

Utilization of Multi-Sector Collaborations to Assess Vulnerability of SD Counties for Opioid Overdose and Bloodborne Infections

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Chronic Disease Partner's Meeting



SLM Consulting, LLC
Data Driven Public Health Solutions



UNIVERSITY OF
SOUTH DAKOTA
SCHOOL OF HEALTH SCIENCES



SOUTH DAKOTA
DEPARTMENT OF HEALTH



South Dakota
State University

Learning Objectives

- Understand data relative to South Dakota Opioid, HCV, & HIV cases
- Understand the purpose of the Vulnerability Assessment
- Identify the role of partners involved in project
- Outline the methods and findings of the project
- Describe public health implications of project
- Understand strategies for project success
- Next steps to address Opioid, HCV, & HIV in South Dakota

Vulnerability

Defined as the diminished capacity of a community to anticipate, cope with, resist, and recover from the impact of a hazard.

Scott County HIV outbreak: How did it happen and where does it stand?

Posted: 7:00 AM, Dec 09, 2016 Updated: 6:00 AM, Dec 09, 2016

By: Lucy May, WCPO Insider



Find a job with the new Hiring Hoosiers Job Board

237 HIV cases
94% hepatitis C co-infection (223)

Scott County, Indiana
Population: 24,181 (2010 Census)
Rank: 92 of 92 for worst economy in Indiana
Fame: Site of largest HIV and hepatitis C outbreak recorded in USA

In HIV-riddled town, addiction 'the lifestyle'

Chris Kenning, @ckenning_cj Published 8:03 p.m. ET April 27, 2015 | Updated 3:05 p.m. ET July 2, 2015



"This is Indiana's problem. This is (the) United States' problem," says Indiana's deputy health commissioner. Health officials update media regarding HIV outbreak in Scott County, Indiana. Video by Matt Stone, The Courier-Journal



AUSTIN, Ind. — Two miles from a new HIV testing clinic and needle exchange, a 26-year-old woman in dark sunglasses sat in a city park next to a neighborhood of abandoned homes with peeling

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US Cardiologist:
Your insides

