County Vulnerability Assessment

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SOUTH DAKOTA DEPARTMENT OF HEALTH

UNIVERSITY OF SOUTH DAKOTA
SCHOOL OF HEALTH SCIENCES

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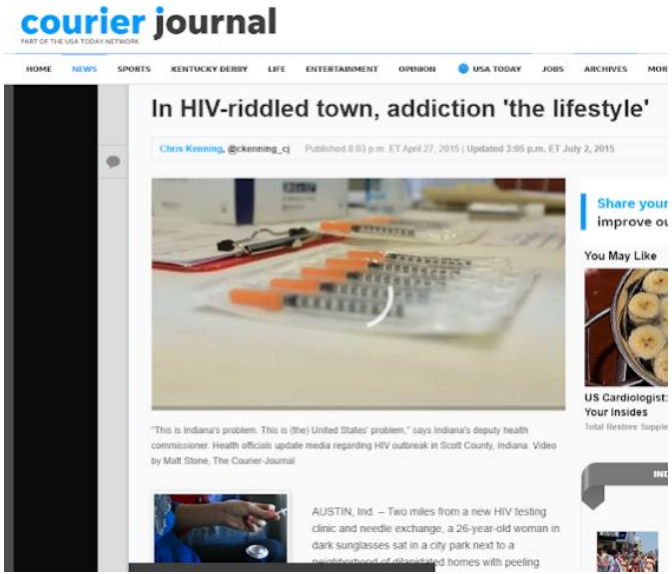
Outline

- What do we mean by vulnerable?
- Examples from Indiana and national assessments
- Steps to assess South Dakota counties
- Findings from the analysis
- Next steps

