Community Health Needs Assessment Survey – A Focus on Concerns Voiced by Urban Indians:
A Step Toward the Development of Culturally Appropriate Health Care

Presentation at the Collaborative Research Center for American Indian Health Annual Summit
June 11, 2014
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Acknowledgements

- Thank you to community members who took the time to complete the survey!

- Research Team:
  - Donna Grandbois (Turtle Mountain), RN, Ph.D., NDSU Assistant Professor of Nursing and MPH Faculty Member
  - Jaclynn Davis-Wallette (Turtle Mountain), NDSU Assistant Vice President of Equity, Diversity, and Global Outreach
  - Willard Yellow Bird, Jr. (Three Affiliated Tribes), City of Fargo Cultural Planner
  - Clinton Alexander (White Earth), Director of the Native American Center in Fargo and Director of Sacred Spirits in Fargo
  - Sharon Cobb (Fargo Resident), former Director of the NDSU Group Decision Center

- Fargo Native American Commission

- Greater Fargo-Moorhead Community Health Needs Assessment Collaborative
Stark health disparities for ND American Indians (AI)

- Largest minority population:\(^1\)
  - 6.4% of state population / 2.1% of F-M Metro Area
- On average, AI in ND die 20 years younger than whites:\(^2\)
  - 57.4 years vs. 77.4 years from 2007-2012
- Disparities cross a broad spectrum of issues:\(^3\)
  - infant mortality, substance use, injuries, chronic disease (diabetes)
- AI are challenged to access health services, and to find culturally competent health care when they do:\(^4\)
  - Providers trained in patients’ culture, culturally-specific healthcare setting, images used, readability of materials

Source: http://ndstudies.gov/legendary_maps_charts
Disparities in broad context

- Inter-generational impacts of historical trauma
- Adverse Childhood Experiences (ACEs)\(^5\)
  - Abuse, neglect, household dysfunction $\rightarrow$ toxic stress
  - Increased risk for health problems as an adult
  - Need for trauma-informed care\(^6\)

- Social determinants of health\(^7\)
  - Economic stability, education, social & community context, health & health care, neighborhood & built environment
Context for prioritizing “community needs”

- Maslow’s Hierarchy of Needs:
  - First 4 are “deficit” needs
  - Expect different priorities based on where person is at in the pyramid
  - Doesn’t mean other needs aren’t important

Maslow’s Hierarchy of Needs:
- **Basic needs**: Physiological needs
  - Food, water, warmth, rest
- **Psychological needs**: Safety needs
  - Security, safety
- **Psychological needs**: Belongingness and love needs
  - Intimate relationships, friends
- **Psychological needs**: Esteem needs
  - Prestige and feeling of accomplishment
- **Psychological needs**: Self-actualization
  - Achieving one’s full potential, including creative activities
Assessing community health needs

- Look systematically at health of community
  - Ensure services are provided effectively/efficiently
  - Identify health inequalities, unequal access to services
  - Prioritize resources

- Greater Fargo-Moorhead Community Health Needs Assessment Collaborative
  - Formed in response to 2010 Health Care Reform mandate to non-profit hospitals
  - Designed a survey to assess opinions and concerns about a broad array of community issues
Survey Design

- 88 questions, measured on 1 to 5 Likert scale, where larger value → greater concern
- Organized into 12 different areas, in 3 broad sections
  - Statements about the community (3 areas, 19 questions)
    - 1. The people (7)
    - 2. Services and resources (6)
    - 3. Quality of life (6)
  - General community concerns (6 areas, 36 questions)
    - 4. Economic issues (8)
    - 5. Transportation (6)
    - 6. Environment (4)
    - 7. Children and youth (7)
    - 8. Aging population (5)
    - 9. Safety (6)
  - Health-related community concerns (3 areas, 33 questions)
    - 10. Access to health care (19)
    - 11. Physical and mental health (10)
    - 12. Substance use and abuse (4)
Prior data collection efforts

- Generalizable community survey (N=236) – April 2012
  - 1,500 mail surveys; ~15% response; 95% confidence level with error rate of +/- 6%

- Community leaders (N=58) – May 2012
  - Not generalizable but key insights from: mayor, city commissioners, nonprofit directors, leaders in health field

- Only 2 American Indians in generalizable survey, none among the community leaders

- Overall priorities chosen by GFMCHNAC:
  - Mental Health
  - Obesity
  - Aging Issues
Assessing needs of American Indian residents?

