Screening for Suicide Risk in a Community Hospital Emergency Department
Presenters:

Jessica Bernard, MA, Quality Management Chief, DMH

Megan Rigoni, MPH, Project Assistant, VDH

Anthony Stevens, MS- LCMHC, Crisis Team Leader, NCSS

Laurin Kasehagen, PhD, MA, Senior Epidemiologist, CDC Assignee to VDH and DMH
Background 1: Death by injury type among Vermonters, Vermont Vital Statistics System, 2010-2014

**DISTRIBUTION OF INJURY TYPE (%) RELATING TO DEATH, BY AGE GROUP**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Non-injury-related</th>
<th>Unintentional injury</th>
<th>Intentional injury</th>
<th>Undetermined intent of injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 to 14* years</td>
<td>74</td>
<td>18</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>15-24 years</td>
<td>49</td>
<td>21</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>25-44 years</td>
<td>29</td>
<td>1</td>
<td>29</td>
<td>1</td>
</tr>
<tr>
<td>45-64 years</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>65 years and over</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**LEADING CAUSES OF DEATH AS A PERCENTAGE OF ALL INJURY DEATHS, BY INTENT**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Unintentional</th>
<th>Intentional &amp; Undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Falls (31%)</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>Poisoning (19%)</td>
<td>65</td>
<td>35</td>
</tr>
<tr>
<td>Firearm (15%)</td>
<td>98</td>
<td>2</td>
</tr>
<tr>
<td>MV Traffic (12%)</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Suffocation (8%)</td>
<td>38</td>
<td>62</td>
</tr>
</tbody>
</table>

*Note: these include residents who die of congenital anomalies and other conditions occurring in infants/newborns

Source: Data from VDH Injury Morbidity & Mortality Data Briefs, 2017
Background 2: Distribution of suicidal ideation, suicidal and undetermined self-directed violence, and medicinal poisonings, among Vermonters 10-99 Years, Vermont Uniform Hospital Discharge Data, 2010-2014

Figure Legend
SI=suicidal ideation
SDV=suicidal and undetermined self-directed violence
MP=medicinal poisonings
Background 3: Crude rates of suicidal ideation, suicidal and undetermined self-directed violence, and medicinal poisonings, among Vermonters 10-99 Years, Vermont Uniform Hospital Discharge Data, 2010-2014

<table>
<thead>
<tr>
<th>Presenting at Vermont Hospital Emergency Departments Per 100,000 Population</th>
<th>Presenting at NMC Emergency Department Per 100,000 Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suicidal Ideation Only</strong></td>
<td><strong>Suicidal Ideation Only</strong></td>
</tr>
<tr>
<td>245.9</td>
<td>216.3</td>
</tr>
<tr>
<td><strong>Combined Suicidal SDV + Undetermined SDV Only</strong></td>
<td><strong>Combined Suicidal SDV + Undetermined SDV Only</strong></td>
</tr>
<tr>
<td>120.2</td>
<td>48.1</td>
</tr>
<tr>
<td><strong>Medicinal Poisonings Only</strong></td>
<td><strong>Medicinal Poisonings Only</strong></td>
</tr>
<tr>
<td>134.1</td>
<td>231.9</td>
</tr>
<tr>
<td><strong>Any 2 or All 3 Episode Types</strong></td>
<td><strong>Any 2 or All 3 Episode Types</strong></td>
</tr>
<tr>
<td>159.0</td>
<td>218.7</td>
</tr>
<tr>
<td><strong>Total Number of Episodes</strong></td>
<td><strong>Total Number of Episodes</strong></td>
</tr>
<tr>
<td>659.2</td>
<td>241.3</td>
</tr>
<tr>
<td><strong>Any 2 or All 3 Episode Types</strong></td>
<td><strong>Any 2 or All 3 Episode Types</strong></td>
</tr>
<tr>
<td>762.7</td>
<td>45.7</td>
</tr>
<tr>
<td><strong>Total Number of Episodes</strong></td>
<td><strong>Total Number of Episodes</strong></td>
</tr>
<tr>
<td>918.3</td>
<td>528.8</td>
</tr>
</tbody>
</table>
Why screen for suicide risk?

