GLS PROGRAM IMPACT: THE EVIDENCE TO DATE

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TOPICS TO BE COVERED

• Establishing an evidence base for GLS
• Short term impacts of GLS
• Long term impacts of GLS
• Using national results locally
ESTABLISHING AN EVIDENCE BASE FOR GLS
# EVIDENCE BASE FOR GLS PROGRAM

<table>
<thead>
<tr>
<th>Gather data and quantify…</th>
<th>Outputs and outcomes</th>
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<tbody>
<tr>
<td></td>
<td>Need for services, services received</td>
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<td></td>
<td>Obstacles and facilitators of program implementation</td>
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<td>Populations reached</td>
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<td>Budgetary conditions and allocations</td>
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<table>
<thead>
<tr>
<th>To provide evidence of…</th>
<th>Life saving impact</th>
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<tr>
<td></td>
<td>Return on investment</td>
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<td>Intervention effectiveness</td>
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<td>Successful program implementation</td>
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EVIDENCE BASE FOR GLS PROGRAM

NOE Data
- Umbrellas
  - Continuity of Care
  - Training
  - Suicide Safer Care
  - Strategy Implementation

Extant Data Sources
- CDC-WONDER
- Census Bureau
- Bureau of Labor Statistics
More than 96% of State and Tribal grantees conduct Gatekeeper Trainings

- >35,000 Training Events
- >1.3M Trainees

*data through July 2017*
GLS NOE IMPACT QUESTIONS

As a result of GLS implementation, is there a reduction in...

- Youth suicide attempts?
- Youth suicide mortality?

Do the benefits (cost savings) outweigh the cost of implementing the program?
PROPENSITY SCORE TECHNIQUES

1. Select comparison counties using propensity score matching

2. Select combination of counties closely resembling outcome history

3. Model the impact

4. Test model robustness with control outcomes
MODELING IMPACT

All US Counties with >3,000 youth

GLS Counties

Similar unexposed counties

Demographics

Socioeconomic

Historical outcomes

Expected Outcomes in the absence of GLS

Observed Outcomes in the presence of GLS

Data Sources
CDC-WONDER, Census-SAIPE, BLS-LAUS, CDC-NCHS
MODELING IMPACT – COUNTY MATCHING

Counties with GLS Activities and Matched Controls (2006-2009)
SHORT TERM IMPACTS OF GLS
GLS IMPACT

I

Short-term Impact (2007-2010)

• Suicide attempts
• Cost benefit
• Mortality
## GLS IMPACT NOE DATA SOURCE

<table>
<thead>
<tr>
<th>Short-term Impact</th>
<th>GLS Implementation from 2006-2009</th>
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<tbody>
<tr>
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<td>Life Saving Impact and ROI from 2007-2010</td>
</tr>
<tr>
<td>GLS grantees</td>
<td>State and Tribal Cohorts 1-5</td>
</tr>
<tr>
<td></td>
<td>39 State Grantees and 10 Tribal Grantees</td>
</tr>
</tbody>
</table>
IMPACT ON YOUTH SUICIDE ATTEMPTS

Youth aged 16-23

Counties with GLS programming from 2006-2009

Impact measured from 2007-2010 (short term)

No effect seen on attempts among adults older than 23 years

• 4.9 fewer attempts per 1,000 youth one year following GLS implementation

• 79,379 averted suicide attempts through 2010

Modelled impact seen for 1 year following GLS implementation
IMPACT ON COST SAVINGS
Utilized suicide attempt findings (2007-2010)

- 79,379 averted suicide attempts
- 11,424 averted ED visits
- 19,448 averted hospital stays

$34.1M in medical cost savings
$187.8M in medical cost savings
$222.1M in total medical cost savings
IMPACT ON COST SAVINGS