- Critical need to address health disparities for urban Indians → special survey effort
  - Spearheaded by Urban Indian Health & Wellness Center of F-M
  - Support from Fargo Native American Commission
  - Utilized community-based participatory research principles
    - Convenience sampling (e.g., community events)
    - Summer of 2012
    - Additional 101 surveys, 97 after data cleaning (88 AI)
Goals of the project

- Demonstrate the unique needs of American Indian residents
- Compare among 3 survey groups
  - Used the same survey so we could compare across groups
  - Proxy for “general” community, community leaders, and the urban Indian population
- Inform policy-making
- Promote culturally appropriate health care
- Assess over time
Analysis

- **Missing Data**
  - Respondents who did not respond to 75% or more of the survey were removed from the dataset (N=8)
  - Final N=387: 232 for the generalizable community survey, 58 for community leaders survey, and 97 for the urban Indian survey

- **Determine if it would be appropriate to create composite indices**
  - Reliability (Cronbach’s alpha) was excellent for all of the factors, across all three survey groups (.7+) → scores for individual Qs within each of the 12 factors were combined/averaged to create an index
  - Handling of missing data (included if answered at least 67% of Qs for that index)

- **Means, for factors and individual Qs**
  - Qs asked on a 1 to 5 scale, where 5 indicates greater concern → averages

- **Rankings, for factors and individual Qs**
  - Qs ranked with highest mean (greatest concern)=1

- **Multivariate Analysis of Variance (MANOVA)**
  - Examine whether there are significant differences among concerns by survey group
  - Used listwise deletion for respondents missing data (SPSS)
Demographics ➔ Reflect Distinct Experiences

**American Indian survey respondents (N=97):**
- Mostly American Indian
- Younger overall; no elders
- Lower education levels
- Even split for gender
- ~Half work/volunteer outside home
- Low homeownership
- Lower income levels
- More who are parenting a child 18 or younger (2 in 5)

**Generalizable community survey respondents (N=232):**
- Mostly white
- *Older (skews older)*
- *Half with at least a 4-year degree (skews high)*
- *More females*
- ¾ work/volunteer outside home
- *High homeownership level (skews high)*
- *Middle to upper-middle income (skews high)*
- Fewer who are parenting a child 18 or younger (1 in 4)

**Community leader survey respondents (N=58):**
- Mostly white
- Older, but fewer elders
- Very highly educated
- More females
- (~100% work/volunteer outside home)
- Nearly universal homeownership
- Upper-middle to high income
- Fewer who are parenting a child 18 or younger (1 in 3)

*Not representative of overall community*
### Among Top Individual Areas of Concern Among American Indian Residents:

