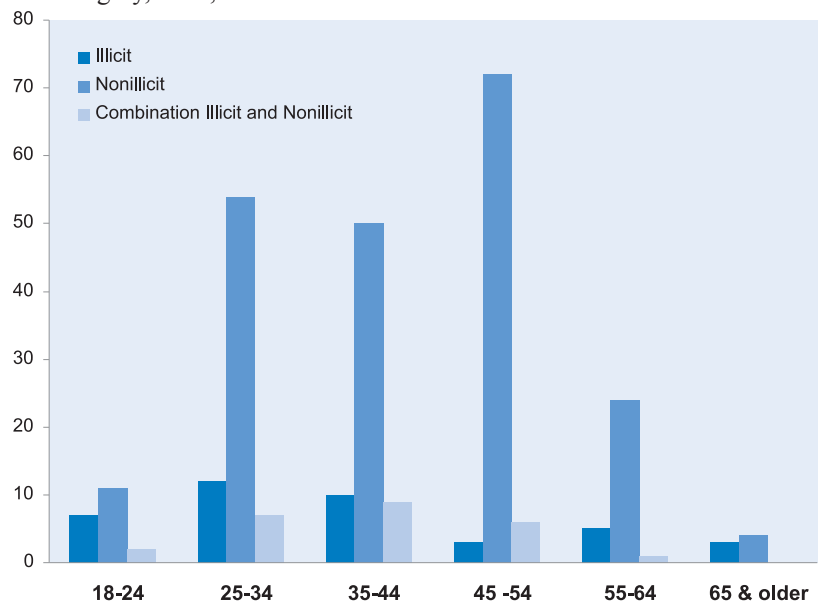
Flowchart of Cases

Figure 1. Flowchart of cases seen by the Utah Medical Examiner from October 2008 through October 2009



Overdose Deaths by Age and Category

Figure 2. Number of accidental and undetermined overdose deaths by age and category, Utah, Oct. 2008–Oct. 2009



- 59% of respondents reported that the decedent had a financial problem during the two months prior to death.

* Cases were included in the analysis if at least one opioid was implicated as a contributing cause of death and no illicit drugs were implicated.

- 27% of individuals were uninsured at the time of death. This is higher than the state-wide rate of uninsured of 14% in 2008.

Past history of substance abuse:

- When asked if the decedent experienced a substance abuse problem during the two months prior to death, 40% responded 'yes'.
- Specific drugs that a decedent had ever used during his or her lifetime included high rates of marijuana (48%), cocaine (25%), methamphetamine (23%), and heroin (17%).
- 12% of decedents were reported to have used prescription pain medication for reasons other than to treat pain in the year prior to death. This is higher than the 5.2% who reported using pain relievers nonmedically during 2006–2007, the most current year that the data are available (NSDUH).
- 49% of decedents had ever received treatment for substance abuse.

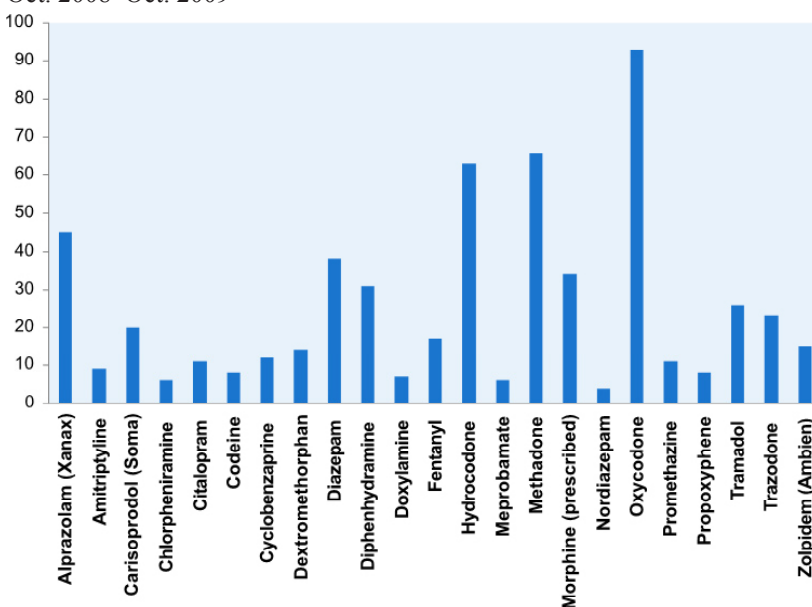
Mental stability:

- 49% were reported to have been diagnosed with a mental illness by a health-care provider.
- 24% of decedents had been hospitalized for psychiatric reasons.

