Preventing Suicide through Social Connectedness

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Presenter

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How would you describe the primary focus of the suicide prevention work that you currently do?

- Prevention researcher - state or regional level
- Prevention researcher - local or community level
- Prevention practitioner - state or regional level
- Prevention practitioner - local or community level
- Clinician/treatment provider
- Other
ICRC-S 2018-19 Webinar Series:
Promoting Social Connectedness

❖ Review
❖ Share
❖ Research
❖ Treatment

❖ Shared suicide related Risk/Protective factors, ACEs,

❖ Interventions across the lifespan

• An Overview of What we know about Promoting Connectedness
  - Dr. Kim Van Orden, PhD

• Promoting Connectedness for Youth through Social Networks and Sources of Strength
  - Dr. Peter Wyman, PhD and Scott LoMurray

• Promoting Connectedness in American Indian and Alaska Native Communities through Culture
  - Dr. Stacy Rasmus, PhD and Dr. James Allen, PhD

• Promoting Connectedness for Veterans and Active Duty Military Personnel
  - Dr. Norman B. Schmidt, PhD and Dr. Stephen O’Connor, PhD

• Promoting Social Connectedness through Faith Communities
  - Rev. Sherry Davis Molock, PhD

• Promoting Treatment Strategies that Enhance Family and Social Connectedness
  - Dr. Joan Asarnow, PhD, Dr. David Goldston, PhD, & Dr. Jeanne Miranda, PhD

• Exploring Systems Approaches and Connectedness in Communities
  - Dr. Ann Marie White, PhD
The Interpersonal Theory of Suicide

Suicide

Thwarted Belongingness

Perceived Burden

Capability

Joiner (2005); Van Orden et al. (2010)
Part I. Surfacing System Perspectives
Objectives

• **Learning about system-level social capital and change** is important when many stakeholders aim to grow a collective capacity to reduce injury burdens.

• **System thinking tools** help partners gain insights on possible system alignment and social connectedness.

• **Examples** utilized within the Colorado National Collaborative (CNC) and other CBPR projects.
Who I Am in a CBPR* Approach
*(Community Based Participatory Research)

Poll question 2

Which one of the below communities do you most strongly identify with?

- Geographic/place-based community
- Identity community - e.g., based on gender/sexual identity, race/ethnicity, physical ability, religion, introvert/extrovert, shared history such as survivor community, etc.
- Profession/career community
- Other
Multiple Forms of Violence – Linked “Syndemics” but Prevention is in Silos

CHILDHOOD
- Child Maltreatment: physical, sexual, emotional, neglect

ADOLESCENCE
- Peer Violence
- Suicidal Behavior
- Dating Violence
- Sexual Violence
- Intimate Partner Violence

ADULTHOOD

Source: Centers for Disease Control and Prevention, Division of Violence Prevention

- Poverty
- High crime levels
- High residential mobility
- High unemployment
- Local illicit drug trade
- Weak institutional policies
- Inadequate victim care services
- Inadequate community cohesion

- Psychological/personality disturbance (d/o)
- Alcohol/substance abuse
- Victim of child maltreatment or current abuse
- Violent behavior—past or current
- Suicidal behavior—past or current
- Access to lethal means

- Unstable social infrastructure
- Economic insecurity
- Discrimination: gender; race; other
- Policies that increase inequalities
- Poverty
- Weak economic safety nets
- Cultural norms that support violence
- Access to lethal methods (firearms)

- Exposure to poor parenting or violent parental conflict
- Fractured family structures
- Family history of suicide
- Current relationship/marital turmoil—participant in intimate violence
- Financial, work stress; under- or unemployed
- Friends & family that engage in violence
### Neighborhood Protective Factors