Vulnerability

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

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



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

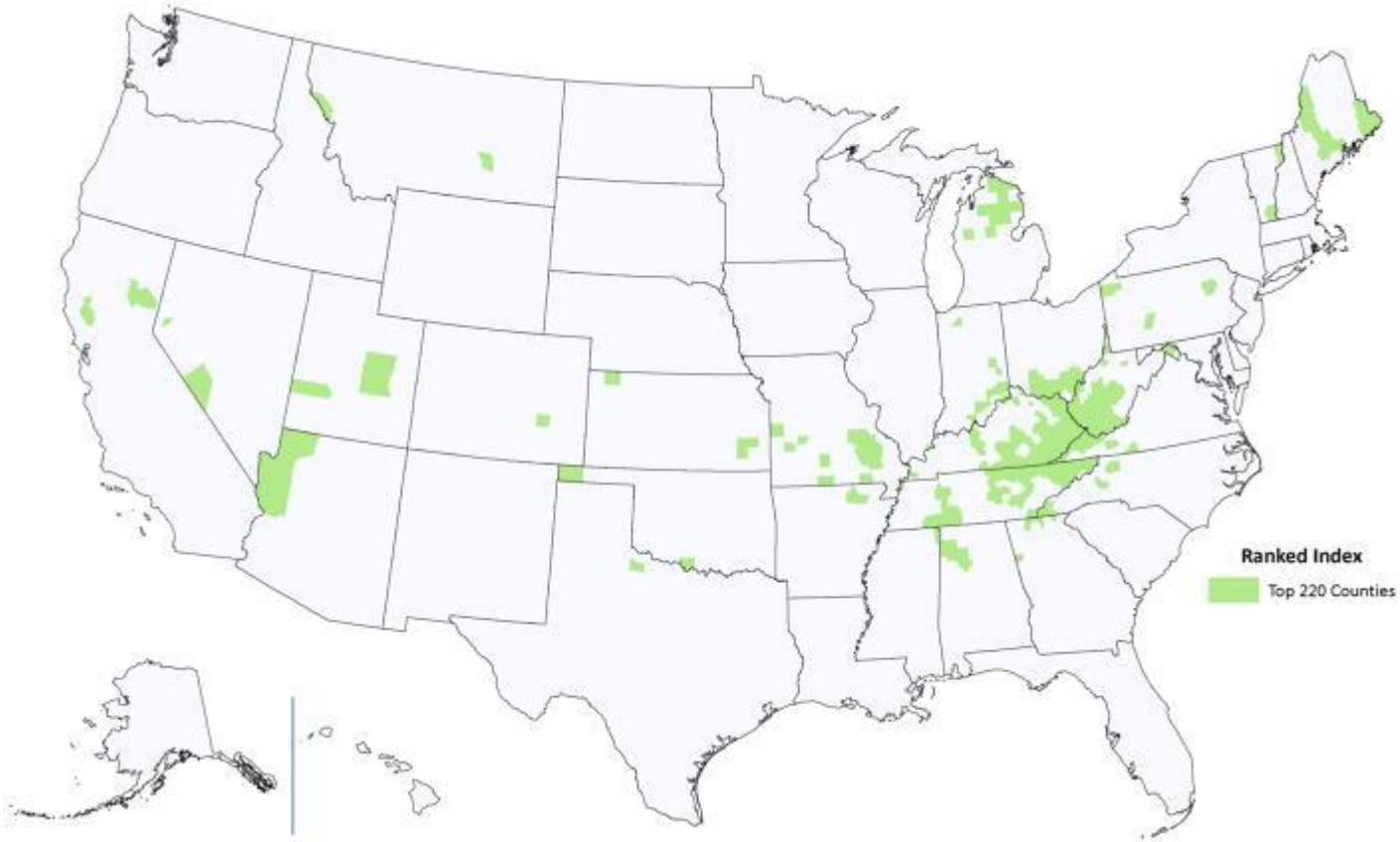
Morbidity and Mortality Weekly Report

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.

Opportunity

Funding: CDC Cooperative Agreement for Emergency Response: Public Health Crisis Response. 2018 Opioid Overdose Crisis Cooperative Agreement Supplemental Guidance

Goal: Develop and disseminate findings of a county-level vulnerability assessment for communities at risk of opioid overdose and bloodborne infections (HIV and hepatitis C)

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
- CDC provided feedback on the model development
- 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)