There are many characteristics that could be used by providers in order to screen for patients who have more of a propensity for having a fatal overdose on prescription opioid medications. Unemployment, past history of substance abuse, and mental illness are characteristics that merit further investigation in order to better understand how they may be related to unintentional, opioid-related overdose deaths.

Drug Mention Frequency

Figure 3. Frequency of mentions of each drug on nonillicit overdose deaths that include at least one opioid (accidental and undetermined deaths), Utah Oct. 2008–Oct. 2009

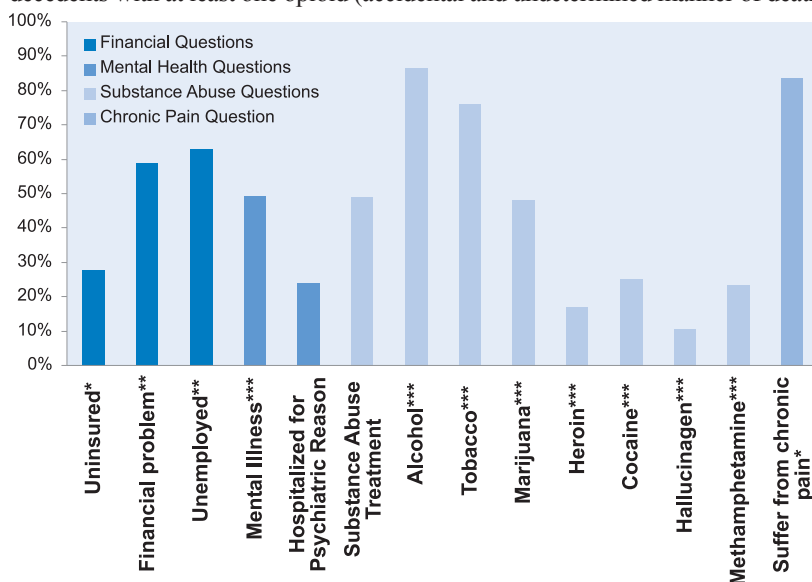


Other drugs mentioned: Gabapentin, mirtazepine, topiramate (2 each); Temazepam, fluoxetine, butalbital (3 each); Amphetamine, Acetaminophen, Benzo (NOS), Bupropion, Chlordiazepoxide, Imipramine, Levorphanol, Metaxalone, Nortriptyline, Opioid (NOS), Oxymorphone, Pentazocine, Phenobarbital, Pseudoephedrine, Quetiapine, Sertraline (1 each)

Note: The numbers in this figure will add up to over 240 because multiple drugs could be listed as contributing to cause of death on each case.

Next of Kin Interview Responses

Figure 4. Interview responses by next of kin regarding nonillicit overdose decedents with at least one opioid (accidental and undetermined manner of death)