<table>
<thead>
<tr>
<th></th>
<th>CM</th>
<th>TDV</th>
<th>IPV</th>
<th>SV</th>
<th>YV</th>
<th>Bullying</th>
<th>Suicide</th>
<th>Elder Abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordination of services</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>among community agencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to mental health</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>and substance abuse services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community support and</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>connectedness*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** CM (Child Maltreatment), TDV (Teen Dating Violence), IPV (Intimate Partner Violence), SV (Sexual Violence), YV (Youth Violence)

*Community support and connectedness typically measured at the individual level*  
Social Connectedness and Suicide

Promote Connectedness

Rationale

Sociologist Émile Durkheim theorized in 1897 that weak social bonds, i.e., lack of connectedness, were among the chief causes of suicide. Connectedness is the degree to which an individual or group of individuals are socially close, interested, or share resources with others. Social connections can be formed within and between multiple levels of the social ecology, for instance between individuals (e.g., peers, neighbors, co-workers), families, schools, neighborhoods, workplaces, faith communities, natural groups, and society as a whole. Related to connectedness, social capital refers to a sense of trust in one’s community and neighborhood, social integration, and also the availability and participation in social organizations. Many ecological cross-sectional and longitudinal studies have examined the impact of aspects of social capital on depression symptoms, depressive disorder, mental health more generally, and suicide. While the evidence is limited, existing studies suggest a positive association between social capital (as measured by social trust and community/neighborhood engagement), and improved mental health. Connectedness and social capital together may protect against suicidal behaviors by decreasing isolation, encouraging adaptive coping behaviors, and by increasing belongingness, personal value, and worth to help build resilience in the face of adversity. Connectedness can also provide individuals with better access to formal supports and resources, mobilize communities to meet the needs of its members, and promote collective primary preventive activities to the community as a whole.

Approaches

Promoting connectedness among individuals and within communities through modeling peer norms and enhancing community engagement may protect against suicide. Peer norm programs seek to normalize protective factors for suicide such as help-seeking, reaching out and talking to trusted adults, and promote peer connectedness. By leveraging the leadership qualities and social influence of peers, these approaches can be used to shift group-level beliefs and promote positive social and behavioral change. These approaches typically target youth and are delivered in school settings but can also be implemented in community settings.

Community engagement activities. Community engagement is an aspect of social capital. Community engagement approaches may involve residents participating in a range of activities, including religious activities, community clean-up and greening activities, and group physical exercise. These activities provide opportunities for residents to become more involved in the community and to connect with other community members, organizations, and resources, resulting in enhanced overall physical health, reduced stress, and decreased depressive symptoms, thereby reducing risk of suicide.

Potential Outcomes

- Increases in healthy coping attitudes and behaviors
- Increases in referrals for youth in distress
- Increases in help-seeking behaviors
- Increases in positive perceptions of self-support

Source: Centers for Disease Control and Prevention, Division of Violence Prevention: https://www.cdc.gov/violenceprevention/pdf/suicideTechnicalPackage.pdf
Promoting Mental Wellness


**Links between social cohesion, suicide, and antisocial behaviour**

Variations in anti-social and suicidal behaviour have been traced to strengths or absences of social cohesion (OECD 2001). Weak social controls and the disruption of local community organization have long been hypothesized to be factors producing increased rates of suicide (Durkheim 1897) and crime (Shaw & McKay 1942).

