Suicide on Railroad ROW

Challenges and Advantages of an International Response

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Every 40 seconds a person dies by suicide somewhere in the world.
Collaboration
Global Railroad Alliance for Suicide Prevention (GRASP)

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Challenges
Diverse Rail Environments

Railroads – More Alike Than Different?

U.S. versus Europe

- In the U.S.
  - Railroad are predominantly privately owned
    - Rolling stock and underlying infrastructure
  - Heavy emphasis on freight versus passenger
  - Individual railroads and suppliers determine many, if not most of the interoperability requirements
    - U.S. regulatory efforts focus more on general performance objectives

Research Challenges

• Defining the problem (suicide completion)
  o Variable determination criteria
  o Inconstant data reporting
    ▪ Rail related suicide is commonly reported under “other”
  o Limited data access

• Sample
  o Completed suicide is a rare event (between 10 to 20 individuals per 100,000)
  o Obtaining an adequate sample is difficult
  o There are many influencing factors (covariates) associated with suicide completion (age, sex, level of psychological and emotional distress, use of alcohol and drugs, etc.)
    ▪ Samples sizes are often inadequate to examine the extent to which these factors are characteristic of completed suicide
Research Challenges (cont.)

• Methods: Investigating intentional death
  o Residuals: suicide notes, diaries, patient records
    ▪ Observational distortion
  o Substitution
    ▪ Psychological autopsy (follow back studies)
      - Perspectives of family/relatives, friends
        • Variability of a prior knowledge
        • Unevenness across family/friend reports

• Measurement
  o Identification is dependent on medical examiners and coroners
    ▪ Variability in the use and weight of decision criteria
    ▪ Suspected – confirmed – undetermined
  o Cross-cultural validity

• Uneven research rigor and precision
Research Challenges (cont.)

• **Diversity of prevention efforts**
  - Encouraging individuals experiencing suicidal ideation to proactively seek treatment
    - Encourage individuals to be knowledgeable and aware of risks
  - Reducing access to the means of taking one’s life
  - Improving diagnostic and treatment approaches used by behavioral health providers
    - Gatekeeper training
    - Behavioral health providers (psychiatrists, psychologists, social workers, etc.)
    - Chaplains, faith-based and other interventionists
  - Smart phone apps
    - Virtual Hope Box – built on cognitive therapy (CT) dialectical behavior therapy (DBH)
      - Mood trackers
      - Coping strategies
      - Distress tolerance
Research Challenges (cont.)

- **Countermeasure efforts**
  - Lack of counterfactual – *what would have happened if . . .?*
  - Inconsistent application or installation (signage, barriers, help line access, etc.)
  - Inadequate investigation interval
    - Incidence of suicide is relatively small
  - Inability to precisely determine whether the lack or reduction of suicide (attempted or completed) is related to the presence of countermeasure
  - Lack of control and/or attention to alternative explanation
Advantages
Research Synthesis Collaborative Efforts

• Integrating empirical research in support of generalization – *consensus*
  o Defining the problem
  o Identification of central issues
  o Establishing relevant theories
    ▪ Mitigation and countermeasure strategies
      – Barriers
    ▪ Media impact
      – News and social media
      – Signage
  o Establishing methodological approaches
  o Cumulative evidence
Benefits of Collaborative Efforts

- Pooling of rare event data – overcoming limitations
  - Increasing sample size
  - Statistical power to determine effectiveness (e.g., countermeasures, media impact, etc.)
  - Increased precision
- Shared methodologies
- Examination of differential results and patterns
  - Population subgroups
  - Use of countermeasures in diverse environments and conditions
- Generation of new hypotheses for future investigations based on homogeneity of results
Suicide on the Railroad Rights of Way

Project Team

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Federal Railroad Administration (FRA)
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Association of American Railroads
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Thank You!

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