Total Restore Supply

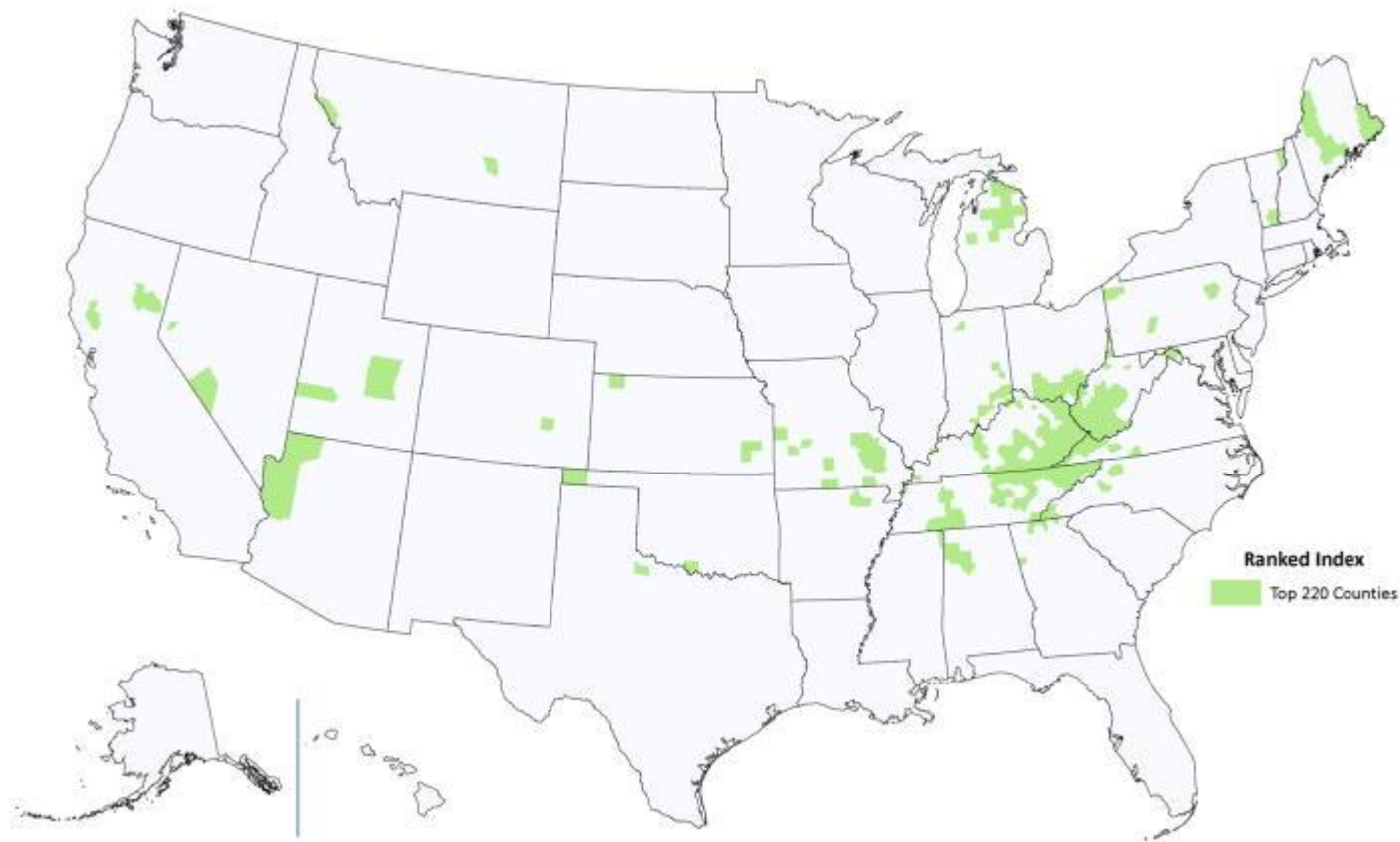


Community Outbreak of HIV Infection Linked to Injection Drug Use of Oxymorphone — Indiana, 2015

Started with 11 new HIV cases where 5 cases occurred annually.

Injection drug use was common (80%)
Commercial sex work (7%)

Multi-generational injection drug use
Opana (oxymorphone, ER)
Injections per day ranged from 4 to 15



CDC Analysis:

- Identified top 220 counties at risk
- Risk of HIV or HCV among persons who inject drugs
- Zero (0) SD counties in top 220
- But that does not mean risk-free

Van Handel et al. 2016. J Acquir Immune Defic Syndr. 73(3):232-331.

Purpose of Vulnerability Assessment

Opportunity

- **Funding:** CDC Cooperative Agreement for Emergency Response: Public Health Crisis Response. 2018 Opioid Overdose Crisis Cooperative Agreement Supplemental Guidance
- **Project Period:** September 2018-August 2019

Project Activities

1. Develop a jurisdiction-level vulnerability assessments that identify sub-regional (e.g., county) areas at high risk for (1) opioid overdoses and (2) blood-borne infections (i.e., HIV, hepatitis C) associated with nonsterile injection drug use.
2. Disseminate vulnerability assessment findings
3. Develop plan to address prevention and intervention gaps
4. Initiate implementation of plan

Project Roles

South Dakota State University

Methods, Data analysis, Findings,
Manuscript, Dissemination of
Findings

South Dakota Department of Health

Grantee, Fiscal Agent, Epidemiology,
Opioid Advisory Board, Dissemination of
Findings