**Figure 1: VicHealth’s framework for the promotion of mental health and well-being**

<table>
<thead>
<tr>
<th>Key Determinants of Mental Health &amp; Themes For Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social inclusion</strong></td>
</tr>
<tr>
<td>- Supportive relationships</td>
</tr>
<tr>
<td>- Involvement in group activities</td>
</tr>
<tr>
<td>- Civic engagement</td>
</tr>
<tr>
<td><strong>Freedom from discrimination &amp; violence</strong></td>
</tr>
<tr>
<td>- Valuing of diversity</td>
</tr>
<tr>
<td>- Physical security</td>
</tr>
<tr>
<td>- Self-determination and control of one’s life</td>
</tr>
<tr>
<td><strong>Economic participation</strong></td>
</tr>
<tr>
<td>- Work</td>
</tr>
<tr>
<td>- Education</td>
</tr>
<tr>
<td>- Housing</td>
</tr>
<tr>
<td>- Money</td>
</tr>
</tbody>
</table>
Commission on Social Determinants of Health (CSDH)
Figure 2. Conceptual diagram showing different aspects of social capital: bonding, bridging and linking. Trust, norm, network and participation are shown as elements for bonding social capital. Bridging social capital might be with different stakeholders like other communities, NGO, and university. Linking social capital is usually with local administration.
Fig. 6. Level of social integration and mortality in five prospective studies

- Reducing social and economic inequalities and reducing social exclusion can lead to greater social cohesiveness and better standards of health.
- Improving the social environment in schools, in the workplace and in the community more widely, will help people feel valued and supported in more areas of their lives and will contribute to their health, especially their mental health.
- Designing facilities to encourage meeting and social interaction in communities could improve mental health.
- In all areas of both personal and institutional life, practices that cast some as socially inferior or less valuable should be avoided because they are socially divisive.

**Key Sources**


FIGURE. Suicide rates* by level of county urbanization† — United States, 1999–2015

* Per 100,000 residents aged ≥10 years, age-adjusted to the year 2000 U.S. standard.
† The six classification levels for counties were large central metro; part of a metropolitan statistical area with ≥1 million population and covers a principal city; large fringe metro; part of a metropolitan statistical area with ≥1 million population but does not cover a principal city; medium metro; part of a metropolitan statistical area with ≥250,000 but <1 million population; small metro; part of a metropolitan statistical area with <250,000 population; micropolitan (non-metro); part of a micropolitan statistical area (has an urban cluster of ≥10,000 but <50,000 population); and non-core (non-metro); not part of a metropolitan or micropolitan statistical area.
Collective or System Level: Community Social Capital

County-level Social Capital Index

Source: Social Capital Project.

Individual and Relational Features: Aggregate to Describe Population-level Social Connectedness

Social Support and Self-Reported Health Status of Older Adults in the United States

Anna Marie White, PhD, Stephanie Vlahov, PhD, Lawrence Ribe, MD, MPH, and Sarath Sinha, MS

Social isolation and lack of social support are likely acute and chronic stressors affecting biological and behavioral mechanisms, such as increasing allostatic overload or unhealthy behaviors.17,18 Such mediating pathways are postulated to have long-term negative effects on health, causing increases in disease susceptibility and risk of mortality across many leading causes of death among elders.19,20 The role of social disconnections is particularly salient among populations with greater susceptibility to mortality and mortality, such as older adults. The lack of social support for the populace means real societal costs, such as longer hospital or nursing home stays when older persons lack caregivers who can help them recover at home.21,22

There have been few attempts to quantify the “risk and resilience profile,” which is the prevalence of social isolation and inadequate social support, among seniors across the United States. Although research over the past 25 years has demonstrated the importance of social networks on health status and on the courses of diseases and mortality among older persons,23-25 these studies are largely limited to clinical samples of medical patients, not nation-wide or representative samples of those in the community, and have not been explored in previous research.36 For instance, social networks can be uniquely subject to social roles or categories (eg, children, friends, family), and such role or category may yield different functional resources and effects on health.26,27

### TABLE 1—Demographic Characteristics, Self-Reported Health Status, and Social Support: Older Adults in the United States, 1999-2002