$222.1M in total medical savings over 4 years

$49.4M in total GLS costs over 4 years

$4.50 in medical cost savings for each dollar invested
IMPACT ON YOUTH MORTALITY

Youth aged 10-24

Counties with GLS programming from 2006-2009

Impact measured from 2007-2010 (short term)

No effect seen for adult suicide mortality or non-suicide mortality among youth

• 1.3 fewer deaths per 100,000 youth one year following GLS implementation

• 427 lives saved through 2010

Modelled impact seen for 1 year following GLS implementation
GLS IMPACT

Short-term Impact Summary

• Dissipation of effect after 1-year
• Indication that findings were more intense in rural areas

Next Stages:

• What happens when you have more years of outcome data?
• What happens with continued program implementation?
• What is really going on in rural counties?
LONG TERM IMPACTS OF GLS
## GLS IMPACT NOE DATA SOURCE

<table>
<thead>
<tr>
<th>Long-term Impact</th>
<th>GLS Implementation beginning 2006-2009</th>
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<tbody>
<tr>
<td>GLS Life Saving Impact from 2007-2015</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GLS grantees</th>
<th>State and Tribal grantees originally funded in cohorts 1 through 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>97 State Grantees and 39 Tribal Grantees</td>
</tr>
<tr>
<td></td>
<td>~40% of GLS counties are rural (&lt;50,000 population)</td>
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</tbody>
</table>
LONG TERM IMPACT ON YOUTH MORTALITY:

2006  2007  2009  2010  2015

GLS Program
Short term Impact
Longer term Impact

Additional 5 years of impact data
LONGER TERM IMPACT ON YOUTH MORTALITY:

Program overall

No effect seen for adult suicide mortality or nonsuicidal youth mortality

- 0.89 per 100,000 fewer deaths one year following GLS implementation
- 1.09 per 100,000 fewer deaths two years following GLS implementation
- 882 lives saved through 2015

Modelled impact seen for 2 years following GLS implementation
LONGER IMPACT ON YOUTH MORTALITY

Overall Impact of GLS Program on Youth Suicide Mortality

- Expected Outcomes (based on comparison counties)
- Observed (based on GLS counties)

GLS implementation begins
LONGER IMPACT ON YOUTH MORTALITY

Extended impact after consecutive years of GLS programming

Youth Suicide Mortality (per 100,000)

Years since Beginning of GLS Activities in a County

- 1 Year GLS Exposure
- 2 Years GLS Exposure
- 3 Years GLS Exposure
- 4 Years GLS Exposure
- End of GLS exposure
LONGER TERM IMPACT ON YOUTH MORTALITY

Greater impact seen in rural areas

- 2.4 fewer deaths per 100,000 youth 2 years after GLS implementation
- 20% stronger effect in rural counties than in non-rural counties or 1 fewer death per 244,000 youth

Modelled impact seen 2 years following GLS implementation
LONGER IMPACT ON YOUTH MORTALITY

Impact of GLS Programs on Rural Youth Suicide Mortality

- Expected Outcome (based on comparison counties)
- Observed (based on GLS counties)

GLS implementation begins

Youth Suicide Mortality Rate (per 100,000)

1999 2001 2003 2005 2007 2009 2011 2013 2015
USING NATIONAL PROGRAM FINDINGS LOCALLY
SHORT TERM IMPACTS 2007-2010

79,379 averted suicide attempts through 2010 (at most 4 years of follow up)

$222.1M in total medical savings over 4 years of programming

$4.50 in medical cost savings for each dollar invested

427 lives saved through 2010 (at most 4 years of follow up)
882 lives saved through 2015 (at least 6 years of follow up)

Extended years of impact seen after consecutive years of GLS programming in a county

20% greater impact in rural communities
TAKING THE MESSAGE HOME

WHAT IS THE LONG TERM IMPACT (2007-2015) OF GLS ON YOUTH SUICIDE RATES?