Timeframe: *at time of death, **two months prior to death, ***ever

April 2010 Utah Health Status Update

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Breaking News, March 2010

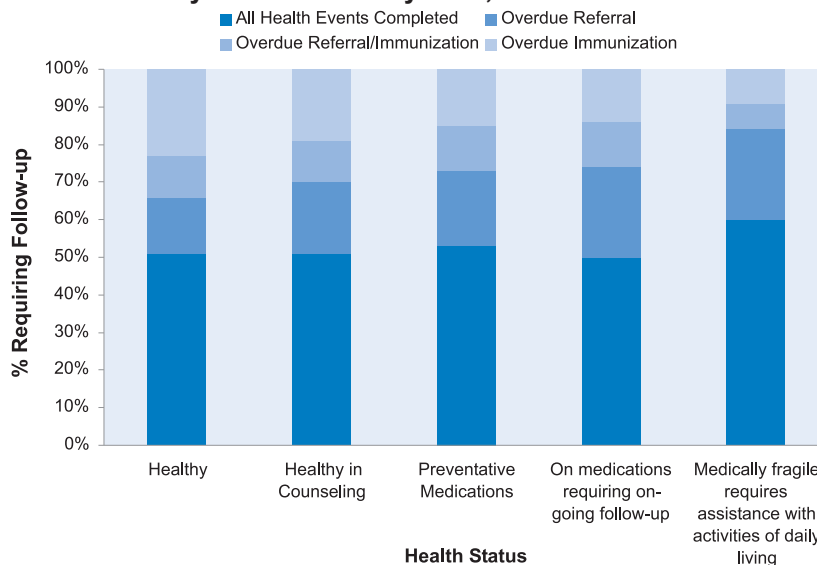
Current Health Status of Children in Utah's Foster Care System

In October of 2008, the Fostering Connections to Success and Increasing Adoptions Act (PL 110-351) was signed into law. Among other things, this law holds states accountable to track the health of children who enter foster care. Utah was a leader in implementing a team of public health nurses that work in partnership with the DCFS caseworkers to make sure that every child in foster care can get access to the services that they need and assist in coordinating the Medicaid services. The Fostering Healthy Children program is part of the Children with Special Health Care Needs Bureau and the staff is co-located across the state with the DCFS caseworkers.

An enhancement to their work has been the development of the Health Status Outcome Measure tool. This allows the R.N. to track the status of the child over time. In the first six months of care, calls are made at 30 days, three months and six months to make sure the child's health, dental, mental health and medications are being managed. Once the child has been in care over six months, the nurse calls the foster parent based on the acuity of the child. Those that are medically fragile are contacted every other month, those on medications or with health conditions needing on-going follow-up are contacted every four months, and those that are healthy are contacted every six months.

Although this system is limited by being point in time based, it has assisted in identifying the acuity of children in foster care and what needs are and are not being met. We can further evaluate the scores to identify potential provider issues as well as gaining knowledge of any compliance issues with the foster parent providers.

Current Health Status Outcome Scores for Children in Utah's Foster Care System in February 2010, Data from SAFE database



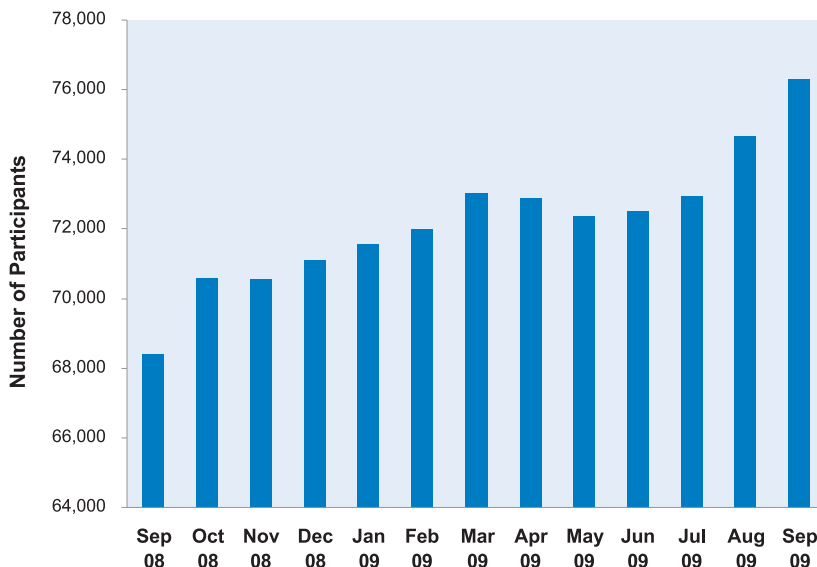
Community Health Indicators Spotlight, March 2010

Utah WIC Program Outcomes

The Utah WIC Program has seen a significant increase in participation. From September 2008 to September 2009, participation increased by over 11.5% from approximately 68,424 to more than 76,302 across Utah. Utah WIC implemented significant changes to the food packages in July 2009, three months before the national deadline. The food package changes come after more than 10 years of advocacy and scientific work to demonstrate the importance of fresh fruits and vegetables and new whole grain and milk options in the WIC Program nationwide.