- **Stress**
  - Ranked 11<sup>th</sup> / 12<sup>th</sup>

- **Depression**
  - Ranked 15<sup>th</sup> / 9<sup>th</sup>

- **Alcohol use, abuse**
  - Ranked 19<sup>th</sup> / 11<sup>th</sup>

- **Homelessness**
  - Ranked 52<sup>nd</sup> / 36<sup>th</sup>

- **Smoking, tobacco use**
  - Ranked 23<sup>rd</sup> / 19<sup>th</sup>

- **Domestic violence**
  - Ranked 23<sup>rd</sup> / 21<sup>st</sup>

### Top 11 Ranked Community Concerns Among All 88 for American Indian Respondents

<table>
<thead>
<tr>
<th>Factor</th>
<th>Community Concern</th>
<th>American Indian survey</th>
<th>Generalizable community survey</th>
<th>Community leaders survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Rank* (of 88)</td>
<td>Mean** (1 to 5)</td>
<td>Rank* (of 88)</td>
</tr>
<tr>
<td>physical &amp; mental health</td>
<td>Stress</td>
<td>1</td>
<td>4.06</td>
<td>11</td>
</tr>
<tr>
<td>physical &amp; mental health</td>
<td>Depression</td>
<td>2</td>
<td>4.03</td>
<td>15</td>
</tr>
<tr>
<td>substance use &amp; abuse</td>
<td>Alcohol use and abuse</td>
<td>2</td>
<td>4.03</td>
<td>19</td>
</tr>
<tr>
<td>economic issues</td>
<td>Homelessness</td>
<td>4</td>
<td>3.97</td>
<td>52</td>
</tr>
<tr>
<td>access to health care</td>
<td>Cost of health care</td>
<td>5</td>
<td>3.94</td>
<td>2</td>
</tr>
<tr>
<td>substance use &amp; abuse</td>
<td>Smoking and tobacco use</td>
<td>6</td>
<td>3.90</td>
<td>23</td>
</tr>
<tr>
<td>physical &amp; mental health</td>
<td>Poor nutrition / eating habits</td>
<td>7</td>
<td>3.86</td>
<td>13</td>
</tr>
<tr>
<td>safety</td>
<td>Domestic violence</td>
<td>8</td>
<td>3.79</td>
<td>23</td>
</tr>
<tr>
<td>physical &amp; mental health</td>
<td>Chronic disease</td>
<td>8</td>
<td>3.79</td>
<td>9</td>
</tr>
<tr>
<td>access to health care</td>
<td>Cost of health insurance</td>
<td>10</td>
<td>3.78</td>
<td>1</td>
</tr>
<tr>
<td>physical &amp; mental health</td>
<td>Inactivity, lack of exercise</td>
<td>10</td>
<td>3.78</td>
<td>14</td>
</tr>
</tbody>
</table>

*Ranking is of all 88 questions, where 1 is greatest concern, across all of the 12 factors in the survey. **Mean reflects average level of concern among respondents for that question, on a scale from 1 to 5 where 1=no concern at all and 5=a great deal of concern (so a higher average indicates greater concern).
<table>
<thead>
<tr>
<th>Rank*</th>
<th>American Indian survey Mean** (1 to 5)</th>
<th>Generalizable community survey Mean** (1 to 5)</th>
<th>Community leaders survey Mean** (1 to 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stress 4.06</td>
<td>Cost of health insurance 4.33</td>
<td>Cost of health insurance 4.57</td>
</tr>
<tr>
<td>2</td>
<td>Depression 4.03</td>
<td>Cost of health care 4.25</td>
<td>Cost of health care 4.48</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol use and abuse 4.03</td>
<td>Cost of prescription drugs 4.07</td>
<td>Obesity 4.36</td>
</tr>
<tr>
<td>4</td>
<td>Homelessness 3.97</td>
<td>Adequacy of health insurance 3.96</td>
<td>Cost of prescription drugs 4.34</td>
</tr>
<tr>
<td>5</td>
<td>Cost of health care 3.94</td>
<td>Access to health insurance coverage 3.78</td>
<td>Poor nutrition/eating habits 4.28</td>
</tr>
<tr>
<td>6</td>
<td>Smoking and tobacco use 3.90</td>
<td>Availability, cost of dental, vision insurance 3.76</td>
<td>Inactivity, lack of exercise 4.28</td>
</tr>
<tr>
<td>7</td>
<td>Poor nutrition/eating habits 3.86</td>
<td>Availability, cost of dental, vision care 3.76</td>
<td>Adequacy of health insurance 4.24</td>
</tr>
<tr>
<td>8</td>
<td>Domestic violence 3.79</td>
<td>Cancer 3.76</td>
<td>Chronic disease 4.24</td>
</tr>
<tr>
<td>9</td>
<td>Chronic disease 3.79</td>
<td>Chronic disease 3.70</td>
<td>Access to health insurance coverage 4.16</td>
</tr>
<tr>
<td>10</td>
<td>Cost of health insurance 3.78</td>
<td>Obesity 3.69</td>
<td>Depression 4.16</td>
</tr>
<tr>
<td>11</td>
<td>Inactivity, lack of exercise 3.78</td>
<td>Stress 3.66</td>
<td>Alcohol use and abuse 4.12</td>
</tr>
</tbody>
</table>

