Overview of Acute Drug-Related Deaths, 2008-2018

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Santa Cruz County Sheriff-Coroner’s Office
What’s New This Year?

- **2016:**
  - Differences in drug use based on age and sex

- **2017:**
  - Better demographic profiles of users
  - New illicit drug trends in our community
  - Better definition of “prescribed” drugs
  - Better geography of drug use in our county

- **2018:**
  - Drug use trends from 2011 to 2017

- **2019:**
  - Drug use trends from 2008-2018
Drug-Induced Death Rate per 100,000 Population, Santa Cruz ranked 41/58 by 3-year ave. 2012-2014

Santa Cruz County: 19.2
Santa Clara County: 8.1
San Benito County: 6
San Mateo County: 8.1
Los Angeles County: 7.6
California State Average: 11.8

County Health Status Profile 2016, California Dept of Public Health
**Santa Cruz County’s Health Profile 2018:**
California Department of Public Health data from 2014-2016

<table>
<thead>
<tr>
<th>Year (2011-2013)</th>
<th>Crude Rate</th>
<th>Age-Adjusted Rate</th>
<th>National Objective</th>
<th>California Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANTA CRUZ</td>
<td>18.8</td>
<td></td>
<td>11.3</td>
<td>12.2</td>
</tr>
<tr>
<td>(2011-2013)</td>
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<tr>
<td>SANTA CRUZ</td>
<td>19.2</td>
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<td>(2012-2014)</td>
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<tr>
<td>SANTA CRUZ CRUDE RATE</td>
<td>19.8</td>
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<tr>
<td>SANTA CRUZ</td>
<td>19.7</td>
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<tr>
<td>AGE-ADJUSTED</td>
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</tbody>
</table>

*Crude death rates and age-adjusted death rates per 100,000 population*
Acute Drug-Related Deaths per Year by Manner of Death

- **Accident**
- **Suicide**
- **Undetermined**

<table>
<thead>
<tr>
<th>Year</th>
<th>Accident</th>
<th>Suicide</th>
<th>Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>39</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>2009</td>
<td>39</td>
<td>4</td>
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<tr>
<td>2010</td>
<td>36</td>
<td>8</td>
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<tr>
<td>2011</td>
<td>56</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>2012</td>
<td>49</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2013</td>
<td>29</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>2014</td>
<td>56</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>2015</td>
<td>46</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>2016</td>
<td>41</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>2017</td>
<td>32</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>2018</td>
<td>43</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Accidental Drug Deaths

PERCENTAGE OF TOTAL CASES


20% 16% 15% 22% 20% 13% 24% 18% 14% 11% 14%
## Total Deaths by Age over 11 years

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Deaths</th>
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<tbody>
<tr>
<td>&lt;20</td>
<td>7</td>
</tr>
<tr>
<td>20-29</td>
<td>60</td>
</tr>
<tr>
<td>30-39</td>
<td>77</td>
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<tr>
<td>40-49</td>
<td>101</td>
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<tr>
<td>50-59</td>
<td>137</td>
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<td>60-69</td>
<td>77</td>
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<tr>
<td>70-79</td>
<td>9</td>
</tr>
<tr>
<td>80+</td>
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</tbody>
</table>
US National Trends in Pediatric Deaths from Rx and Illicit Opioids, 1999-2016

- 8986 <20 years died from drug OD
  - 268.2% increase in death rate
- 73.1% males

- Age groups:
  - 88.1% 15-19 years
    - Heroin - 404.8% increased death rate
    - Rx opioids – 94.7% increased death rate
  - 4.1% 10-14 years
  - 1.1% 5-9 years
  - 6.7% 0-4 years
Santa Cruz Pediatric Deaths, 2008-2018

