



Measuring and Evaluating Suicide Prevention?

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Overview

- Suicide in America and Utah.
- Needs assessment.
- Informing quality improvement / Root-cause analysis.
- Measuring fidelity.
- Tracking outcomes.



Suicide in the United States

- >40,000 individuals die of suicide each year in the US.
- 10th leading cause of death.
 - #1 cause of injury-related death.
- Suicide rates have increased 30% among adults in the last decade.
- Men are more likely to die by suicide (3:1).
 - Women are more likely to attempt suicide.



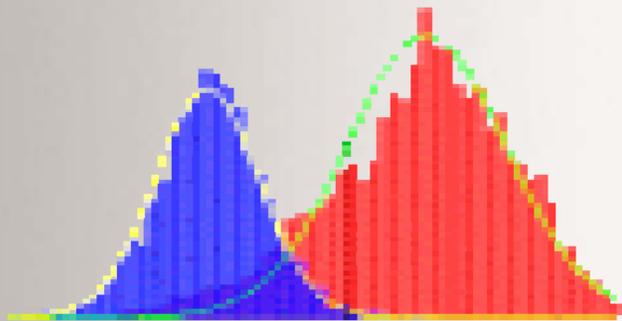
Suicide in Utah

- The State of Utah suicide rate of 25.2 per 100,000 is fifth highest in the nation.
 - 46.5% annual rate increase since 1999



Do we really need to do math?

- There's a reason you learned math in school.
 - You can use it to prevent suicide!!!!



Statistics



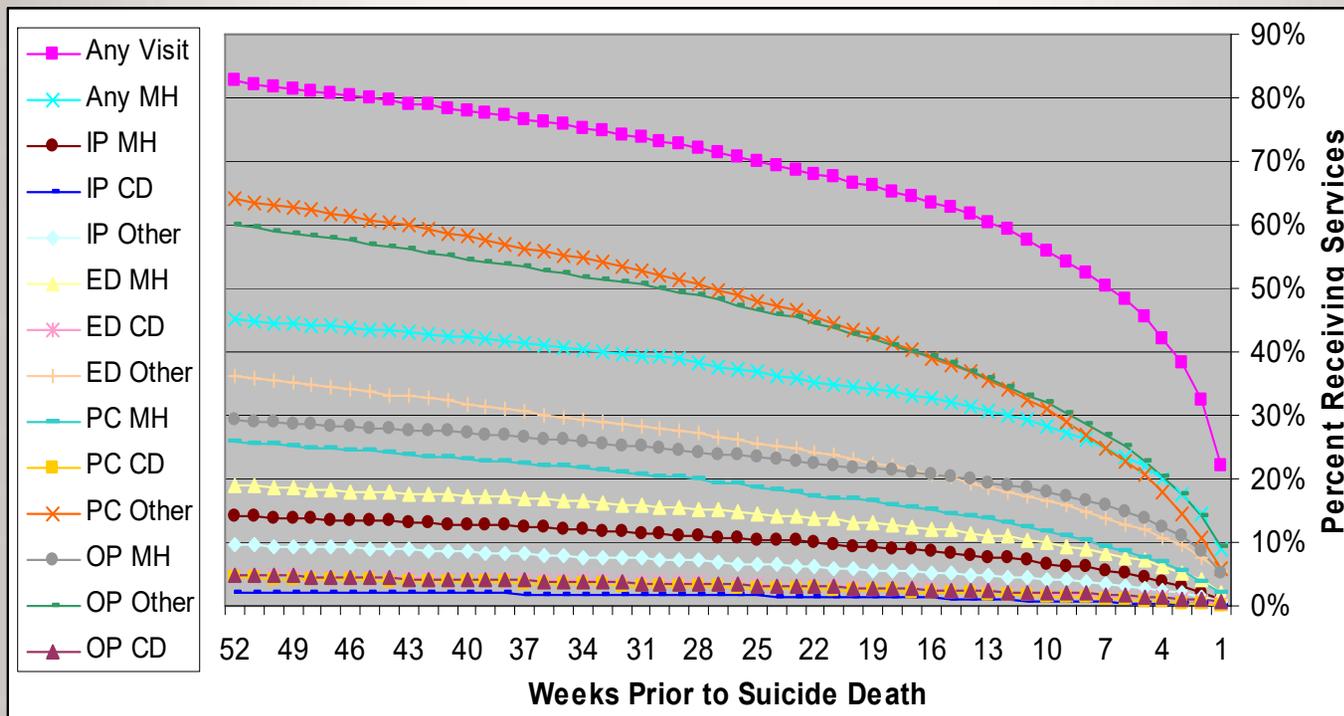
Needs Assessment

- Retrospective identification of suicide behavior outcomes.
 - When do suicide deaths /attempts occur?
 - Who is most likely to attempt (numbers / percentages)?
 - Where do people receive services?
 - What providers do they see?
 - How: most common means of suicide attempt/death?