The impact of GLS implementation on youth suicide mortality, starting one year after implementation, was estimated for counties originally exposed to GLS activities between 2006 and 2009 and includes data from State and Tribal grantees originally funded in cohorts 1 through 5.

In the presence of GLS activities, the youth suicide rate was lower than if GLS had not been implemented, resulting in 882 lives saved.

This effect was seen for up to two years following GLS implementation in a county.

The positive impact is even greater in rural counties (populations less than 50,000).

DIFFERENCE BETWEEN YOUTH SUICIDE RATE IN RURAL GLS COUNTIES AND MATCHED CONTROL RURAL COUNTIES

The GLS effect on youth suicide rates is 20% stronger in rural counties than in non-rural counties, resulting in 2.4 fewer deaths per 100,000 youth 2 years after GLS implementation.
## TAKING THE MESSAGE HOME

### SHORT TERM IMPACT OF GLS PROGRAMS (2006-2009) ON YOUTH SUICIDE ATTEMPTS AND YOUTH SUICIDE MORTALITY

The impact of GLS on youth suicide attempts and youth suicide mortality, starting one year after implementation, was determined for youth in counties with GLS activities between 2006 and 2009. This includes activities for State and Tribal grantees in cohorts 1-5.

#### Is GLS impacting youth suicide attempts?

<table>
<thead>
<tr>
<th>FEWER ATTEMPTS PER 1,000 YOUTH ONE YEAR FOLLOWING IMPLEMENTATION OF GLS (p&lt;0.05)</th>
<th>4.9</th>
<th>79,379 averted suicide attempts</th>
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Suicide attempts determined for youth aged 16-23

#### Is GLS impacting youth suicide deaths?

<table>
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<tr>
<th>FEWER DEATHS PER 100,000 YOUTH ONE YEAR FOLLOWING IMPLEMENTATION OF GLS (p&lt;0.05)</th>
<th>1.3</th>
<th>427 lives saved</th>
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</table>

Suicide mortality determined for youth aged 10-24

The modeled impact on youth suicide attempts and youth suicide mortality was seen for 1 year following GLS implementation.
TAKING THE MESSAGE HOME

The cost savings of GLS programs utilized the short term impact (2007-2010) of GLS implementation on youth suicide attempts in counties exposed to GLS activities between 2006 and 2009. This includes activities for State (n=46 grantees) and Tribal (n=12 grantees) grantees in cohorts 1-5.

GLS programs implemented from 2006-2009 AVERTED 79,379 suicide attempts, which avoids...

- 11,424 ED visits
- 19,448 Hospital stays

$34.1M cost savings
$187.8M cost savings

$222.1M total cost savings

$49.4M spent in GLS Program Costs over 4 years, returns...

SAVINGS of $4.50 in healthcare costs for EACH DOLLAR invested

Garrett Lee Smith Suicide Prevention National Outcomes Evaluation
State/Tribal February 2018

The Garrett Lee Smith Suicide Prevention National Outcomes Evaluation is supported through contract no. HHS/0002012/200057/WAA0002240027 awarded to ICF International by the Center for Mental Health Services (CMHS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS). Questions about the information presented can be directed to your ICF Technical Assistance Liaison. For more information about the GLS National Outcomes Evaluation contact Christine Shaneh, Ph.D., Principal Investigator.
QUESTIONS TO CONSIDER

- What stakeholders would benefit from knowing these national levels impacts?
- Where can you disseminate these findings?
- How can you incorporate this national-level evidence into your local evaluations efforts?
- How can you use these NOE impacts to inform your program?

Utilizing national evaluation data to benefit your program
2:30 – 3:45 TODAY
CONTINUING THE CONVERSATION

Communicating your data
10:15 – 11:30 TODAY

Utilizing national evaluation data to benefit your program
2:30 – 3:45 TODAY

Communicating your data
1:00 – 2:15 TODAY
REFERENCES

Cost Benefits

Suicide Attempts

Suicide Mortality
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THANK YOU!