**Vulnerability
Assessment**

SLM Consulting, LLC

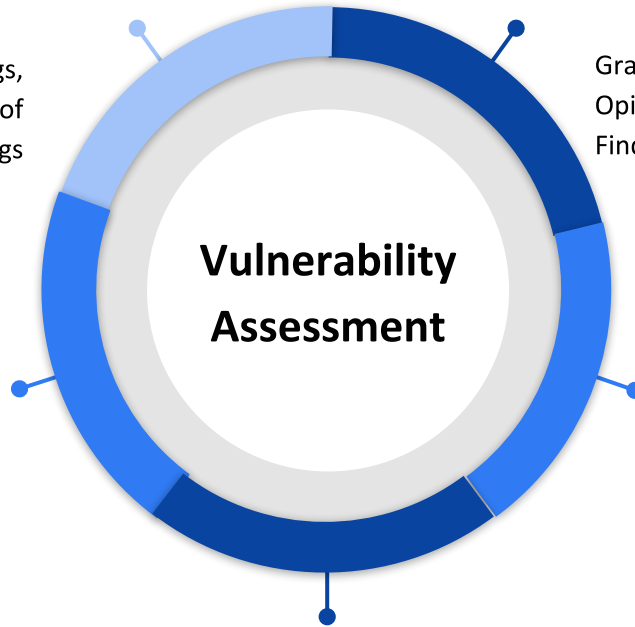
Project Coordination, Partner
Outreach & Collaboration,
Manuscript,
Dissemination of Findings,

University of South Dakota

Data, Manuscript, County Report
Cards, Data Indicators, Dissemination
of Findings

Partners

Data, Community Outreach



Methods

Methods

- Outcome: heavy drug use (HCV cases aged <40 years as proxy)
- Compile county-level surveillance and socioeconomic data
- Perform drive time analysis (ArcGIS Network Analyst)
- Use a Poisson Regression model to assess county factors
- Construct a rank for each county based on the model

County-level Indicators

Indicator Variables	Socioeconomic Data (2013-2017 5-Year ACS)	
Unintentional drug overdose (fatal and non-fatal)	% Mobile homes	% children aged 17 or younger
Opioid prescription rate (PDMP)	% People with disability	% minority
Reported HIV cases	% Speaking limited English	% crowded households
Naloxone administration by EMS	% poverty	% households with no vehicle
Syndromic emergency dept visit for opioid overdose	% with no high school diploma	% uninsured
Substance use disorder treatment admission (heroin or opioid)	% unemployed	% single parent households with children under 18
Access to primary care, emergency care, and behavioral health (drive time analysis incorporating road network data)	per capita income	% elderly aged 65 or above
High Intensity Drug Trafficking (DEA)		
Urban/Rural status (USDA Urban/Rural continuum classification)		

Construct Access to Care (Drive Time)

