Results from the South Dakota Health Survey
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Overview

• Why the interest in South Dakota?
• Survey design
• Key findings
  – Statewide
  – County
  – Special Populations
  – Interviews with South Dakotans
Why the South Dakota Health Survey?

- SD and other rural states face many challenges in meeting healthcare needs of rural and underserved communities
- Mental illness and substance use conditions are leading causes of disability in the U.S.
- Surveillance of these conditions is limited
- Data are needed to plan and implement effective services

Project Goals:

- Assess prevalence of health conditions, use of and access to care, and key barriers to access
- Gather high quality state wide data on mental health and substance use needs in South Dakota
- Use data to inform decision-making and service delivery models

Study Design

- Health needs assessment survey
  - Domains: Prevalence of health conditions, Access to care, Utilization of care, Health insurance & medical costs, Health behaviors & lifestyle, Adverse childhood experiences, Social support, Demographics
- Phase 1: Mail and phone data collection
  - Representative stratified random sample of 17,000 households with oversampling in rural counties and American Indian communities
  - Mail survey with phone follow-up
- Phase 2: In-person data collection
  - Non-respondent households in tribal communities
  - Homeless individuals in Rapid City and Sioux Falls
  - Immigrant and refugee individuals in Sioux Falls
  - Housing insecure individuals (i.e. “couch surfers” and “doubled-up” families identified through household surveys)
Survey Collection

- Total household sample: 16,001
- Total household responses: 7,686
  - Mail: 6,620
  - Phone: 312
  - Online: 314
  - In-person: 440
- Total Response rate: 48%
- Supplemental samples
  - Immigrant/refugee: 100
  - Homeless: 301
  - Housing insecure: 117
- Total Surveys Completed: 8,204

Results: Participant Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>SD Health Survey (Weighted %)</th>
<th>SD Census Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-34</td>
<td>30.3%</td>
<td>30.8%</td>
</tr>
<tr>
<td>35-64</td>
<td>50.6%</td>
<td>49.6%</td>
</tr>
<tr>
<td>65 and older</td>
<td>19.1%</td>
<td>19.6%</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>42.6%</td>
<td>49.8%</td>
</tr>
<tr>
<td>Female</td>
<td>57.4%</td>
<td>50.2%</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>1.0%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>88.7%</td>
<td>83.4%</td>
</tr>
<tr>
<td>American Indian</td>
<td>9.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Other</td>
<td>1.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td><strong>Geography</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>44.4%</td>
<td>39.1%</td>
</tr>
<tr>
<td>Rural</td>
<td>33.3%</td>
<td>34.2%</td>
</tr>
<tr>
<td>Isolated</td>
<td>17.6%</td>
<td>26.6%</td>
</tr>
<tr>
<td>Reservation</td>
<td>4.7%</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Results: Key Findings Overview

- Statewide
- County-level variation
- Variation by population
- Perceived need for care

Statewide View
Prevalence & Access
Prevalence: Mental Health Screens

Participants who screened positive for a condition using standardized mental health screening tools

- Depression
- Anxiety
- Post Traumatic Stress Disorder (PTSD)

* Significantly different from urban population, adjusted for age and sex (P<0.05)

Prevalence: Self-Reported Behavioral Health Diagnosis

Participants who were ever told by a doctor that they had a certain condition

- Depression
- Anxiety
- PTSD
- Bipolar disorder
- Addiction issues
- Other MH Condition

* Significantly different from urban population, adjusted for age and gender (P<0.05)
Prevalence: Alcohol Use (AUDIT-C)

* Significantly different from urban population, adjusted for age and sex (P<0.05)

Access to Primary Care Provider

* Significantly different from urban population, adjusted for age and sex (P<0.05)
Hospital Utilization for Mental Health and Substance Use

Respondents reported one or more hospital emergency room visit or inpatient stay for mental health or substance use within the last 12 months

- Mental health emergency room visit
- Mental health inpatient stay
- Substance use emergency room visit
- Substance use inpatient stay

* Significantly different from urban population, adjusted for age and sex (P<0.05)

Main Reasons for Going Without Needed Mental Health Care

Top reasons for going without care among participants who needed but did not receive mental health care.