<table>
<thead>
<tr>
<th>Sample Frequency</th>
<th>Estimated US Frequency</th>
<th>Estimated US % (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample size</strong></td>
<td>3,706</td>
<td>44,490,821</td>
</tr>
<tr>
<td><strong>Health status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>25,753</td>
</tr>
<tr>
<td>Poor/fair</td>
<td>1,255</td>
<td>12,125,182</td>
</tr>
<tr>
<td>Good</td>
<td>1,172</td>
<td>14,280,842</td>
</tr>
<tr>
<td>Very good/excellent</td>
<td>1,274</td>
<td>16,018,234</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60-71 y (below or at median)</td>
<td>1,853</td>
<td>24,441,371</td>
</tr>
<tr>
<td>≥72 y</td>
<td>1,853</td>
<td>18,988,450</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>1,798</td>
<td>15,290,674</td>
</tr>
<tr>
<td>Women</td>
<td>2,027</td>
<td>25,211,147</td>
</tr>
<tr>
<td><strong>Race/ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All other</td>
<td>978</td>
<td>4,973,607</td>
</tr>
<tr>
<td>Non-Hispanic black</td>
<td>614</td>
<td>3,676,825</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>2,114</td>
<td>35,840,289</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>33</td>
<td>380,892</td>
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<tr>
<td>Less than high school</td>
<td>1,650</td>
<td>14,233,539</td>
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<tr>
<td>High school graduate</td>
<td>840</td>
<td>12,704,049</td>
</tr>
<tr>
<td>More than high school</td>
<td>1,153</td>
<td>17,157,901</td>
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<tr>
<td><strong>Marital status</strong></td>
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<td></td>
</tr>
<tr>
<td>Divorced/separated/widowed</td>
<td>1,673</td>
<td>14,873,435</td>
</tr>
<tr>
<td>Married and other</td>
<td>2,393</td>
<td>29,638,386</td>
</tr>
<tr>
<td><strong>Need emotional support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>15</td>
<td>180,154</td>
</tr>
<tr>
<td>Yes</td>
<td>762</td>
<td>7,632,890</td>
</tr>
<tr>
<td><strong>Means of emotional support</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family and other</td>
<td>1,099</td>
<td>13,307,352</td>
</tr>
<tr>
<td>Family only</td>
<td>844</td>
<td>10,445,479</td>
</tr>
<tr>
<td>Other only</td>
<td>274</td>
<td>3,773,825</td>
</tr>
<tr>
<td>No one</td>
<td>263</td>
<td>3,209,200</td>
</tr>
<tr>
<td><strong>Number of close friends</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>77</td>
<td>741,012</td>
</tr>
<tr>
<td>None</td>
<td>176</td>
<td>1,622,273</td>
</tr>
<tr>
<td>1-4</td>
<td>1,392</td>
<td>14,535,392</td>
</tr>
<tr>
<td>5-50</td>
<td>2,061</td>
<td>21,077,144</td>
</tr>
<tr>
<td><strong>Financial support obtained</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>60</td>
<td>73,852</td>
</tr>
<tr>
<td>Obtained</td>
<td>809</td>
<td>9,192,215</td>
</tr>
</tbody>
</table>
OECD Definition of Social Capital: “...networks together with shared norms, values and understanding that facilitate cooperation within or among groups” - Harper, The Measurement of Social Capital in UK, ONS, 2002

### Table 1

<table>
<thead>
<tr>
<th>Scales</th>
<th>Mechanisms</th>
<th>Measurement approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Social cohesion approach</td>
<td>Network-based approach</td>
</tr>
<tr>
<td><strong>Micro-scale</strong></td>
<td>- Social support (in all its forms)</td>
<td>- Survey-based assessment of individual perceptions (e.g., trustworthiness, reciprocity, shared norms and behaviors (e.g., civic participation, social interaction)</td>
</tr>
<tr>
<td>Individual level</td>
<td>- Social influence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Social engagement and social participation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Person-to-person contacts</td>
<td></td>
</tr>
<tr>
<td><strong>Meso-scale</strong></td>
<td>- Informal control and normalization of health-related behaviors</td>
<td>- Aggregated survey-based responses on trust, civic participation or engagement, reciprocity, informal control, perceived social support</td>
</tr>
<tr>
<td>Neighborhood, workplaces, schools, churches, other institutions, etc.</td>
<td>- Collective efficacy and civic engagement</td>
<td></td>
</tr>
<tr>
<td><strong>Macro-scale</strong></td>
<td>- Informal control and normalization of health-related behaviors</td>
<td>- Aggregated survey-based responses on trust, civic participation or engagement, reciprocity, informal control, perceived social support</td>
</tr>
<tr>
<td>Country and state</td>
<td>- Social support (in all its forms)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Social influence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Social engagement and social participation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Person-to-person contacts</td>
<td></td>
</tr>
</tbody>
</table>
At what level does your work build social capital? (Check all that apply)