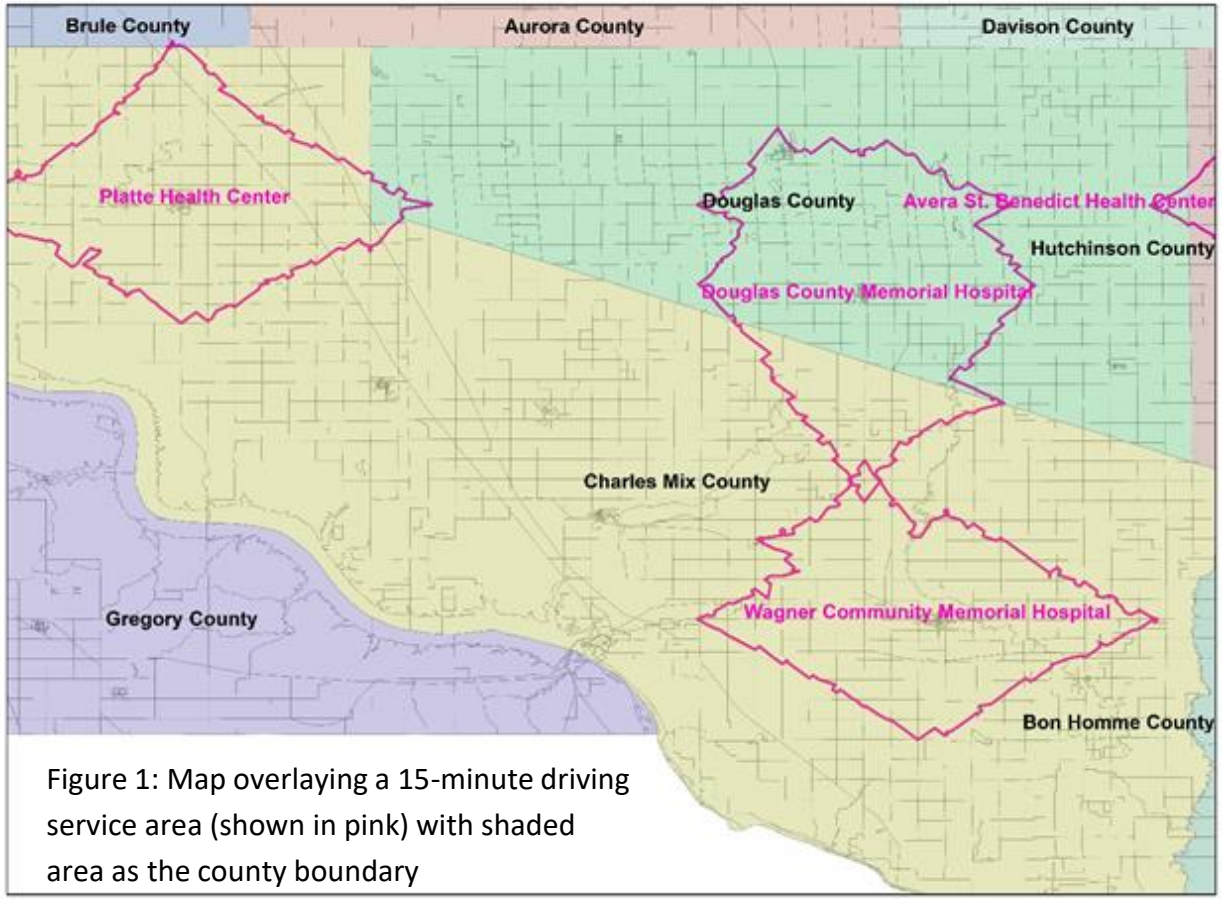
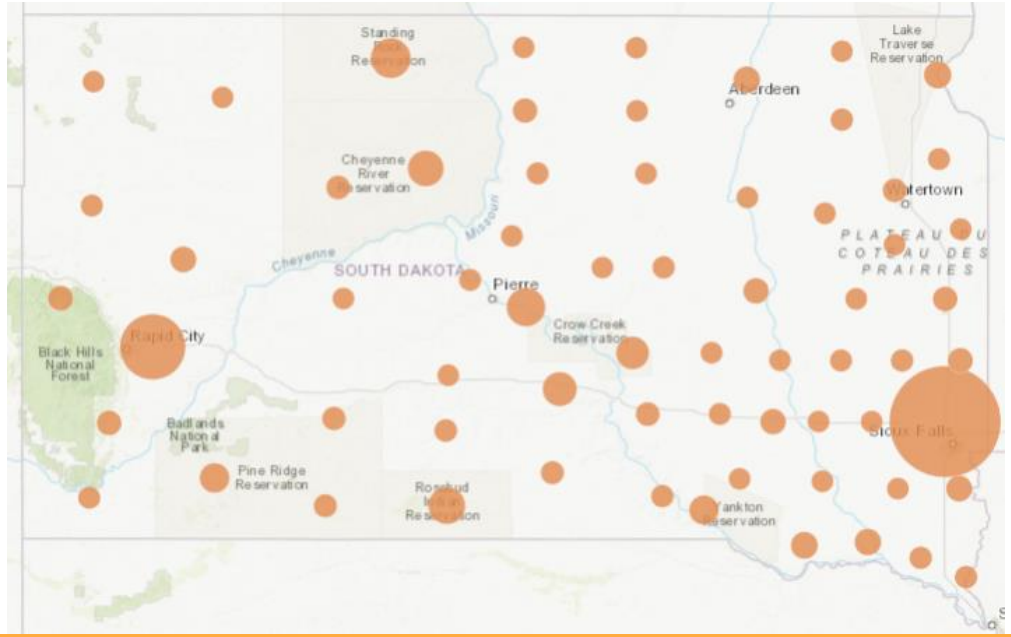


Figure 1: Map overlaying a 15-minute driving service area (shown in pink) with shaded area as the county boundary