**Ranking is of all 88 questions, where 1 is greatest concern, across all of the 12 factors in the survey. Mean reflects average level of concern among respondents for that question, on a scale from 1 to 5 where 1=no concern at all and 5=a great deal of concern (so a higher average indicates greater concern).**
Average Scores for Overall Factors, and Ranking Among the 12 Factors

<table>
<thead>
<tr>
<th>Factor*</th>
<th>American Indian survey</th>
<th>Generalizable community survey</th>
<th>Community leaders survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank# (of 12)</td>
<td>Mean** (1 to 5)</td>
<td>Rank# (of 12)</td>
</tr>
<tr>
<td>Substance use and abuse</td>
<td>1</td>
<td>3.85</td>
<td>2</td>
</tr>
<tr>
<td>Physical and mental health</td>
<td>2</td>
<td>3.73</td>
<td>1</td>
</tr>
<tr>
<td>Economic issues</td>
<td>3</td>
<td>3.63</td>
<td>6</td>
</tr>
<tr>
<td>Safety</td>
<td>4</td>
<td>3.58</td>
<td>4</td>
</tr>
<tr>
<td>Children and youth</td>
<td>5</td>
<td>3.54</td>
<td>8</td>
</tr>
<tr>
<td>Access to health care</td>
<td>6</td>
<td>3.53</td>
<td>5</td>
</tr>
<tr>
<td>The aging population</td>
<td>7</td>
<td>3.51</td>
<td>3</td>
</tr>
<tr>
<td>Transportation</td>
<td>8</td>
<td>3.27</td>
<td>7</td>
</tr>
<tr>
<td>Environment</td>
<td>9</td>
<td>3.08</td>
<td>9</td>
</tr>
<tr>
<td>The people</td>
<td>10</td>
<td>2.66</td>
<td>10</td>
</tr>
<tr>
<td>Quality of life</td>
<td>11</td>
<td>2.48</td>
<td>11</td>
</tr>
<tr>
<td>Services and resources</td>
<td>12</td>
<td>2.46</td>
<td>12</td>
</tr>
</tbody>
</table>

Notes: *Each factor is a combination of the individual questions that were asked within that factor. #Ranking is from 1 to 12 for American Indian respondents, where 1 is greatest concern, for each of the 12 factors in the survey. For the other two survey groups, the ranking reflects that groups' ranking. **Mean reflects average level of concern among respondents for questions within that factor, on a scale from 1 to 5 where lower values indicate less concern and higher values indicate greater concern.

Correspond to priority area chosen by Collaborative

- #1: SUBSTANCE USE & ABUSE
  - Ranked 2nd / 2nd
- #2: PHYSICAL & MENTAL HEALTH
  - Ranked 1st / 1st
- #3: ECONOMIC ISSUES
  - Ranked 6th / 6th
- #4: SAFETY
  - Ranked 4th / 7th
- #5: CHILDREN & YOUTH
  - Ranked 8th / 5th
General PATTERN in responses:

- **Community leaders** answered across the board with **higher values** than the other two groups (more likely to give 4 or 5)
- **Generalizable community** survey respondents answered across the board with **lower values** than the other two groups (less likely to give 4 or 5)

