Using GIS for the Opioid Epidemic

Communicating the Severity of the Opioid Crisis in Colorado

Adams, Arapahoe, Douglas Counties | Colorado
Opioid Epidemic

The Opioid Epidemic: A Crisis Years in the Making

60,000
59,000 to 65,000 people died from drug overdoses in the U.S. in 2016

Peak car crash deaths (1972)

Peak H.I.V. deaths (1995)

Peak gun deaths (1993)

Drug overdose deaths, 1980 to 2016

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Opioid Epidemic

2010 Death Rate per 100,000

0-4  4.1-8  8.1-12  12.1-16  16.1-20  20+

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Opioid Epidemic

2011 Death Rate per 100,000

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Opioid Epidemic

2014 Death Rate per 100,000

- 0-4
- 4.1-8
- 8.1-12
- 12.1-16
- 16.1-20
- 20+

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So what is going on in my community?

Opioid Epidemic

2014 Death Rate per 100,000

0-4  4.1-8  8.1-12  12.1-16  16.1-20  20+

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Tri-County Health Department (TCHD) is the local public health agency for three (Adams, Arapahoe, Douglas) of the seven counties that make up the Denver metro region. TCHD serves approximately 1.5 million residents across 27 municipalities consisting of urban, suburban, and rural environments.
Who is asking?

- 3 Board of County Commissioners
- 27 City Councils
- 3 County Government Agencies
- Tri-County Health Department Staff
  - Executive Director
  - Substance Abuse Prevention Staff
- Substance Abuse Prevention Coalitions
- General Public
Historically, tracking of overdose deaths has occurred in tables and graphs.

### Opioid Overdose Deaths (Age-Adjusted Rates), 2001-2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Adams</th>
<th>Arapahoe</th>
<th>Colorado</th>
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Source: CDPHE, Vital

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**Regions of residence data:***

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Source: CDPHE, Vital
Developed a content specific data site that provides information consumable by a wider audience.

- Communicate the issue
- Identify the community resources/partners specific to the problem
- Describe the work Tri-County Health Department is doing around the topic
- Applying these concepts to other health issues: mental health, tobacco use, and obesity
193 Opioid Deaths (2015-2016)
In Adams, Arapahoe, Douglas Counties.

2015-2016 Totals
Colorado: 529 Opioid-related deaths
Adams County: 77 Opioid-related deaths
Arapahoe County: 103 Opioid-related deaths
Douglas County: 13 Opioid-related deaths

The kernel density map is based on the number of opioid-related deaths from 2015 to 2016.

(Opioid-related deaths have ICD-10 Codes T40.2-T40.4 as a cause-of-death)
Point locations are determined by geocoding residential addresses of the deceased (not the location where the event occurred). Geographically stocked single events are not represented on this density surface to protect patient privacy. Cells appearing on the surface require clusters of three or more deaths. The finest density surface is classified using equal intervals with an adjustment to mask individual events. The map indicates concentrations of events relative to the total number of events in the selected time period.

For additional information contact: schuped cittc.org
Source: Colorado Department of Public Health and Environment, Vital Records

Tri-County Health Department
193 Opioid Deaths (2015-2016)

In Adams, Arapahoe, Douglas Counties

2015-2016 Totals

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For additional information contact: ashpped@thd.org

Source: Colorado Department of Public Health and Environment, Vital Records
The following data was compiled for the Metro Denver region and geocoded by Tri-County Health Department from the National Directory of Drug and Alcohol Abuse Treatment Facilities - 2016 is a listing of Federal, State, and local government facilities and private facilities that provide Substance Abuse treatment services. The information about each facility that appears in this Directory was provided by that facility in response to the 2015 N-SSATS. N-SSATS is conducted annually by the Substance Abuse and Mental Health Services Administration (SAMHSA).

