An Evaluation of the Zero Suicide Model Across Learning Healthcare Systems

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| **Project Name:**  An Evaluation of the Zero Suicide Model Across Learning Healthcare Systems | |
| **Principal Investigator:**  Brian Ahmedani PhD (Contact PI) |  |
| **Principal Investigator** **Contact Information:**  [BAHMEDA1@hfhs.org](mailto:BAHMEDA1@HFHS.ORG) |  |
| **Principal Investigator institution:**  Henry Ford Health System |  |
| **Funder:**  NIMH |  |
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| **Abstract:**  Suicide remains the 10th leading cause of death in the United States (US). Public health concern prompted the National Action Alliance for Suicide Prevention and the US Surgeon General to develop the 2012 National Strategy for Suicide Prevention (NSSP), aiming to decrease suicide rates by 20%.  Henry Ford Health System’s Perfect Depression Care (PDC) Zero Suicide Initiative demonstrated a substantial and sustained decrease in the suicide rate of nearly 80% among behavioral health patients. The NSSP promoted this initiative – and its adoption of Zero Suicides as an aspirational goal of healthcare systems across the US. The Suicide Prevention Resource Center (SPRC) developed the resources and tools to prepare US health systems for local implementation of the National ZS Model (NZSM).  Acknowledging that suicidal individuals often fall through multiple cracks in a fragmented healthcare system, the NZSM calls for a systematic, comprehensive approach across health service settings.  The NZSM approach involves local implementation of a series of evidence-based clinical interventions in four areas: 1) Identifying those at risk (IDENTIFY), 2) Initiating and maintaining engagement in care (ENGAGE); 3) Delivering effective treatments (TREAT), and 4) Assuring appropriate care transitions (TRANSITION).  Despite being promoted internationally as a model program for suicide prevention, the NZSM has very limited evidence. More rigorous study is needed to understand suicide outcomes within various health systems, service settings, and patient populations. This project will evaluate the separate and cumulative benefits of implementing specific components of the NZSM in large integrated healthcare systems  The 6 systems in this proposed study collectively serve >9 million patients/year. Two systems, Kaiser Permanente Washington and HFHS (Michigan), have already implemented some NZSM components. The other 4 systems; the Colorado, Northern California, Northwest, and Southern California regions of Kaiser Permanente; will be implementing specific NZSM components during 2017-2019.  The 6 systems are all members of the NIMH-funded Mental Health Research Network and have large, defined patient populations with complete data capture. Selection and implementation of specific NZSM strategies will be led by delivery system leaders and supported by health system resources; research teams at each site will collaborate in development of metrics and reporting systems. |  |
| **Grant Number:**  U01 MH114087 |  |
| **Participating Sites:**  Henry Ford Health System  Kaiser Permanente Washington Kaiser Permanente Colorado   Kaiser Permanente Northern California  Kaiser Permanente Northwest  Kaiser Permanente Southern California |  |
| **Investigators:** Gregory Simon, MD, MPH (co-PI) Robert Penfold, PhD Julie Goldstein, PhD BobbiJo Yarborough, PsyD Frances Lynch, PhD Stacy Sterling, DrPH Karen Coleman, PhD Arne Beck, PhD |  |
| **Major Goals:**   1. Collaborate with health system leaders to develop EHR metrics to measure specific quality improvement targets and care processes tailored to local NZSM implementation. 2. Examine the fidelity of the specific NZSM care processes implemented in each system. 3. Investigate suicide attempt and mortality outcomes within and across NZSM system models. |  |
| **Description of study sample:** We will establish an overall defined patient population denominator, such that all individuals will be health system members – including combined patient members of the affiliated medical group and health insurance plan.  This combination provides comprehensive capture of electronic health records and insurance claims data for all patients.  We will define our denominator in quarterly periods. Each observation quarter at each site will include unique patients, who were enrolled in the health plan for that quarter. Data from MHRN indicate that there are >9 million patients across the 6 systems each year.  As described below, specific analyses will focus on denominator populations relevant to evaluation of a specific NZSM component or improvement strategy (e.g. analyses regarding fidelity and impact of screening/identification in specialty mental health care will focus on patients making at least one specialty mental health contact).  Based on data from these healthcare systems in 2014 and 2015, we anticipate observing approximately 4,500 non-fatal, medically treated suicide attempts and 225 suicide deaths in each quarter of the study period. |  |
| **Current Status:**  March 27, 2018: Current activities include partnering with healthcare system leaders to map the implementation timeline of NZSM improvement strategies as well as developing an initial set of health system prioritized metrics and identifying the corresponding data variables within the electronic health record systems. |  |
| **Study Registration:**  N/A |  |
| **Publications:**  N/A |  |
| **Resources:**  N/A |  |
| **Lessons Learned:** N/A |  |
| **What’s next?** Defining an initial set of process and outcome metrics to be used for program evaluation, completing a final set of specifications for determining implementation timelines with leadership, and disseminating information on implementation decisions and initial metrics. |  |