- Individual
- Interpersonal
- Community (e.g., county, state, etc.)
- Systems (e.g., faith or school system, etc.)
“a group of interacting, interrelated and interdependent **components** that form a complex and unified **whole**” producing patterns over time or dynamic behavior

WatersFoundation.org/systems-thinking/definitions/ accessed on 7/14/14
Thinking in Terms of Systems

“A system...refers to the particular **configuration** of all relevant **entities, resources, and processes** that together adequately **characterize the problem space** under study.”

“A system is defined by the **boundaries** that stakeholders use to determine **which acts/observations are relevant for their inquiry as well as the interpretations/judgments that they use to guide decisions or actions** (Urlich, 2002).”

System Thinking Iceberg

Events

Patterns of Behavior

System Structure

Beliefs, Mindsets, and Goals

i.e., We should...
Table 2  Primary strengths of each system science method

<table>
<thead>
<tr>
<th>System property</th>
<th>System dynamics</th>
<th>Network analysis</th>
<th>Agent-based modeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model breadth</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback loops</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dynamic systems in real time</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Interactions of individual actors</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Interactions between multiple levels</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Complex relational structures</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous actors</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

A systemic view is not limited to individual components: Social Networks

- Holistic approach
- Social ties make a social graph or social structure: via what they do (structural), feel (cognitive), etc.
- Can be ego-centered and/or alter/community centered
- Social ties can bond, bridge or link
- Emergent properties: e.g., network structure can help/hurt an individual/collective’s action

System Dynamics

**System dynamics** is the use of informal causal maps and formal models with computer simulation to uncover and understand endogenous sources of system behavior.


SD focuses on gaining insight on change over time and complex problems...growth, decline, equilibrium, etc. within a system. It is a method to inform policy based on deeper knowledge of a system’s potential.
Complex Problems

● Change over time (dynamic)

● Time delays between action and response

● Accumulations

● Nonlinear relationships or threshold effects

● Feedback loops between factors

● Multiple stakeholders with different goals and whose decisions and actions impact each other

● Unintended or unanticipated consequences of actions

Poll question 4

How familiar are you with system concepts?

1. Not at all Familiar
2. Slightly Familiar
3. Somewhat Familiar
4. Moderately Familiar
Part 2. Examples of Systems Science Methods in Community Action & Research in Social Connectedness
Illustration A. Comprehensive and Integrated Community-based Suicide Prevention to Guide Action and Improve Collaboration: The Colorado National Collaborative (CNC)
The Colorado National Collaborative (CNC) as it aims to improve connectedness and relationships across national state and local partners

- See **networks of stakeholders’ relationships**
  - *social network analysis*

- Uncover **underlying system thinking** in developing a CNC across diverse stakeholders that seeks to address social connectedness in the “bundle”
  - *causal loop diagrams of mental models*

- **Discern patterns** in county suicide trends over time and the **complexity in causes linked to social connectedness**
  - *clustering and system dynamics*
Patterns in Suicide Counts by County (K-means; n=64)
Early Network Formation (Oct 2018)
Results
Key Concepts about System Change
Evidence shows many endogenous dynamics among risk and protective factors (here is a small illustration) that generate complex feedback.