In 2008, the Utah WIC Program conducted its biennial Participant Satisfaction Survey to identify what types, forms, and options of new foods participants in Utah would be interested in eating. The survey disclosed that 84.8% of all participants wanted fresh fruits and vegetables versus frozen or canned options. The top three fruit choices were bananas (42.4%), oranges (40.9%), and apples (35.7%). Overall, close to one third of participants preferred whole grain breads over other grain products, cereals, oatmeal, barley, and brown rice. Because of participant preferences, WIC included only fresh fruits, vegetables, and whole grain products on the 2009 food card.

Utah WIC Program Enrollments, 2008–2009



Monthly Health Indicators Report

(Data Through February 2010)

| Monthly Report of Notifiable Diseases, February 2010 | Current Month # Cases | Current Month # Expected Cases (5-yr average) | # Cases YTD | # Expected YTD (5-yr average) | YTD Standard Morbidity Ratio (obs/exp) |
|--|---|---|---|-------------------------------|--|
| Campylobacteriosis (Campylobacter) | 13 | 12 | 32 | 24 | 1.3 |
| Shiga toxin-producing Escherichia coli (E. coli) | 0 | 2 | 0 | 4 | 0.0 |
| Hepatitis A (infectious hepatitis) | 2 | 1 | 3 | 2 | 1.3 |
| Hepatitis B, acute infections (serum hepatitis) | 2 | 1 | 3 | 3 | 1.0 |
| Influenza† | Weekly updates at http://health.utah.gov/cpi/diseases/flu | | | | |
| Measles (Rubeola, Hard Measles) | 0 | 0 | 0 | 0 | -- |
| Meningococcal Disease | 1 | 2 | 1 | 2 | 0.5 |
| Norovirus | 1 | 4 | 4 | 6 | 0.7 |
| Pertussis (Whooping Cough) | 38 | 36 | 75 | 70 | 1.1 |
| Salmonellosis (Salmonella) | 17 | 11 | 47 | 25 | 1.9 |
| Shigellosis (Shigella) | 2 | 2 | 3 | 5 | 0.6 |
| Varicella (Chickenpox) | 56 | 77 | 134 | 164 | 0.8 |
| Viral and Aseptic Meningitis | 2 | 2 | 6 | 3 | 1.8 |
| Notifiable Diseases Reported Quarterly, 4th Qtr 2009 | Current Quarter # Cases | Current Quarter # Expected Cases (5-yr average) | # Cases YTD | # Expected YTD (5-yr average) | YTD Standard Morbidity Ratio (obs/exp) |
| HIV | 47 | 27 | 112 | 91 | 1.2 |
| AIDS | 10 | 11 | 44 | 44 | 1.0 |
| Chlamydia | 1,447 | 1,317 | 5,941 | 5,105 | 1.2 |
| Gonorrhea | 118 | 176 | 335 | 706 | 0.5 |
| Tuberculosis | 10 | 8 | 37 | 33 | 1.1 |
| Program Enrollment for the Month of February 2010 | Current Month | Previous Month | % Change ^s From Previous Month | 1 Year Ago | % Change ^s From 1 Year Ago |
| Medicaid | 209,630 | 207,781 | +0.9% | 180,052 | +16.4% |
| PCN (Primary Care Network) | 17,527 | 17,926 | -2.2% | 14,966 | +17.1% |
| CHIP (Children's Health Ins. Plan) | 41,003 | 40,579 | +1.0% | 37,080 | +10.6% |