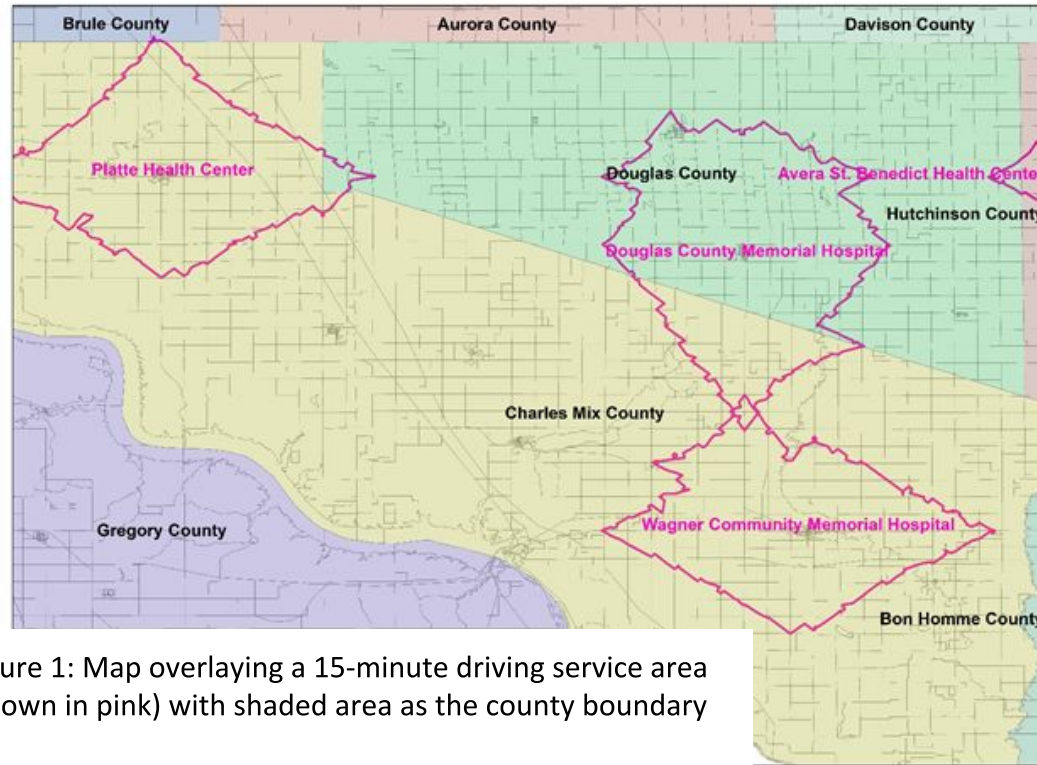
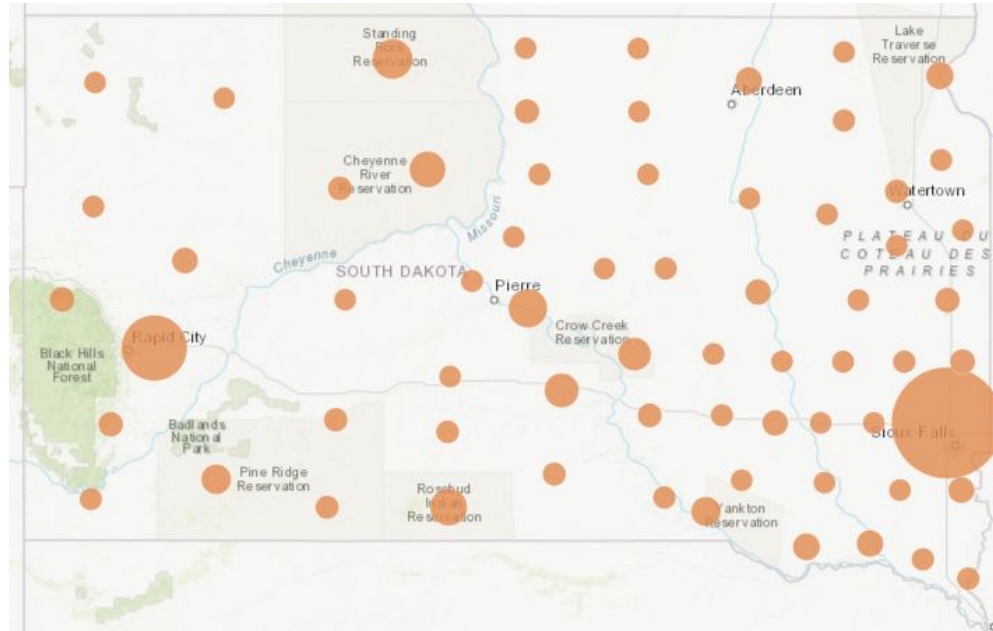


Figure 1: Map overlaying a 15-minute driving service area (shown in pink) with shaded area as the county boundary

Findings

Descriptive Results

- 296 HCV infection cases (acute & chronic aged <40 years) annually, 2016-2018
- Most indicators were individually found to be associated with heavy drug use