If we want to prevent suicide, we need to move ‘upstream’ from mortality to look at morbidity and the systems issues and social determinants that play a role in suicide.

Suicide prevention is a priority for the community served by Northwestern Medical Center (NMC) and Northwestern Counseling & Support Services (NCSS):
- Community Health Assessment listed suicide as 1 of 6 priority health issues.

Suicide prevention is a priority for Vermont:
- Measure in HV2010, HV2020, HV2030
- State is piloting Zero Suicide in 3 counties (Franklin, Grand Isle, and Chittenden)
- Agency of Human Services (AHS) Suicide STAT process to start in 2017
- CMS measure around reducing the suicide rate
- Joint Commission accreditation measure

Take advantage of momentum nationally, statewide, and locally on suicide prevention.
Why Northwestern Medical Center (NMC)?

Located in one of Vermont’s Zero Suicide pilot counties

Small and progressive community hospital with hospital champions

ED has an established relationship with Northwestern Counseling & Support Services (NCSS) for crisis services
  ▪ 1 FTE from NCSS works in the emergency department (ED)

SBIRT Team conducting work in ED around alcohol and drug use

NMC data feed into 4 key data systems
  ▪ Hospital discharge / All Payor claims / Medicaid claims
  ▪ Syndromic surveillance
Why Northwestern Medical Center (NMC)?, cont.

NMC provides an unique opportunity to

- Make sure we know what we are collecting, analyzing, interpreting
- Improve the systems that detect and report the conditions
- Improve hospital and emergency department (ED) practices and services
- Serve as a model for other community hospitals in Vermont
- Showcase quality improvement work in an ED with other ED directors across the state in their monthly meetings
- Provide local level information for the State’s Suicide STAT
Pilot Project Goals: Screening for Suicide Risk

NMC Health Information Systems Staff
1. Increase accurate, consistent coding for suicidal ideation, suicidal self-directed violence, and medicinal poisonings

NMC Emergency Department Clinicians & Staff
1. Increase accurate, consistent coding for suicidal ideation, suicidal self-directed violence, and medicinal poisonings in emergency department settings
2. Increase the use of evidence-based screening and assessment instruments and protocols
3. Increase the use of referral protocols

NCSS
1. Increase the use of evidence-based screening and assessment instruments and protocols
2. Improve the ability of clinicians and healthcare systems to provide clinical evaluation and treatment to individuals who are identified through screening and assessment as being at-risk for suicide
Who is Responsible for What?

**VDH**
- Providing a $15,000 grant to NMC, a project assistant to help with the work at the NMC, and obtaining an IRB determination
- Observing current practices and validation
- Reviewing protocols / algorithms and data analysis
- Providing oversight of / technical assistance with PDSAs
- Providing assistance with collecting / reporting PDSA results
- Providing training or assisting in locating specific training

**NMC**
- Participating in meetings, discussions for validation
- Participating in training
- Providing protocols / algorithms
- Reviewing / testing new protocols / algorithms
- Conducting / testing PDSAs
- Helping to collect / report PDSA results
- Instituting change!
- Pulling data from NMC systems

**Both**
- Selecting screening tools
- Developing or adapting protocols / algorithms
- Determining content of PDSAs
- Writing a manuscript(s)
- Presenting to peers or at conferences
- Disseminating findings / results of work
12-2015 CS CoiIN Kickoff & Hallway Conversation

1-2016 Posed Pilot Project to State Epidemiologist

2- to 3-2016 Internal VDH & VDMH discussions

3-2016 Identified $15,000 in Prevention Block Grant funds for pilot project use

4- to 8-2016 VDH, VDMH & NMC ED discussions and meetings

4-2016 Approached NMC with Pilot Project Concept

6/7/2017
9-2016 VDH & NMC enter into agreement

9-2016 Identified funding for and hired project assistant

10- to 12-2016 Observed and documented ED processes (work flow)