*Reframe S/F structure from individuals at great risk/who complete suicide to include community context driving population risk and protection and to highlight multifinality

* Multiple models at different scales (vs. single, unifying model)
Illustration B. Examples in the Context of Other Partnered Research on How Neighborhood-based Helpers Prevent Suicide and Violence
This picture shows how homeowners take pride in their home and street. This street is revitalized with new curbs, new sidewalks, and new paved streets. It brings beauty to homes and community. It shows that neighbors communicate with each other. It shows that this is a safe block.

-Block Club Member
Dynamic Model of the Natural Helping System

- Ability to Resolve Conflicts in the Community Effectively
- Trust and Awareness of support in community
- Availability of appropriate community resources
- Sufficiency of help sought from appropriate community resources
- Isolation/Lack of Interaction or Attempts to coordinate resident responses
- Community Communication and Cohesion
Natural Helping Networks of Two Low Income Urban Neighborhoods: Ties that Protect Against Violence Risks and the Promote Wellness (White et al, in preparation)
TALE OF TWO CITIES: VIRTUAL COMMUNITIES
HARNESS BIG DATA ON SOCIAL INTERACTIONS TO PROMOTE HEALTH?

Wired
Magazine, 4/16/13
@adamlevine OMG IM SO HAPPY FOR YOU HONEY!!! IT SEEMS YOU HAD FUN 😍 I can't wait for mine 😢

RETWEET
1

7:52 AM - 10 Jun 2015

Jun 10
@adamlevine Thank you soo much Sweetheart.
Yes, it was soo damn incredible. Wishing you the same <3

Jun 10
@adamlevine thank you so much❤️
Aims

1. Automatically detect prosocial exchange networks (reciprocity) via a communities’ social media.

   **RQ #1.** Are keyword representations of reciprocal gratitude “topics” in tweets (thanking message as edges in Twitter user graphs) feasible for detecting informal helping networks?

2. Do users sharing mutual exchanges of gratitude on Twitter differ in emotional and wellness content of tweets compared to those without such reciprocity in their use?

   **RQ #2.** Do thankfulness expressions on Twitter (network features such as centrality or tweet content) predict networks with greater prosocialility and mental wellness drivers?
Mutual Grativeness Full and Sub-Graphs
Does Reciprocal Gratefulness in Twitter Predict Neighborhood Safety? Comparing 911 Calls Where Users Reside or Use Social Media

Ann Marie White,1 Linxia Bai,1 Christopher Homan,2 Melanie Funchess,3 Catherine Cerulli,1,4 Amen Ptah,1 Deepak Pandita,1 Henry Kautz1

H2: Analysis of social media activity locations
• Compared locations where helpers had at least $k$ tweets ($0 < k < 100+$) to those with no helper tweet activity
• Out of 1,328 locations, THs tweeted in 499 and CHs in 987
• Locations with more helper tweet activity have fewer 911 reports of police activity
• Locations with helpers (TH or CH) had lower police service needs, on average, than areas without any social media-based helper activity ($t$-stats $\geq 6.04$, $p < 0.001$).
• Central Helpers have fewer 911 calls then Terminal Helpers and the NCV mean difference between helper and comparison groups increases as that $k$ tweet count increases in an area
• As the $k$ tweet frequency increases 65+ tweets ($n = 35$ cells), the null hypothesis of equal means is consistently rejected

Many community connectedness features for suicide prevention action revealed via use of social network system analytics.
Network Based Observations and Interventions Growing

- Youth Social Networks and Sources of Strength
- Social Connectedness via Culture in AI/AN Communities
- Social Connectedness Therapies for Veteran and Active Duty Military Personnel
- Social Connectedness through Faith Communities
- Treatment Strategies to Enhance Family Social Connectedness
How to Take a Systems Approach

• Be **systematic**

• **Work across** different systems

• Engage a setting as an **ecological system**

• **Use system thinking and tools** to improve system practice

Please type your questions into the Q & A pod
Thank you!

Thanks for attending our webinar!

Please fill out our brief evaluation