Poisson Regression Model Results

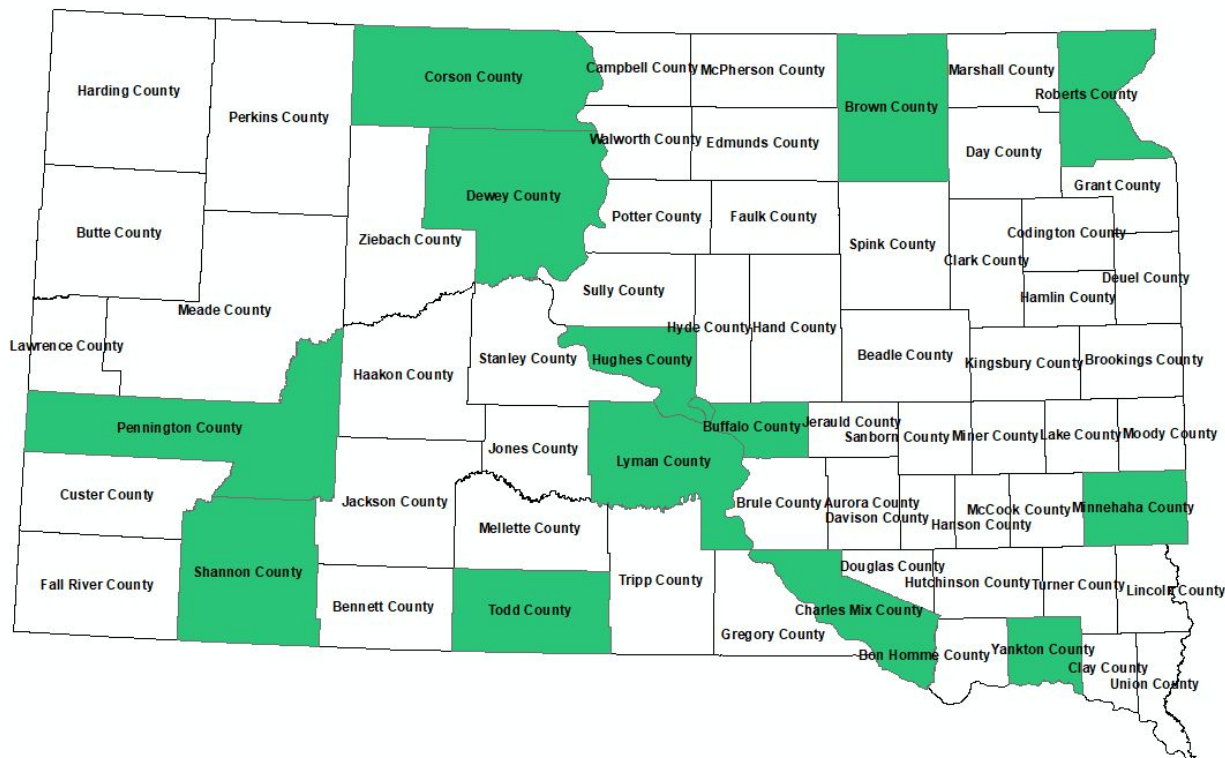
The following indicators were significantly associated heavy drug use:

- Unintentional drug overdose mortality per 100,000 ($p < 0.001$)
- Substance use disorder admissions related to primary injection drug use per 10,000 ($p = 0.015$)
- Naloxone administration per 10,000 ($p = 0.001$)
- Syndromic ED visit opioid overdose per 100,000 ($p < 0.001$)
- % county considered minority ($p < 0.001$)
- % county without insurance ($p = 0.001$)
- % county with crowded households ($p = 0.018$)
- % county with single parent households ($p = 0.026$).

County Vulnerability Ranking

13 counties (top 20%) were identified as vulnerable in SD:

- Brown
- Buffalo
- Charles Mix
- Corson
- Dewey
- Hughes
- Lyman
- Minnehaha
- Oglala Lakota
- Pennington
- Roberts
- Todd
- Yankton



Dissemination of Findings

Methods

- Executive Summary, County Report Cards & Interactive Maps
 - [Department of Health Opioid Page](#)
 - [Department of Health Statistics Page](#)
 - [Avoid Opioid SD](#)
- South Dakota Department of Health Website
 - [Prescription Opioid Abuse Prevention Initiative](#)
- Partners
- Webinars
- Conference Presentations
 - 2019 South Dakota Public Health Association Conference
 - 2019 Chronic Disease Partners & Better Choices Better Health Conference
- Manuscript: Journal of Infectious Disease - Submitted September 2019

Emergency Response Vulnerability Assessment

Risk of Opioid Overdose, HIV, and Viral Hepatitis

Aurora County

Population: 2,738¹

Vulnerability Level:
Average

South Dakota	Healthcare Access	Aurora County
80.9%	Primary Care Provider within 15 minutes ^{2,4}	71.5%
48.2%	Behavioral Health Provider within 15 minutes ³	0%
65.6%	Emergency Department within 15 minutes ^{2,4}	0%