1-2017 Determined how SBIRT screening in ED could be adapted to include suicide risk screening questions

2-2017 Started implementing and testing PDSAs in varying conditions for suicide risk screening

1-2017 Determined which suicide risk questions to test

6/7/2017
3-2017 Secured an additional $15,000 in Prevention Block Grant funds for project use

4-2017 Initiated observation work on claims coding practices to improve accuracy and consistency in coding

5-2017 Check in with ED on status of screening and preliminary impressions / findings

6-2017 Presentation on QI project at Vermont’s Suicide Prevention Symposium
Why Choose the Columbia Suicide Severity Rating Scale?

• Easy to use - plain language
• Assesses full range of suicidal thoughts & behaviors
• Specific to suicidal ideation, behaviors & past history
• PHQ-9 more focused on Depression, one final question about “thoughts of being better off dead or hurting self”
• SBIRT not want to incorporate 9 additional questions into screening.
COLUMBIA-SUICIDE SEVERITY RATING SCALE  
*Screen Version*

<table>
<thead>
<tr>
<th>SUICIDE IDEATION DEFINITIONS AND PROMPTS</th>
<th>Past month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ask questions that are bolded and underlined.</td>
<td>YES</td>
</tr>
<tr>
<td><strong>Ask Questions 1 and 2</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1) Wish to be Dead:</strong></td>
<td></td>
</tr>
<tr>
<td>Person endorses thoughts about a wish to be dead or not alive anymore, or wish to fall asleep and not wake up.</td>
<td></td>
</tr>
<tr>
<td><em>Have you wished you were dead or wished you could go to sleep and not wake up?</em></td>
<td></td>
</tr>
<tr>
<td><strong>2) Suicidal Thoughts:</strong></td>
<td></td>
</tr>
<tr>
<td>General non-specific thoughts of wanting to end one’s life/commit suicide, “I’ve thought about killing myself” without general thoughts of ways to kill oneself/associated methods, intent, or plan.</td>
<td></td>
</tr>
<tr>
<td><em>Have you actually had any thoughts of killing yourself?</em></td>
<td></td>
</tr>
<tr>
<td>If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.</td>
<td></td>
</tr>
</tbody>
</table>

*Testing the past 2 weeks*
3) **Suicidal Thoughts with Method (without Specific Plan or Intent to Act):**
   Person endorses thoughts of suicide and has thought of a least one method during the assessment period. This is different than a specific plan with time, place or method details worked out. “I thought about taking an overdose but I never made a specific plan as to when where or how I would actually do it....and I would never go through with it.”
   
   *Have you been thinking about how you might kill yourself?*

4) **Suicidal Intent (without Specific Plan):**
   Active suicidal thoughts of killing oneself and patient reports having some intent to act on such thoughts, as opposed to “I have the thoughts but I definitely will not do anything about them.”
   
   *Have you had these thoughts and had some intention of acting on them?*

5) **Suicide Intent with Specific Plan:**
   Thoughts of killing oneself with details of plan fully or partially worked out and person has some intent to carry it out.
   
   *Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?*

6) **Suicide Behavior Question:**
   
   *Have you ever done anything, started to do anything, or prepared to do anything to end your life?*
   Examples: Collected pills, obtained a gun, gave away valuables, wrote a will or suicide note, took out pills but didn’t swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn’t jump; or actually took pills, tried to shoot yourself, cut yourself, tried to hang yourself, etc.