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



Indicators from Poisson Regression Model

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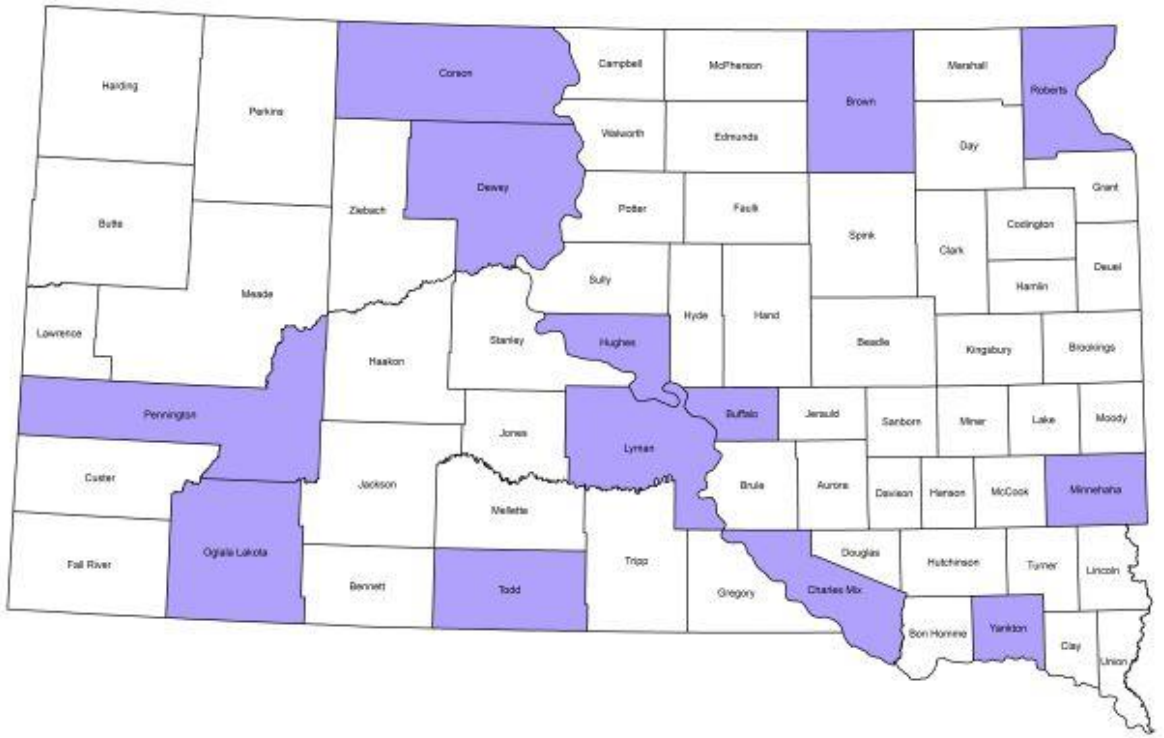
High Intensity Drug Trafficking (DEA)	https://arcg.is/rDriz	
Urban/Rural status (USDA Urban/Rural continuum classification)		

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



Next Steps

- Review the opioid road map to examine if these findings should modify the strategies
  - Prevention and Early Identification
  - Treatment and Recovery
  - Reducing Illicit Supply
  - Responding to Opioid Misuse and Abuse

- Raise awareness and collaborate with other state agencies, partners, professional organizations, and community groups

- Disseminate the findings to the larger public

South Dakota's Opioid Road Map

Strategies for Prevention and Early Identification

1. Develop and update guidelines for opioid prescribers in South Dakota.
2. Promote and provide education and training for all opioid prescribers on the appropriate prescribing of opioids.
3. Maximize the use and effectiveness of the South Dakota Prescription Drug Monitoring Program (PDMP).
4. Raise public awareness about the dangers of prescription opioids.
5. Improve treatment access via connection to resources and information through call center support.

Strategies for Treatment and Recovery

6. Increase professional competency in opioid use disorder (OUD) treatment and better connect treatment providers, prescribers, and recovery support services in complex case management and staffing of OUD cases.
7. Expand access to medication-assisted treatments (MAT) across South Dakota through enhanced referral systems and linkages to in-person and virtual MAT clinics.
8. Enhance awareness of treatment options and cost assistance available.
9. Improve treatment retention and recovery through peer and family support services.

Strategies for Reducing Illicit Supply

10. Explore the potential for a comprehensive opioid management program within South Dakota Medicaid.
11. Expand drug take-back programs to increase accessibility to safe disposal options for prescription opioids.

Strategies for Response to Opioid Misuse and Abuse

12. Equip first responders and emergency departments with naloxone to increase statewide access.
13. Offer training on available treatment options to jails statewide (which are independently operated).

Thank You!