Suicide and Healthcare Settings

- Greatest risk for suicide is following psychiatric hospitalization.
- Greatest # of suicides occur among general medical patients.
- Less than 50% of patients have MH diagnosis before suicide.



Ongoing Needs Assessment

- Have the needs and services of our population changed over time?
- Are there new evidence-based interventions that might work in our environment that would fill a need?



Informing Quality Improvement

- Root-Cause Analysis after Suicide Behavior
 - Internal Surveillance of Suicide Deaths.
 - Internal Surveillance of Suicide Attempts.
- Monitoring of Fidelity to Implemented Interventions.
- Continued Needs Assessment.



Root-Cause Analysis

- Internal Evaluation of Missed Opportunities
 - **“Opportunities for change in a Learning Healthcare System”**
 - Interviewing providers, family
 - Reviewing case notes
 - Evaluating use of ZS approaches during treatment.
 - Observations / Patterns lead to change.
 - Be careful to conduct in a Just Culture (no blame).



Fidelity Monitoring

- Are we implementing the interventions?
 - For example: Was everyone screened, who was supposed to be screened?
 - If so, “great work, let’s keep working”
 - If not, “What are the barriers to successful use, how can we remove the barriers and give you the tools to improve?”
- Are we implementing the interventions *the way we intended?*
 - For example: Asking the intended screening question vs. “you’re not thinking about suicide are you?”
 - If so, “great work, let’s keep working”
 - If not, “What are the barriers to successful use, how can we remove the barriers and give you the tools to improve?”



Tracking Outcomes

- Denominators, measurement periods.
- Primary data elements in Zero Suicide.
 - Suicide death.
 - Suicide attempt.
 - Fidelity metrics as outcome variables.
 - Proxy for suicide – Are components implemented as planned?



Denominators

- The people for whom you should track outcomes (you need to decide what works for your system).
 - Rolling rates vs. annual rates vs. person-month rates.
 - All health system patients.
 - All patients who screen positive for suicide.
 - All behavioral health patients.
 - Health plan population members.
 - Utilization-based denominator (based on visits).
 - Community rates:
 - If your system is the only service provider available.
 - In areas where many systems implement ZS (i.e., Dane Co.).



Measurement periods

- Varies based on the outcome and setting.
- For suicide death and attempts.
 - 12-months after last visit (Henry Ford).
 - 3-months after last visit (Centerstone).
 - 1-month post-discharge (Inpatient settings).
- Measurement should be determined based on your local population and setting.
- All options are okay, but consistency is key.



Measuring Suicide Death

- Official state mortality, cause-of-death records are available freely for health systems in some states.
 - Official CDC classification: ICD-10 codes X60-X84, Y87.0.
 - Records can be matched to health system records via SSN or a demographic profile.
 - Data are not available for 1-2 years after calendar year of death.
 - Does not capture out of state deaths (or out of country).
 - Are not available in all states (e.g., Hawaii).



US Mortality Records

- Mortality records are available for purchase from the federal government.
 - Official Cause of Death Records.
 - National Death Index: <http://www.cdc.gov/nchs/ndi.htm>.
 - Costly - \$350 service charge + \$0.15 per record (e.g., 200,000 patients cost over \$30,000 per year).
 - Data are not available immediately.