- Cost
- Availability
- Logistical reasons
- Personal choice
- Stigma/Fear
- Other reason

* Significantly different from urban population, adjusted for age and sex (P<0.05)
Key Findings: Statewide Assessment

- Similar prevalence of mental health conditions across urban/rural/isolated areas
  - Higher in reservation areas
- Access problems in isolated and reservation communities
- High inpatient and ED utilization for mental health conditions
- Cost of care and insurance coverage associated with receipt of needed care
- Questions?
County View
Prevalence & Access: Finding Opportunities to Maximize Impact

Depression
PHQ-2 Depression Score | Study-wide Average: 6%

Legend:
- <5%
- 5% - 8%
- 9% - 13%
- Counties Not Participating in Study

Map showing county prevalence and access to mental health services.
Anxiety

GAD-2 Anxiety | Study-wide Average: 6%

Any Drug Use*

*Includes past-year use of marijuana, Methamphetamines, prescription pain relievers without a prescription and other street drugs.

Any Drug Use- Past Year | Study-wide Average: 8%
IDENTIFYING “HOTSPOTS”

States are big places—how do you begin to “smart target” your work where it will have the most impact?

High prevalence and low access are both bad, but the combination of those two things is especially bad.

We combined indicators of prevalence and access to find places where high need and low access overlap.

These may be opportunities for maximum impact.
MENTAL HEALTH HOTSPOTS:
High Prevalence & High Unmet Need

High Unmet Mental Health Need and High Prevalence of Any Screened Mental Health Issues (Depression, Anxiety and PTSD)

SUBSTANCE USE HOTSPOTS:
High Use of Drugs + High Unmet Need for Care

High Unmet Substance Abuse Care Need and High Prevalence of Past Year Drug Use
KEY FINDINGS: COUNTY-LEVEL VARIATION

County-level view shows pockets of variation:
- High mental health conditions: depression, anxiety, PTSD screens
- High drug use & alcohol misuse
- Indicators of poor access to care
- High rates of adverse childhood experiences

Differences were stark – in many cases the high counties were 3-4 times higher than the state average.

“Hotspot” counties were identified where prevalence is high and access to care is low. These may represent optimal points for maximum impact.

Questions?

Selected Populations
Prevalence & Access
American Indian: Prevalence of Mental Health Conditions

Self-reported diagnoses of behavioral health conditions by American Indian race/ethnicity

<table>
<thead>
<tr>
<th>Condition</th>
<th>American Indian</th>
<th>Non-American Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>25.7%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>29.1%</td>
<td>16.6%</td>
</tr>
<tr>
<td>PTSD</td>
<td>9.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>1.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other Mental Health</td>
<td>1.2%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

American Indian: Adverse Childhood Experiences (ACEs)

Childhood experiences of abuse and neglect by American Indian race/ethnicity compared to non-American Indian respondents

<table>
<thead>
<tr>
<th>Experience</th>
<th>American Indian</th>
<th>Non-American Indian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Abuse</td>
<td>30.1%*</td>
<td>17.4%</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>24.5%*</td>
<td>12.3%</td>
</tr>
<tr>
<td>Sexual Abuse</td>
<td>15.5%*</td>
<td>9.6%</td>
</tr>
<tr>
<td>Emotional Neglect</td>
<td>25.9%*</td>
<td>14.0%</td>
</tr>
<tr>
<td>Physical Neglect</td>
<td>15.9%*</td>
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*Significantly different from non-American Indian respondents (P<0.05)
American Indian: Adverse Childhood Experiences (ACEs)

Childhood experiences of abuse and neglect by American Indian race/ethnicity compared to non-American Indian respondents

- Mother Treated Violently
- Household Substance Abuse
- Household Mental Illness
- Parental Separation or Divorce
- Incarcerated Household Member

*Significantly different from non-American Indian respondents (P<0.05)