- 7 of 466 Accidental Drug OD in 11 year period – 1.5%.
- All were male.
- Age: 4 = 18 years; 3 = 19 years.
- Drugs – all illicitly obtained:
  - 1 cocaine plus alcohol (obese w/ enlarged heart)
  - 2 = just heroin
  - 1 = heroin plus non-Rx Flexeril and OTC diphenhydramine, & pseudoephedrine
  - 1 – non-Rx morphine pills
  - 1 - non-Rx oxymorphone pills (had suboxone Rx, but not detected)
  - 1 - polypharmacy
Mr. Polypharmacy

- 18 yr lived with his parents.
- Hx of depression & anxiety, Rx Wellbutrin
  - Self-medicates with Xanax and alcohol
- Three prior ODs is past year with Rx alprazolam & alcohol.
  - Tried Rehab but is non-compliant
- Smokes marijuana
- Recent Utox by parents + for opiates
- Toxicology results:
  - Morphine, hydrocodone, and oxycodone
  - Alprazolam
  - Clorpheniramine and dextromethorphan
  - Low levels of cocaine metabolite, MDMA & cannabinoids
  - Sertaline
Santa Cruz Senior (70+ years) Drug Deaths, 2008-2018

- 10 of 466 Accidental Drug OD in 11 year period – 2.1%.
- Ages: 9 in their 70s; 1 in her 90s.
- Gender:
  - 6 females (2008-2015)
    - 1 with Methadone & Alprazolam (taking daughters Rxs).
    - 1 with Morphine (94 yo w/ C2 odontoid Fx from fall; Rx morphine with over-sedation noted by nursing staff).
    - 1 with Fentanyl (prescribed for neuropathy; found in bathtub).
    - 3 mixed drug intoxications
      - Chr pain w/ Rx medication abuse & psych illness
      - Rx narcotics, benzodiazepines, & muscle relaxants plus diphenhydramine
  - 4 males (2015-2018)
    - 3 with heroin (all homeless)
    - 1 with hydrocodone (Rx abuse) & diphenhydramine
Drug Deaths by Race

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Hispanic</th>
<th>Black</th>
<th>Other</th>
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<tbody>
<tr>
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<td>2018</td>
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</table>
Drug Deaths by Gender
Drug OD Deaths in Women Aged 30-64 yrs – US, 1999-2017 MMWR 1/11/19

- 260% increase in death rates for women 30-64 years.

- Increase in both # and rate of deaths involving:
  - Antidepressants
  - Benzodiazepines
  - Synthetic opioids
  - Cocaine
  - Heroin.
Drug Deaths in Females – Polypharmacy

- 73% of women and 38% of men had taken prescription drugs.

- Of the deaths where an Rx drug was identified …
  - 29% had both benzodiazepines and opiates
    - 45% of women, 15% of men.
  - 33% were taking 3 or more prescription medications
    - 55% of women, 15% of men.
  - 25% were on antidepressants
    - 55% of women, 0% of men.

From 2016 Presentation
Drug Deaths in Women - 2018

- 9 of 43 Accident Drug Deaths = 21%.
  - Age: 36-62 years.

- Drugs detected:
  - 5 = Illicit Drugs.
    - 36-62 years.
    - 3 were homeless.
    - 4 = stimulants (1 cocaine; 3 methamphetamine).
      - All had heart disease – CAD and/or Hypertension.
      - 1 with non-Rx buprenorphine
    - 1 = alcohol mixed with a presumed designer benzodiazepine; Rx buprenorphine for heroin abuse.
Drug Deaths in Women – 2018 (cont.)

- 4 = Prescription Drugs.
  - 45-62 yrs
  - 3 abused Rx medications (other was a medication error).
    - All had chronic pain and psychiatric illness
    - Two were obese
  - Prescribed hydrocodone & zolpidem plus:
    - Alcohol abuse (BAC 0.10 gm%)
    - Non-prescribed Soma & diphenhydramine.
    - Low levels of Rx clonazepam metabolite & sertraline detected.
  - Prescribed high dose fentanyl, hydromorphone, oxycodone, and
diazepam plus:
    - Nitrous oxide abuse (100+ empty WhipIt cannisters at scene).
  - Prescribed tramadol plus:
    - Non-Rx hydrocodone (recent documented drug seeking behavior).
Drug Deaths by Years in County

