Children's Hospital of Philadelphia PolicyLab

Pilot Grants

Enhancing Adolescent Suicide Mortality Risk Classification Through Clinical Data Integration

Adolescent Health & Well-Being

Statement of Problem

Suicide is the second leading cause of death in adolescents, and on national surveys, more than 20% of U.S. adolescents report seriously considering suicide and 10% report a prior suicide attempt. The American Academy of Pediatrics recommends universal suicide risk screening for patients aged 12 years and older at all health care visits.

At Children's Hospital of Philadelphia (CHOP), we routinely screen adolescents for psychosocial and behavioral risk factors using the Behavioral Health Screen. Since 2020, we have also integrated behavioral screening in the primary care setting, using the Adolescent Health Questionnaire. These routine screening tools capture key psychosocial and behavioral risk factors, including validated suicide screening data and substance use screening data.

However, our understanding of the long-term impact of these screening results is limited to outcomes that exist within future health care encounters; we are currently unable to link this data to mortality outcomes. This gap hinders the ability to fully understand the cumulative burden of environmental, behavioral, and clinical factors on suicide, overdose and all-cause mortality.

Description

The objective of this study is to evaluate the association between adolescent self-reported suicide risk screening and mortality outcomes.

Our team will link more than a decade of routine adolescent suicide risk screening data from the CHOP Emergency Department (ED) and CHOP Primary Care Network to mortality data from the National Death Index (NDI) to:

1. identify the prevalence and causes of mortality among adolescents with elevated suicide risk screening; and
2. evaluate how modifiable patient and neighborhood exposures, including substance use, firearm access, and the Childhood Opportunity Index, influence mortality risk.

This pilot will establish a scalable analytic infrastructure linking routine adolescent suicide screening data to national mortality outcomes, setting the stage for additional research to improve adolescent suicide prevention and inform institutional and state-level policy on screening, intervention and reimbursement.

Next Steps

Our team will integrate longitudinal mortality outcomes into clinical risk classification models.

We will estimate the potential reduction in suicide mortality risk due to reduced firearm availability; reduced substance use risk; and increased neighborhood Child Opportunity Index.

This study will also establish infrastructure to support future studies using national data sets, such as PEDSnet or the Pediatric Emergency Care Applied Research Network (PECARN), to evaluate associations between adolescent risk screening and mortality outcomes.

Study findings will be disseminated to relevant audiences, such as institutional leaders, community mental health partners, payors and decision-makers.

Suggested Citation

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Project Leads

Polina Krass
Polina Krass
MD, MSHP
Faculty Member
Scott Jelinek
Scott Jelinek
MD, MPH, MAEd
Faculty Member

Team

Renata Arrington Sanders
Renata Arrington Sanders
MD, MPH, ScM
Faculty Member

Funders of Project

PolicyLab
Clinical Futures

Project Contact

Polina Krass

krassp@chop.edu