ACEs: Associations with Health Conditions

- Statewide, higher ACE Scores were associated with an increased likelihood of:
  - screening positive for depression, anxiety, or PTSD
  - reporting diagnoses of asthma, high blood pressure, heart disease, high cholesterol, and chronic obstructive pulmonary disease (COPD)
- This link is consistent with other research on general US population
- What is novel is high rate of ACEs in AI population
Key Findings: Homeless

- High rates of mental health conditions, alcohol misuse, drug use, and ACEs
- Considerable unmet need for care and access challenges

Homeless respondents who screened positive for mental health conditions, alcohol misuse and drug use

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Depression</td>
<td>29.3%</td>
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<tr>
<td>Anxiety</td>
<td>32.1%</td>
</tr>
<tr>
<td>PTSD</td>
<td>33.7%</td>
</tr>
<tr>
<td>Severe Alcohol Misuse</td>
<td>30.9%</td>
</tr>
<tr>
<td>Any Past Year Illegal Drug Use</td>
<td>34.6%</td>
</tr>
</tbody>
</table>

Key Findings: Housing Insecure

- High rates of mental health conditions and substance use
- High hospital utilization rates and health care access problems

Housing Insecure respondents who screened positive for mental health conditions, alcohol misuse and drug use

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<tr>
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<td>PTSD</td>
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<td>Severe Alcohol Misuse</td>
<td>22.6%</td>
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<td>Any Past Year Illegal Drug Use</td>
<td>37.5%</td>
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</tbody>
</table>
Immigrant and Refugee

- High prevalence of some mental health conditions, low prevalence of health risk behaviors, and limited access to health care services

<table>
<thead>
<tr>
<th>Mental Health Condition</th>
<th>Prevalence</th>
</tr>
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<tbody>
<tr>
<td>Depression</td>
<td>19.5%</td>
</tr>
<tr>
<td>Anxiety</td>
<td>21.4%</td>
</tr>
<tr>
<td>PTSD</td>
<td>5.6%</td>
</tr>
<tr>
<td>Severe Alcohol Misuse</td>
<td>4.6%</td>
</tr>
<tr>
<td>Any Past Year Illegal Drug Use</td>
<td>11.8%</td>
</tr>
</tbody>
</table>

Key Findings

- Substantial health disparities compared to non-American Indian respondents
  - High prevalence rates of mental health conditions
  - High rates of drug use and alcohol misuse, but also high rates of sobriety
  - Significantly elevated prevalence rates of adverse childhood experiences (ACEs)
  - Unmet need for care and limited access to health care services
- High rates of mental illness/drug use disorders in homeless/housing insecure
- Questions?
Interviews with South Dakotans

Rational: Discordance in Perceived Need for Care vs. Screening Results

- Many survey participants screened positive for a behavioral health condition but did not identify a need for care.
  - Mental health: 12.2% of respondents screened positive, only 36.2% of these individuals perceived a need for care
  - Substance use: 42.3% of respondents screened positive, only 1.9% of those individuals perceived a need for care
- Follow-up interviews conducted with focused sample of 35 survey respondents to better understand what contributes to this discrepancy
Interview Method

• Three recruitment steps
  – Identify willing participants
  – Cluster participants on screening/perceived need
  – Recruit purposive sample