<table>
<thead>
<tr>
<th>Survey Group:</th>
<th>Substance use and abuse</th>
<th>Physical and mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian</td>
<td>3.85 (1)</td>
<td>3.73 (2)</td>
</tr>
<tr>
<td>Generalizable community</td>
<td>3.47 (2)</td>
<td>3.49 (1)</td>
</tr>
<tr>
<td>Community leaders</td>
<td>3.97 (2)</td>
<td>4.04 (1)</td>
</tr>
</tbody>
</table>
Comparisons of Estimated Marginal Means Among Factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Generalizable community survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimated marginal means, compared to American Indian Survey Respondents*</td>
</tr>
<tr>
<td></td>
<td>Mean Diff.</td>
</tr>
<tr>
<td>Substance use and abuse**</td>
<td>.656**</td>
</tr>
<tr>
<td>Physical and mental health**</td>
<td>.546**</td>
</tr>
<tr>
<td>Economic issues**</td>
<td>.785**</td>
</tr>
<tr>
<td>Safety</td>
<td>.490**</td>
</tr>
<tr>
<td>Children and youth**</td>
<td>.666**</td>
</tr>
<tr>
<td>Access to health care**</td>
<td>.424**</td>
</tr>
<tr>
<td>The aging population</td>
<td>.131</td>
</tr>
<tr>
<td>Transportation</td>
<td>.242</td>
</tr>
<tr>
<td>Environment**</td>
<td>.843**</td>
</tr>
<tr>
<td>The people**</td>
<td>.550**</td>
</tr>
<tr>
<td>Quality of life**</td>
<td>1.181**</td>
</tr>
<tr>
<td>Services and resources**</td>
<td>1.101**</td>
</tr>
</tbody>
</table>

*Multivariate Analysis of Variance omnibus test shows differences between survey groups are significant: Pillai’s Trace=.381, F(24,646)=6.334, p=.000, Partial Eta Squared=.191.

**Univariate tests show that the mean differences for the individual survey question are significant at p<.05.

#Comparing two groups only, there are significant differences between estimated marginal means at p<.05.
<table>
<thead>
<tr>
<th>Question relating to THE PEOPLE</th>
<th>Estimated marginal means, compared to American Indian Survey Respondents*</th>
<th>Generalizable community survey</th>
<th>Community leaders survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean Diff.</td>
<td>SE</td>
</tr>
<tr>
<td>People are friendly, helpful,</td>
<td>.504*</td>
<td>.100</td>
<td>.630*</td>
</tr>
<tr>
<td>and supportive**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a sense of</td>
<td>.380*</td>
<td>.115</td>
<td>.734*</td>
</tr>
<tr>
<td>community/feeling connected to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>people who live here**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People who live here are aware</td>
<td>.286*</td>
<td>.113</td>
<td>.298*</td>
</tr>
<tr>
<td>of/engaged in social,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>civic, or political issues**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The community is socially and</td>
<td>.159</td>
<td>.133</td>
<td>.049</td>
</tr>
<tr>
<td>culturally diverse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is an engaged</td>
<td>.632*</td>
<td>.119</td>
<td>1.075*</td>
</tr>
<tr>
<td>government**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is tolerance, inclusion,</td>
<td>.104</td>
<td>.121</td>
<td>.261</td>
</tr>
<tr>
<td>and open-mindedness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a sense that you can</td>
<td>-.176</td>
<td>.122</td>
<td>.331*</td>
</tr>
<tr>
<td>make a difference**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Higher means indicate “concern” (i.e., less agreement with the statement).

*Multivariate Analysis of Variance omnibus test shows differences between survey groups are significant: Pillai’s Trace=.283, F(14,686)=8.067, p=.000, Partial Eta Squared=.141.