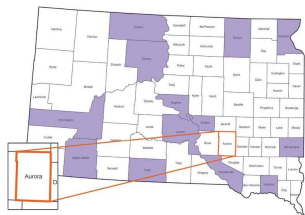
Infectious Disease

40	Reported HIV Cases ⁵	0
3.4	Reported HCV Cases per 100,000 ⁵	12.2*

Drug Related Data

0.6	Unintentional Drug Overdose - Fatal per 100,000 ⁶	0
0.9	Unintentional Drug Overdose - Non-Fatal per 100,000 ⁶	18.3*
53.6	Opioid Prescriptions per 100 ⁷	57.5
3.8	Naloxone Administration per 10,000 ⁸	3.7*
3.1	Drug Related Hospital Discharges per 100,000 ⁹	0
119.5	Substance Use Treatment Admissions per 10,000 ¹⁰	49.9*
N/A	High Intensity Drug Trafficking Area ¹¹	No

*Rate is based on count of less than 20.



South Dakota	Socioeconomic Data	Aurora County
13.9%	Poverty ¹²	6.2%
8.6%	No High School Diploma ¹²	12.4%
2.6%	Unemployed ¹²	1%
8.7%	Single Parent Households ¹²	6%
15.5%	Persons 65 and Older ¹²	20.1%
24.7%	Persons 17 or Younger ¹²	26.1%
17.3%	Minority ¹²	11.2%
2.3%	Housing Unit with More People than Rooms ¹²	1.1%
5.2%	Household with No Vehicle ¹²	1.3%
9.7%	Uninsured ¹²	5%
8.7%	Mobile Homes ¹²	8.8%
12.1%	People with Disability ¹²	12.8%
1.0%	Speak Limited English ¹²	2.2%
\$28,761	Per Capita Income ¹²	\$30,872

Recommendations

Build Capacity for Response to Opioid Misuse and Abuse

- Increase Education and Awareness about 911 Good Samaritan Law
- Targeted Naloxone Distribution

Prevention and Early Detection

- Expand Use of South Dakota Prescription Monitoring Program (PDMP)
- Amplify Public Health Messaging focused on Prevention of Opioid Misuse
- Support Implementation of Models to Engage Rural Communities in Addressing Opioid Misuse

- Strengthen public health data collection, reporting, and sharing
- Evidence-Based Community Prevention and Education Programs

Expand Treatment and Recovery

- Expand telehealth and teleconsultation to increase access to substance use treatment
- Expand Quality of Pain Management
- Expand access to Medication-Assisted Treatment (MAT)
- Enhance Workforce Capacity
- Increase Public Health Engagement to Address Opioid and Related HIV and HCV Issues
- Expand Access to Social Service Resources and Services

Full report available at doh.sd.gov.

Acknowledgments

Findings were supported by the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) of the CDC under award number NU90TP921980. The findings and conclusions in this project are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Partners and Stakeholders: South Dakota Department of Health, University of South Dakota, South Dakota State University, SLM Consulting, LLC, South Dakota Opioid Advisory Board, South Dakota Department of Social Services, South Dakota Department of Criminal Investigations, Great Plains Tribal Chairmen's Health Board, South Dakota Association of Healthcare Organizations

Endnotes

1. Annual Estimates of the Resident Population: July 1, 2017. The U.S. Census Bureau, Population Division.
2. South Dakota Department of Health (SD DOH), Office of Health Facilities Licensure & Certification, February 2019
3. South Dakota Department of Social Services, Division of Behavioral Health, Inpatient Treatment Services, Day Treatment Services, and Clinically Managed Low-Intensity Residential Services, February 2019
4. Health Resource & Services Administration (HRSA) Data Portal, Health Center Service Delivery and Look-Alike Sites, February 2019
5. SD DOH, Infectious Disease Surveillance, 2016-2018
6. SD DOH, Hospital Discharge, 2016-2018
7. SD DOH, South Dakota Prescription Drug Monitoring Program, 2016-2018
8. SD DOH, Emergency Medical Services, 2018
9. SD DOH, Syndromic Surveillance, July 2017-December 2018
10. South Dakota Department of Social Services, Treatment Episode Data, 2016-2018
11. U.S. Drug Enforcement Administration, High Intensity Drug Trafficking Area (HITDA) Programs County Data, May 2018
12. Census, American Community Survey (ACS), 2012-2016, Table B19301

Resources

South Dakota Opioid Resource Hotline

The Resource Hotline is available 24 hours a day, 7 days a week and will be answered by trained crisis workers to assist in finding local resources for you or a loved one. Call 1-800-920-4343.