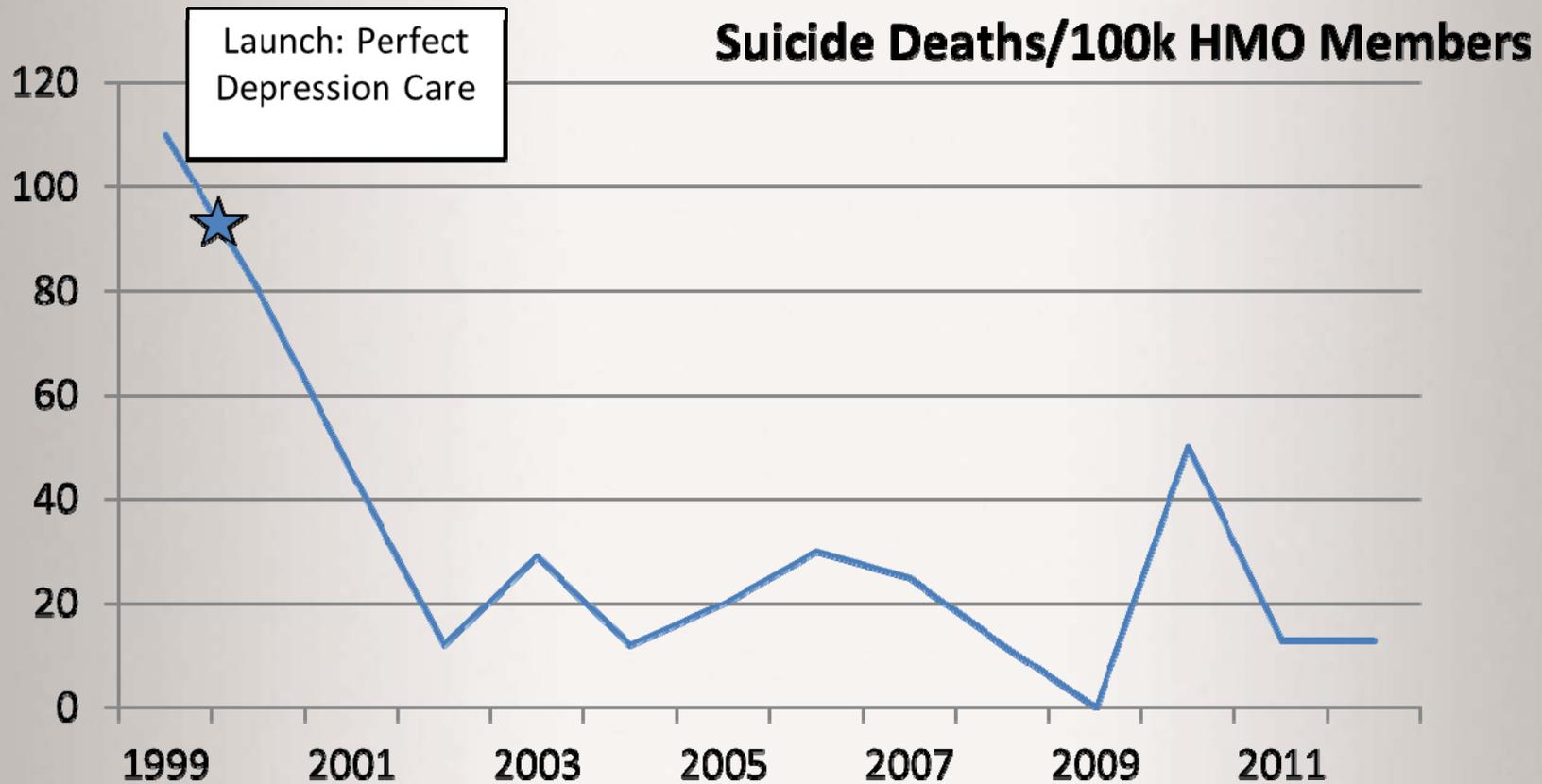


Internal Surveillance

- Internal Surveillance of Suicide Deaths
 - Can be tracked / identified immediately.
 - Identified from medical chart records, clinicians, families, media sources, health plans – ANYWHERE.
 - Necessary for rapid cycling quality improvement.
 - At Henry Ford, internal capture of suicide mortality identified that same number of suicides over a 12 year period as official records.
 - Both sources missed some suicides.
 - Can be matched to official records when available.



Suicide Rates at Henry Ford



Suicide Attempts

- Suicide Attempts were identified primarily by ICD-9 e-codes thru September 2015.
 - Available from hospital and emergency records.
 - Use of e-codes was not consistent (difficult to track).
 - Accurate capture necessary for tracking.
 - Other coding schemes have been validated if e-codes were missing.

Code Type	ICD-9 codes
Suicide Attempt	E950-E958 (intentional self-harm)
Possible Suicide Attempt	E980-E988 (undetermined intent)
Suicide V-Code	V62.84 (suicide ideation) --AND SAME VISIT-- 870-899, 960-989
Suicide Algorithm	881, 960-979, 980-989, 994.7 ----AND SAME VISIT---- 293.83, 296.20-296.36, 296.82, 296.90, 298.0, 300.4, 309.0-309.1, 311, 296.00-296.06, 296.1-296.14, 296.40-296.89, 296.99, 301.13, 301, 290.8-290.9, 295, 297, 298.1-298.9, 299, 301.20-301.22, 780.1, 309.2-309.9



Suicide Attempts and ICD-10

- ICD-10 coding scheme started October 1, 2016.
 - Intentional Self-Harm: X71-X83.
 - Event of Undetermined Intent: Y21-Y33.
 - Other methods still in development.

*ICD codes are the official World Health Organization diagnosis codes used in medical settings.



Fidelity & Outcomes

- All Zero Suicide Components can be measured for fidelity and outcomes.
 - % of eligible patients screened.
 - % with 7-day follow-up visit after positive screen.
 - % with behavioral health visit.
 - % with second behavioral health visit.
 - % with 24-48 hour contact after inpatient discharge.
 - % receiving specialty suicide treatment.
 - % of staff trained.
- 6- or 12-month change in:
 - Organizational Self-Study Items.
 - Workforce Survey Items.



Contact Information

Are you overwhelmed????



Contact me with questions / comments.

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Questions?