**Univariate tests show that the mean differences for the individual survey question are significant at p<.05.

#Comparing two groups only, there are significant differences between estimated marginal means at p<.05.
Comparisons of Estimated Marginal Means for Questions Relating to SAFETY

<table>
<thead>
<tr>
<th>Question relating to SAFETY</th>
<th>Generalizable community survey</th>
<th>Community leaders survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimated marginal means, compared to American Indian Survey Respondents*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean Diff.</td>
<td>SE</td>
</tr>
<tr>
<td>Child abuse and neglect</td>
<td>.182</td>
<td>.141</td>
</tr>
<tr>
<td>Elder abuse**</td>
<td>.351*</td>
<td>.142</td>
</tr>
<tr>
<td>Domestic violence**</td>
<td>.334*</td>
<td>.136</td>
</tr>
<tr>
<td>Presence and influence of drug dealers in the community</td>
<td>.059</td>
<td>.140</td>
</tr>
<tr>
<td>Property crimes</td>
<td>.084</td>
<td>.134</td>
</tr>
<tr>
<td>Violent crimes**</td>
<td>.578**</td>
<td>.144</td>
</tr>
</tbody>
</table>

Note: Higher means indicate “concern” (i.e., less agreement with the statement).

*Multivariate Analysis of Variance omnibus test shows differences between survey groups are significant: Wilks' Lambda=.813, F(12,688)=6.270, p=.000, Partial Eta Squared=.099.

**Univariate tests show that the mean differences for the individual survey question are significant at p<.05.

#Comparing two groups only, there are significant differences between estimated marginal means at p<.05.

Significant Differences

Compared to generalizable community:
- AI have MORE concern
  - Elder abuse
  - Domestic violence
  - Violent crimes

Compared to community leaders:
- AI have MORE concern
  - (Property crimes)
  - Violent crimes
For Urban Indians in the Fargo-Moorhead Metro Area

Top Individual Areas of Greatest Concern:
- Stress*
- Depression*
- Alcohol use, abuse*
- Homelessness*

*Significantly greater concern compared to generalizable community

Overall Community Factors of Greatest Concern:
- SUBSTANCE USE & ABUSE*
- PHYSICAL & MENTAL HEALTH**
- ECONOMIC ISSUES*
- SAFETY*

*Significantly greater concern compared to generalizable community
#Significantly smaller concern compared to community leaders
Implications for Addressing Health Disparities and Next Steps

- Disseminate results
  - Bring results to Collaborative, Fargo Native American Commission, Fargo City Commission
  - Compile a public report, pursue publication opportunities
  - Will post online at the Collaborative’s page on the ND Compass website
- Help demonstrate that there are different needs in the community
  - Help community make the connection between health disparities and health needs
  - Seek to meet people's needs where they are at in their life
  - Seek culturally appropriate health care
  - Seek trauma-informed health care
- Additional research
  - Focus groups about how to address these disparities
  - Repeat survey in 2015 (add Qs specific to urban Indians)

Implications for Addressing Health Disparities and Next Steps

- Broadly speaking, American Indian health needs are consistent with community priorities.
- However, different concerns (such as economic issues, safety issues) are on urban Indian’s “radar” compared to the general community and community leaders.
- The survey results offer a wealth of detailed information that can help inform decision-making.
Limitations

- **Survey design**
  - The survey was not tailored to issues specific to American Indians, such as cultural appropriateness of care

- **Survey methodology impacts generalizability**
  - Generalizable survey
    - Low response rate for generalizable survey → error rate
    - Generalizable survey did not match the demographics of the overall community – skewed older, higher education, more females, more homeowners, higher incomes
  - Community leaders survey
    - Convenience sampling method; still a relatively large representation of leaders and clearly a distinct group by looking at demographics
  - American Indian survey
    - Convenience sampling method; acceptable as there is no sampling frame for this population and oversampling in a random sample would be cost prohibitive
    - No elders participated

- **Data not missing at random (NMAR)**
  - Many respondents skipped individual survey items
  - Pattern behind why certain respondents skipped certain questions likely relates to the independent variables of interest (race, income, education)
  - Can impact the validity and generalizability of statistical analyses
References