Opioid Texting Support

Connect with local resources that best fit your needs. Answer a few questions and get help for yourself or a loved one who is struggling. Text **OPIOID** to **898211**.

Helpline Center: Opioid Prevention Resources

The Helpline Center provides opioid prevention resources including an online local and statewide database search that will connect you to opioid support services in your area and printable community guides. Visit www.helplinecenter.org.

Dakota Counseling Institute

Designated community mental health center for Aurora County. Call 605-996-9686 or visit www.dakotacounseling.net.

Horizon Health Services Aurora County Clinic

Comprehensive primary care including mental health/substance abuse services. Call 605-942-7711.

Learn more at
www.avoidopioidsd.com



Emergency Response Vulnerability Assessment

Risk of Opioid Overdose, HIV, and Viral Hepatitis

Executive Summary

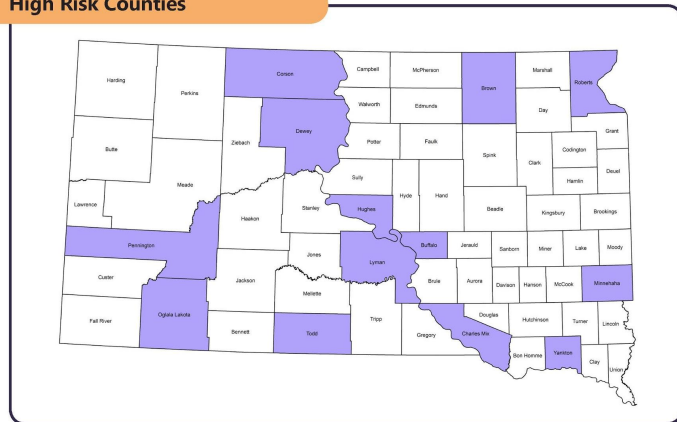
Rural U.S. communities are disproportionately impacted by drug overdose deaths,^{1,2} despite having lower drug use rates than urban communities.³ In 2009, deaths from drug overdose surpassed deaths from motor vehicle accidents in the U.S., and the majority (60%) of drug overdose deaths were due to prescription opioid abuse and misuse.^{4,5}

The incidence of deaths from opioid analgesic poisoning quadrupled between 1999 and 2011,⁶ followed by a marked increase in cases of acute hepatitis C virus (HCV) between 2010 and 2015—largely associated with an increase in injection drug use (IDU) in rural areas.⁷ IDU is a risk factor for HCV, HIV, and other bloodborne infections, and has become an important factor in understanding and responding to the nationwide opioid crisis.⁸ Recent clusters of

injection-related HIV and HCV have occurred in rural areas of several states due to increasing use of illicit prescription opioids and heroin.^{9,10} These events raise concern for the vulnerability of similar rural communities to the rapid spread of HIV and HCV among networks of persons who inject drugs.¹

The purpose of this project was to develop and disseminate county-level vulnerability assessments that identify areas in South Dakota at high risk for opioid overdose and injection-related HIV and HCV. Results highlight structural, socioeconomic, and geographic factors potentially important when assessing risk among South Dakota counties for opioid overdose and rapid spread of HIV and HCV. Findings will inform local and state plans to strategically allocate prevention and intervention services to minimize death and disability resulting from the nationwide opioid crisis.