   **If YES, ask:** *How long ago did you do any of these?*
   • Over a year ago? • Between three months and a year ago? • Within the last three months?
<table>
<thead>
<tr>
<th>Test Cycle</th>
<th>Conditions for Testing</th>
<th>Reasons for Cycle</th>
</tr>
</thead>
</table>
| 1-1 to 1-3 conducted 2-14-2017 through 2-27-2017 | • Monday through Friday  
• Between 10 am and 5 pm  
• QI Team on-site  
• SBIRT Screener available  
• ED Crisis Counselor on site  
• Crisis Counselor not engaged with another ED patient  
• Old EHR system | • Determine if SBIRT screener can successfully integrate first 2 questions of Columbia Suicide Risk questions into the SBIRT alcohol and drug use screening instrument  
• Determine where questions should be asked in the SBIRT screener  
• Determine whether questions need a soft lead in  
• Work on SBIRT screener comfort level with asking the 2 Columbia Suicide Risk Assessment questions  
• Determine if asking the 2 screening questions disrupts the SBIRT screening process  
• Determine if asking the 2 screening questions significantly increases patient wait time in the ED  
• Determine if asking the 2 screening questions creates an overload of patients in the ED  
• Determine process for patients who screen positive  
• Determine how SBIRT screeners hand off / alert ED crisis counselor for patients who screen positive  
• Determine if there are types of patients who should not be screened  
• Determine what and how to document suicide risk screening |
<table>
<thead>
<tr>
<th>Test Cycle</th>
<th>Conditions for Testing</th>
<th>Reasons for Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1</td>
<td>Monday through Friday</td>
<td>• Determine if SBIRT screener can successfully integrate first 2 questions of Columbia Suicide Risk questions into the SBIRT alcohol and drug use screening instrument</td>
</tr>
<tr>
<td>conducted</td>
<td>Between 10 am and 5 pm</td>
<td>• Determine where questions should be asked in the SBIRT screener</td>
</tr>
<tr>
<td>3-1-2017</td>
<td>QI Team on-site</td>
<td>• Determine whether questions need a soft lead in</td>
</tr>
<tr>
<td>through</td>
<td>SBIRT Screener available</td>
<td>• Work on SBIRT screener comfort level with asking the 2 Columbia Suicide Risk Assessment questions in the new EHR environment</td>
</tr>
<tr>
<td>4-4-2017</td>
<td>ED Crisis Counselor on site</td>
<td>• Determine if asking the 2 screening questions disrupts the SBIRT screening process</td>
</tr>
<tr>
<td></td>
<td>Crisis Counselor not engaged with another ED patient</td>
<td>• Determine if asking the 2 screening questions significantly increases patient wait time in the ED</td>
</tr>
<tr>
<td></td>
<td><strong>New EHR system</strong></td>
<td>• Determine process for patients who screen positive</td>
</tr>
</tbody>
</table>

Note: no screening occurred between 3-11 and 4-3-2017 due to scheduling problems, new EHR, unusually high ED surge
<table>
<thead>
<tr>
<th>Test Cycle</th>
<th>Conditions for Testing</th>
<th>Reasons for Cycle</th>
</tr>
</thead>
</table>
| 3-1 conducted 4-14-2017 to present | • Monday through Friday  
• Between 10 am and 5 pm  
• QI Team on-site  
• SBIRT Screener available  
• **ED Crisis Counselor on site and has dedicated time to QI project**  
• **Refined process for positive patients**  
• **NCSS Crisis Counselors handle ED patients**  
• **New EHR system** | • Determine if SBIRT screener can successfully integrate first 2 questions of Columbia Suicide Risk questions into the SBIRT alcohol and drug use screening instrument  
• Determine where questions should be asked in the SBIRT screener  
• Determine whether questions need a soft lead in  
• Work on SBIRT screener comfort level with asking the 2 Columbia Suicide Risk Assessment questions in the new EHR environment  
• Determine if asking the 2 screening questions disrupts the SBIRT screening process  
• Determine if asking the 2 screening questions significantly increases patient wait time in the ED  
• Determine if asking the 2 screening questions creates an overload of patients in the ED  
• Improve process for patients who screen positive  
• Improve SBIRT screener hand off to ED crisis counselor for patients who screen positive  
• Continue to determine if there are types of patients who should not be screened  
• Refine what and how to document suicide risk screening |
<table>
<thead>
<tr>
<th>Test Cycle</th>
<th>Conditions for Testing</th>
<th>Reasons for Cycle</th>
</tr>
</thead>
</table>
| 4-1 conducted 4-26-2017 to present | • Monday through Friday  
• Between 10 am and 5 pm  
• SBIRT Screener available  
• ED Crisis Counselor available  
• ED Crisis Counselor not otherwise engaged with a patient in the ED  
• **No QI Team on-site**  
• New EHR system | • Determine if SBIRT screener can successfully integrate first 2 questions of Columbia Suicide Risk questions into the SBIRT alcohol and drug use screening instrument  
• Determine where questions should be asked in the SBIRT screener  
• Determine whether questions need a soft lead in  
• Work on SBIRT screener comfort level with asking the 2 Columbia Suicide Risk Assessment questions in the new EHR environment  
• Determine if asking the 2 screening questions disrupts the SBIRT screening process  
• **Determine if SBIRT Screener can integrate suicide risk screening into daily work**  
• Determine if asking the 2 screening questions significantly increases patient wait time in the ED  
• Determine if asking the 2 screening questions creates an overload of patients in the ED  
• Improve process for patients who screen positive  
• Improve SBIRT screener hand off to ED crisis counselor for patients who screen positive |
## PDSA Tests