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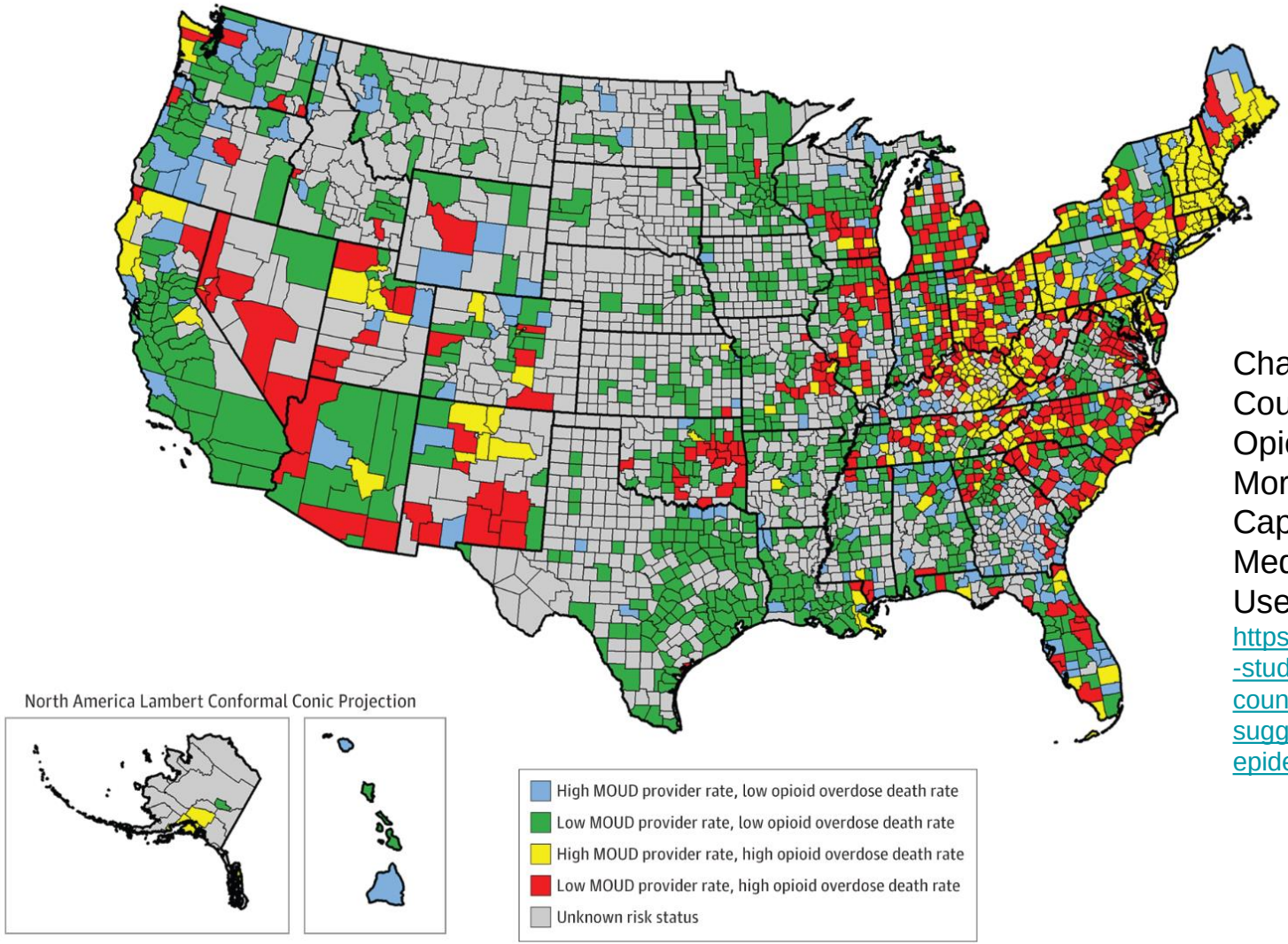
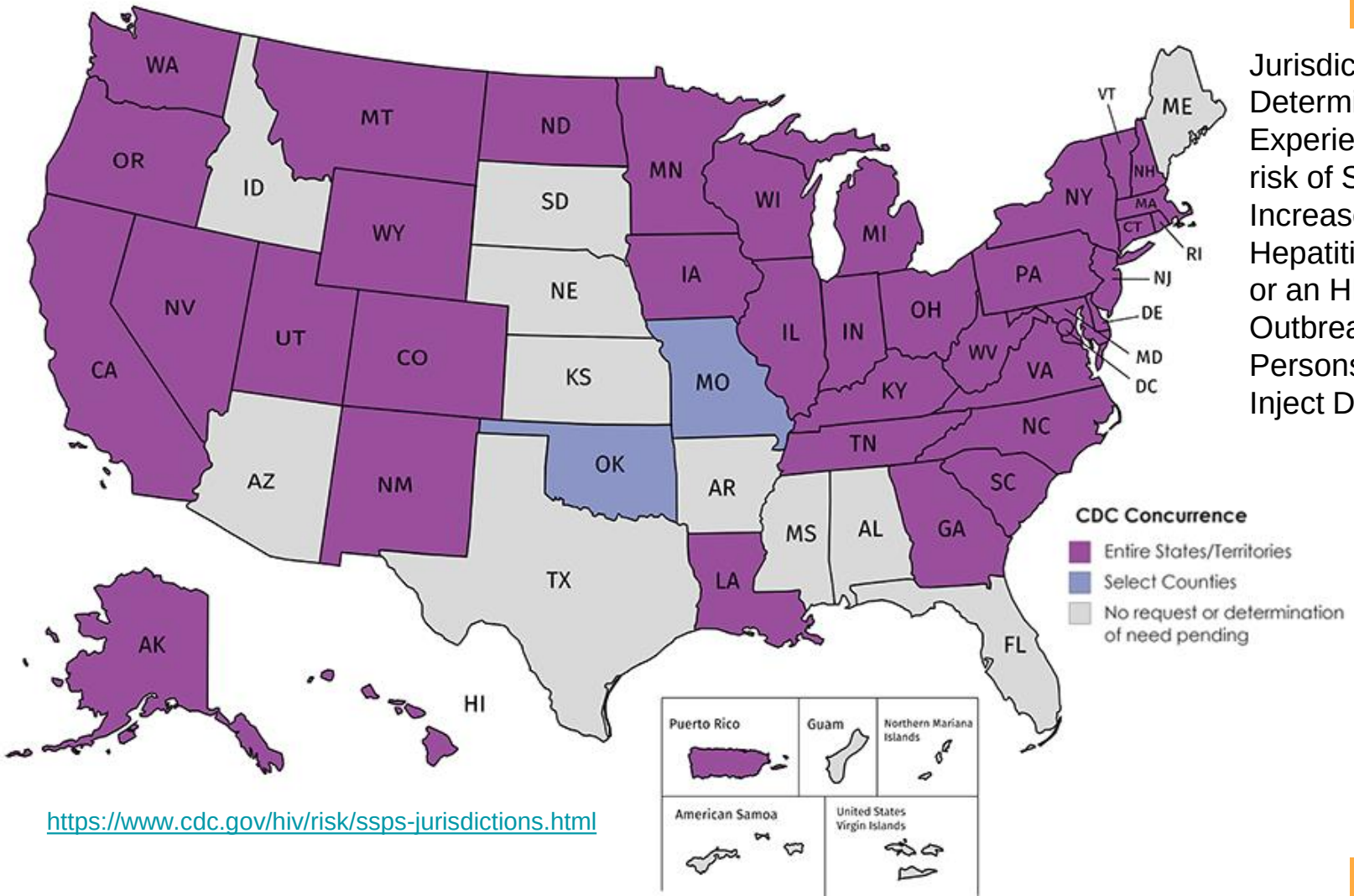


Characteristics of US Counties With High Opioid Overdose Mortality and Low Capacity to Deliver Medications for Opioid Use Disorder
https://news.umich.edu/opioids-study-shows-high-risk-counties-across-the-country-suggests-local-solutions-to-epidemic/

Jurisdictions Determined to be Experiencing or At-risk of Significant Increases in Hepatitis Infection or an HIV Outbreak from Persons Who Inject Drugs



https://www.cdc.gov/hiv/risk/ssps-jurisdictions.html