High Risk Counties



Assessment Findings

Socio-economic indicators included percent poverty, percent with no high school diploma, percent unemployed, per capita income, percent single parent households with children under 18, percent elderly aged 65, percent children aged 17 or younger, percent minority, percent crowded households, percent households with no vehicle, percent mobile homes, percent people with disability, percent speaking limited English, and percent with no health insurance. The drug use and abuse indicators included deaths due to unintentional drug overdose, Naloxone Administered for any cause, Opioid prescriptions, Emergency Department (ED) Syndromic Opioid Overdose Visits, total ED visits, nonfatal ED visits,

HIV cases, substance use disorder admissions, admissions related to Opiates use, and admissions related to drug use. The counts were per 10,000. In addition, we created a High Intensity Drug Trafficking Area (HIDTA) by the U.S. Drug Enforcement Administration (DEA) for each county population within 15 miles of each type of the healthcare center for Health Statistics classification identifies 66 counties: small metro, micropolitan, and

Population: 869,666²⁸

Healthcare Access

Primary Care Providers within 15 miles ²⁹	80.9%
Behavioral Health Providers within 15 miles ³⁰	48.2%
Emergency Department within 15 miles ³¹	65.6%

Infectious Disease

Reported HIV Cases ³²	40
Reported HIV Cases per 100,000 ³³	34.0

Drug Related Data

Unintentional Drug Overdose - Fatal per 100,000 ³⁴	5.6
Unintentional Drug Overdose - Non-Fatal per 100,000 ³⁵	9.2
Opioid Prescriptions per 100 ³⁶	53.6
Naloxone Administration per 100,000 ³⁷	3.8
Drug Related Hospital Discharges per 100,000 ³⁸	31.0
Substance Use Treatment Admissions per 100,000 ³⁹	119.5

Socioeconomic

Poverty ⁴⁰	
No High School Diploma ⁴¹	
Unemployed ⁴²	
Single Parent Households ⁴³	
Persons 65 and Older ⁴⁴	
Persons 17 or Younger ⁴⁵	
Minority ⁴⁶	
Crowded Households ⁴⁷	
Household with No Vehicle ⁴⁸	
Mobile Homes ⁴⁹	
Per Capita Income ⁵⁰	
People with Disability ⁵¹	
Speak Limited English ⁵²	

Partners and Stakeholders

- South Dakota Opioid Abuse Advisory Committee
- South Dakota Department of Social Services
- South Dakota Division of Criminal Investigations
- Great Plains Tribal Chairmen's Health Board, Tribal Epi Center
- South Dakota Association of Healthcare Organizations
- South Dakota Board of Pharmacy
- South Dakota Department of Health
- University of South Dakota
- South Dakota State University
- SLM Consulting, LLC
- And MANY other stakeholders

Recommendations

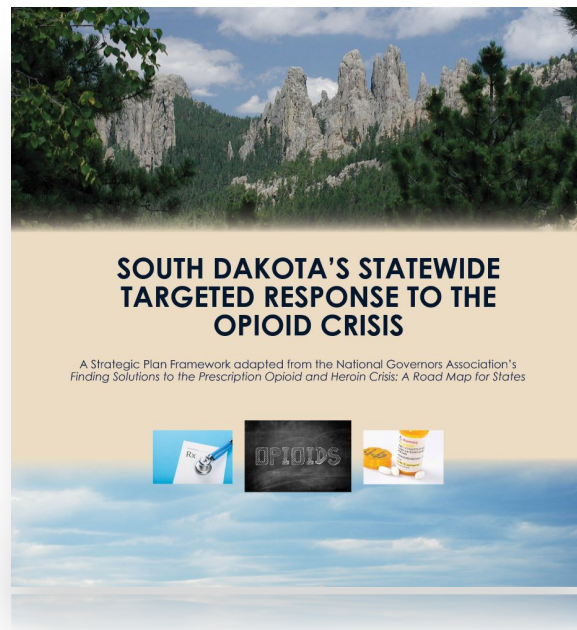
South Dakota Opioid Abuse Strategic Plan

Prevention and Early Detection

Treatment and Recovery

Reducing Illicit Supply

Response to Opioid Misuse and Abuse



Strategies for Success

Multi-Sector Collaboration



Next Steps

Thank You!



Acknowledgements

Findings reported in this presentation were supported by the National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP) of the CDC under award number NU90TP921980.

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