Click on any facility in the map to get more information about the facility and the services they provide. The following codes are those found in the facility pop-up:

- **Primary Focus**
  - GHF General Health Services
  - MHP Mental Health Treatment Services
  - MHSF 51st of Mental Health and Substance Abuse
  - SAF Substance Abuse Treatment Services

- **Type of Care**
  - BMW Buprenorphine Maintenance for Predetermined Time
  - BU Buprenorphine Used in Treatment
  - BMU Buprenorphine Maintenance
  - DBB Buprenorphine Detoxification
  - DM Methadone Detoxification
  - DT Detoxification
  - HT Transitional Housing or Halfway House
  - MUP Methadone
  - MM Methadone Maintenance
  - MMW Methadone Maintenance for Predetermined Time
  - MXA Accepts Clients on Opioid Medication
  - NimDA Do Not Use Methadone for Opioid Addiction
  - NDDP Do Not Treat Opioid Addiction
  - NXS Narcotic (Or)
  - OTP SAMHSA-Certified Opioid Treatment Program
  - OTPs All Clients in Opioid Treatment Program

**Drug Treatment Facility**
- **Facility Name:** Serenity at Stout Street Foundation
- **Address:** 2531 East 49th Avenue Commerce City, CO 80022
- **Phone:** 303-351-2533
- **Type of Care:** SA BU NOA
- **Treatment Approach:** CBT DBT
- **Smoking:** SPND
- **Service Loc:** RES RS

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What Can We Do Right Now?

Opioid addiction and misuse can affect all of us. There are a few steps we can take to help prevent prescription drugs from being misused and reduce the likelihood of addiction.

**Safe Storage and Disposal**
Prescription drugs are often improperly stored and disposed of, leading to a greater chance of misuse.

**Safe Use**
Watch for signs in yourself and others to likely portfolio dependence. If you suspect you or a loved one may be at risk for addiction, please reach out to one of our partners for help.

**Prevention**
If you suspect your loved one is misusing opioids, there are steps you can take to help prevent an overdose in the case that it should happen.

**Treatment**
If you are concerned that you or a loved one may be misusing opioid medications or are at risk for addiction or overdose, please reach out to a treatment center for help.

Get Involved with Our Community Led Youth Substance Prevention Coalitions

**Douglas County**
Douglas County Youth Substance Abuse Prevention Coalition
Contact: Steve Martinez
smart@sdch.org

**City of Aurora**
Aurora Youth Substance Abuse Prevention Coalition
Contact: Bethal Dillon
rdc@aurora.us

**Adams County**
Adams County Youth Substance Abuse Prevention
Contact: Kendra Test
k.tetrault@commonwealthco.org

**Communities that Care**
Youth Substance Abuse Prevention
Contact: Dan Nervik
dan@chd.org

Community Facts

The fact sheets below contain additional information specific to each community.
Opioid and heroin overdose death density web maps

*Death Certificate – State Vital Records Office*

Drug takeback and needle disposal locations

*State Health Department – Facilities database used for emergency preparedness*

Naloxone Retailers

*New America and Esri – public map layer*

Drug treatment and mental health facilities

*Substance Abuse and Mental Health Services Administration (SAMHSA)*

Links to partner sites

*Tri-County Overdose Prevention Partnership, Colorado Consortium for Prescription Drug Abuse Prevention*

Opioid and heroin overdose emergency department and hospitalization admissions

*Colorado Hospital Association*
<table>
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<tr>
<td>Privacy and suppression of point level death records, geographic representation may alter traditional privacy standards</td>
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<tr>
<td><strong>Drug takeback and needle disposal locations</strong></td>
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<td><em>State Health Department – Facilities database used for emergency preparedness</em></td>
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<tr>
<td>Requires continual updating and coordination with agencies collecting these data</td>
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<td><strong>Naloxone retailers</strong></td>
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<td>Thanks New America and Esri!</td>
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<td><em>Substance Abuse and Mental Health Services Administration (SAMHSA)</em></td>
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<tr>
<td>Data is updated on a regular cycle however the SAMHSA directory requires manual data abstraction and geocoding</td>
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<tr>
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<td>Make sure links are relevant and updated, don’t use too many</td>
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<td><em>Colorado Hospital Association</em></td>
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<tr>
<td>Hospitalization data may be available through different ways. Fees may be associated with these data and updating annually can be expensive.</td>
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</tbody>
</table>
Community Use

- 15,000+ unique page visits in 1 year
- Used for county staff reports.
- Internal staff use the resources and web maps for interactive meeting tools/visuals.
- Substance abuse coalitions use maps and data for identifying community need with substance use and allocation of resources.
- Provided an example and starting point for other counties in the Denver region to explore non-traditional data dissemination techniques.
- Data for partners to create informational material.