| Medicaid Expenditures (in Millions) for the Month of February 2010 | Current Month | Expected/Budgeted for Month* | Fiscal YTD | Budgeted Fiscal YTD | Variance - over (under) budget |
|--|-------------------|------------------------------|--|---------------------------|--|
| Capitated Mental Health | \$ 6.3 | \$ 9.8 | \$ 71.5 | \$ 75.7 | \$ (4.3) |
| Inpatient Hospital | \$ 20.6 | \$ 17.6 | \$ 156.2 | \$ 136.5 | \$ 19.6 |
| Outpatient Hospital | \$ 10.0 | \$ 8.8 | \$ 73.6 | \$ 68.4 | \$ 5.2 |
| Long Term Care | \$ 14.3 | \$ 13.0 | \$ 108.1 | \$ 106.4 | \$ 1.7 |
| Pharmacy ^β | \$ 12.4 | \$ 10.3 | \$ 99.6 | \$ 79.9 | \$ 19.6 |
| Physician/Osteo Services [‡] | \$ 7.3 | \$ 6.2 | \$ 54.2 | \$ 48.2 | \$ 6.0 |
| TOTAL HCF MEDICAID | \$ 131.8 | \$ 133.4 | \$ 1,038.5 | \$ 1,042.4 | \$ (3.9) |
| Health Care System Measures | Number of Events | Rate per 100 Population | % Change ^s From Previous Year | Total Charges in Millions | % Change ^s From Previous Year |
| Overall Hospitalizations (2008) | 279,504 | 9.4% | -2.7% | \$ 4,703.3 | +10.3% |
| Non-maternity Hospitalizations (2008) | 164,602 | 5.4% | -3.0% | \$ 3,924.7 | +10.4% |
| Emergency Department Encounters (2007) | 682,122 | 24.0% | -1.3% | \$ 781.0 | +17.1% |
| Outpatient Surgery (2007) | 296,596 | 10.5% | -5.7% | \$ 1,109.0 | +8.6% |
| Annual Community Health Measures | Current Data Year | Population at Risk | Number Affected | Percent/Rate | % Change ^s From Previous Year |
| Overweight and Obesity (Adults 18+) | 2008 | 1,924,274 | 1,119,500 | 58.2% | +0.5% |
| Cigarette Smoking (Adults 18+) | 2008 | 1,924,274 | 179,200 | 9.3% | -20.4% |
| Influenza Immunization (Adults 65+) | 2008 | 237,275 | 173,900 | 73.3% | -3.8% |
| Health Insurance Coverage (Uninsured) | 2008 | 2,781,954 | 298,200 | 10.7% | +0.7% |
| Motor Vehicle Crash Injury Deaths | 2008 | 2,781,954 | 268 | 9.6 / 100,000 | -3.3% |
| Suicide Deaths | 2008 | 2,781,954 | 384 | 13.8 / 100,000 | +1.3% |
| Diabetes Prevalence | 2008 | 2,781,954 | 129,500 | 4.7% | -1.0% |
| Coronary Heart Disease Deaths | 2008 | 2,781,954 | 1,514 | 54.4 / 100,000 | -4.0% |
| All Cancer Deaths | 2008 | 2,781,954 | 2,478 | 89.1 / 100,000 | -5.6% |
| Births to Adolescents (Ages 15-17) | 2008 | 61,727 | 1,122 | 18.2 / 1,000 | -2.0% |
| Early Prenatal Care | 2008 | 55,605 | 43,997 | 79.1% | -0.4% |
| Infant Mortality | 2008 | 55,605 | 264 | 4.7 / 1,000 | -7.9% |
| Childhood Immunization (4:3:1:3:3:1) | 2009 | 55,120 | 42,200 | 76.6% | +4.1% |

† Influenza activity remains sporadic in Utah. Influenza-like illness activity is below baseline statewide. As of March 17, 2010, 894 influenza-associated hospitalizations have been reported to the UDOH. More information can be found at <http://health.utah.gov/cpi/diseases/flu>.

* % Change could be due to random variation.

✗ The Medicaid program service budget numbers by month are not available at this time.

β The Pharmacy Expenditure and Budget amount only includes the gross pharmacy costs. The Pharmacy Rebate and Pharmacy Part-D amounts are excluded from this line item.

‡ Medicaid payments reported under Physician/Osteo Services do not include enhanced physician payments.

Notes: Data for notifiable diseases are preliminary and subject to change upon the completion of ongoing disease investigations. Active surveillance for West Nile virus has ended until the 2010 season.