- Unknown
- 1 or Less
- 2-10 Years
- >10 years

Year Graph:
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
Deaths by Region in County

- San Lorenzo Valley
- Scotts Valley
- Santa Cruz City
- Live Oak
- Capitola
- Soquel/Aptos
- Watsonville

Year: 2008 to 2018

- 2008: 11
- 2009: 7
- 2010: 1
- 2011: 15
- 2012: 5
- 2013: 1
- 2014: 1
- 2015: 1
- 2016: 1
- 2017: 1
- 2018: 15
Opioid Decedent Locations – 95060
2008-2018
Opioid Decedent Locations – 95076 2008-2018
Drug Deaths in Watsonville, 2018

- 11 of 43 Accidental Drug Deaths – 25.6%
- Gender: 9 males; 2 females
- Age: 35-62 years
- Race: 7 Caucasian; 4 Hispanic
- Drugs detected:
  - 1,1- difluoroethane (huffing canned air)
  - 5 with methamphetamine
    - 2 plain
    - 3 mixed with heroin plus alcohol or cocaine
  - 4 with heroin
  - 1 with street methadone
  - 3 with Rx drugs
Female, morbid obesity, chronic pain, depression, anxiety, insomnia

- Prescribed hydrocodone & zolpidem plus:
  - Alcohol abuse (BAC 0.10 gm%)
  - Non-prescribed Soma & diphenhydramine.
  - Low levels of Rx clonazepam metabolite & sertraline detected.

Male, morbid obesity, chronic pain, depression, insomnia

- Non-Rx hydrocodone & Rx zolpidem

Male, chronic pain, schizoaffective disorder, insomnia

- Rx Methadone, gabapentin, and citalopram
  - Recently started on methadone for opioid dependence with observed somnolence
Accidental Deaths by Drug Class

The graph shows the number of accidental deaths by drug class from 2008 to 2018. The drug classes include Opioid, Stimulant, Muscle Relax, Sedative/Hypnotic, Antihistamine, and Alcohol. The highest number of deaths occurs in 2011 with 60 deaths, followed by a peak in 2016 with 40 deaths. The number of deaths has been generally decreasing since 2016.
Heroin vs. Methamphetamine

![Bar chart comparing Heroin and Methamphetamine usage from 2008 to 2018.](chart.png)
Stimulant Trends Over Time

- Methamphetamine
- Cocaine
- MDMA
Opioid Trends Over Time

[Diagram showing trends over time for different types of opioids: Heroin, Methadone, Rx Opioids, Designer/Novel.
Methadone Deaths, 2018

- Male, chronic pain, schizoaffective disorder, insomnia
  - Rx methadone, gabapentin, and citalopram
    - Recently started on methadone for opioid dependence with observed somnolence

- Male, Rx methadone for opiate dependence
  - Rx methadone & diazepam
    - Off methadone for two weeks while trying Valium; reportedly turned in the Valium.

- Male, Rx methadone for opioid dependence
  - Rx methadone & diazepam plus heroin

- Two males with illicit methadone & methamphetamine
Prescription Opioids Over Time

- Morphine
- Oxycodone
- Hydrocodone
- Fentanyl
- Buprenorphine

Year:
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
Prescription Drug Deaths, 2018

- Age: 28-62 years

- Gender
  - 5 females (already discussed)
  - 3 males (already discussed 2)

- 28 yr male with illicitly-obtained Rx-type drug abuse
  - Lived with mother who had terminal cancer.
  - History of depression and anxiety
  - Girlfriend was a recovering addict
  - Oxycodone & Alprazolam intoxication
THANK YOU!!!!!

- Lewis Farris – Sheriff-Coroner Intern
- Lindsey Westjohn – Sherriff-Coroner Intern
- Josh Pastor – Sheriff Dept. Crime Analyst