• 30-60 minute interviews conducted between July – November 2014

• Multidisciplinary team analyzed transcripts using content analysis framework

Interview Participant Characteristics (N = 35)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N (%)</th>
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<tbody>
<tr>
<td>Age</td>
<td></td>
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<tr>
<td>18-34</td>
<td>5 (14.3)</td>
</tr>
<tr>
<td>35-64</td>
<td>23 (65.7)</td>
</tr>
<tr>
<td>65 and older</td>
<td>7 (20.0)</td>
</tr>
<tr>
<td>Female Gender</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21 (60.0)</td>
</tr>
<tr>
<td>American Indian Race/Ethnicity</td>
<td>10 (28.6)</td>
</tr>
<tr>
<td>Geography</td>
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</tr>
<tr>
<td>Urban</td>
<td>6 (17.1)</td>
</tr>
<tr>
<td>Rural</td>
<td>11 (31.4)</td>
</tr>
<tr>
<td>Isolated</td>
<td>10 (28.6)</td>
</tr>
<tr>
<td>Reservation</td>
<td>8 (22.9)</td>
</tr>
<tr>
<td>Screening Status</td>
<td></td>
</tr>
<tr>
<td>Mental Health only</td>
<td>18 (51.4)</td>
</tr>
<tr>
<td>Substance Abuse Only</td>
<td>9 (25.7)</td>
</tr>
<tr>
<td>Co-occurring</td>
<td>6 (17.1)</td>
</tr>
<tr>
<td>Negative Screen</td>
<td>2 (5.7)</td>
</tr>
</tbody>
</table>
Emergent Themes

Two broad constructs emerged as critical to understanding treatment gaps for mental health, alcohol and substance use:
1) How the “problem” was defined shaped an individual’s perceptions of need and
2) Tipping points that encouraged individuals to seek care.

Participants also shared ideas on how to bridge the treatment gap.

Key Theme: Defining Mental Health Conditions

• Many participants viewed mental health conditions as a normal part of life or a “personal problem” rather than diseases that could be treated.

“I got an ex-wife — something’s the matter with her, but that’s been that way forever and I don’t even know what it is. It’s just a personality quirk. It’s all right, just so long as the neighbors don’t find out. There’s a lot of people that way who have been brought up like me but just can’t cope with the real world.”
Key Theme: Defining Alcohol & Drug Use Problems

- Alcohol use started early and was viewed as normative
- Alcohol abuse was associated with harm of others, neglecting responsibilities, or getting into trouble with the law. Relative comparison factored in to perceptions.

“I think some of it is like, ‘Oh, I’ve never gotten in trouble with the law and when I do drink I’m at home...I’m not out and about, causing problems or going out and driving around.’ And like I say, I haven’t viewed it as a problem.”

- About half of participants viewed any use of drugs as abuse. Others only considered it abuse only if drug use interfered with an individual's ability to function.

Key Themes: Tipping Points & Individual Willpower

- Coping with a mental health issue or maintaining sobriety was frequently viewed as the result of an individual’s willpower
- Family, friends, and court-mandated treatment could play a role in suggesting needed treatment
- Trigger for seeking care often related to a substantial life event (e.g., children)

“I’d seen my mom quit, and a few other family members quit drinking. I was the only one still making an ass out of myself. And then I had kids.”
Key Themes: Stigma and Denial

- Stigma was a prominent concern related to seeking mental health or substance use treatment

“[A barrier is] everybody knowing. [It’s a] small community. It doesn’t take long for word to get around. A matter of fact, if I take an ambulance run by the time I get back half the town knows about it – in detail. I mean it surprises the heck out of me how we can run to [larger city] and back which takes about 4-1/2 hours and I’ll get back and go to the grocery store and people will ask me ‘well, how’s so and so doing?’”

- Denial was also viewed as a factor that limited treatment seeking.

Participant Recommendations to Bridge the Treatment Gap

- Improve local access and quality of care
- Provide community education about behavioral health conditions, effectiveness of treatment, and how to get help
- Address contextual factors and systemic issues that can contribute to behavioral health conditions

“...if we had things that would be supportive of a healthy lifestyle – because when people go to treatment they come from that environment back into the old environment, and if there’s nothing there for support, you’re going to go right back in with your friends...If there was a support system that helped a person to continue to get outpatient treatment, help them get a job, if they needed some life skills to have that education there for them [this would help].”
Key Findings: Interviews

- Discordance between positive clinical screens and perceived treatment need (63.8% with mental health conditions; 98.1% with substance use needs)
- Discrepancy related to how conditions are defined; stigma and denial
- Treatment seeking encouraged by others, but seen as results of individual’s will power and often related to life events
- Participants noted community-based education and system-level interventions were needed in order for improvements in local access to be effective
- Questions?