<table>
<thead>
<tr>
<th>Test Cycle</th>
<th>Conditions for Testing</th>
<th>Reasons for Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-1</td>
<td>• Monday through Friday</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Between 10 am and 5 pm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>ED Crisis Counselor available</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• <strong>No QI Team on-site</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• New EHR system</td>
<td>• <strong>Determine if Crisis Counselor can conduct and document suicide risk screening in daily work</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine if suicide risk screening questions significantly increases patient wait time in the ED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine if asking the suicide risk screening questions creates an overload of patients in the ED</td>
</tr>
<tr>
<td>4-25-2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to present</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Screening Results (2/14/2017 - 5/22/2017)*

147 patients screened

6 positive for one of first two questions

4 positive for both questions

136 not positive

1 refused

2 already connected to services
1 transferred to another hospital before referral
3 refused services

2 referred for services
1 already connected to services
1 refused services

7 Females / 3 Males

Note: only 2/147 screenings of an individual <20 years; *about 87 hours over 21 weekdays between 10am -5pm
Some Lessons Learned

Support to ED

Patience

Flexibility

Realistic Expectations

Community Partnerships

Staff Champion
## Lessons Learned

<table>
<thead>
<tr>
<th>We “planned”</th>
<th>We found that</th>
<th>We predict that . . .</th>
</tr>
</thead>
</table>
| To increase the use of accurate coding around suicidal behaviors in Vermont emergency departments | • This project idea had a lot of champions  
• Even in the best of environments, slow process -- from inception to on the ground took 10 months  
• Major barrier = getting meetings with decision makers | • Now that we are underway and we are a ‘known commodity’, things will go a lot more smoothly and testing will be able to move forward  
• Public Health STAT process may help if we involve NMC key decision makers  
• May encounter barriers in ED clinician screening  
• May be tricky to train clinicians to use the “right” phrases / words in documenting for ICD-10  
• May encounter barriers in changing screening tools  
• May have issues--duty to warn |
| To provide a small amount of funding as an incentive to participate          | • This was SUPER easy  
• Used end of year prevention block grant funds x 2!                                             | • NMC would have done this without funding, but $30,000 was appreciated  
• Using the funds to offset costs of staff to pull data  
• NMC & NCSS could use additional infusion of funds                                               |
| To provide staff support to the hospital willing to take on QI efforts       | • This was an after thought  
• Able to identify funds to hire a project assistant for 1 year                                  | • Providing staff assistance to do QI work -- huge selling point  
• Without Megan, the ED might not have agreed to the QI work                                       |