Public health surveillance for suicide-related data

Alex E. Crosby
Garrett L Smith Memorial Act Grantees seminar
May 2014
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

"The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention/the Agency for Toxic Substances and Disease Registry."
The Public Health Approach to Prevention

Assess the Problem
What’s the problem?

Identify the Causes
Why did it happen?

Develop & Evaluate Programs & Policies
What works?

Implementation & Dissemination
How do you do it?
Public Health Surveillance

• “...ongoing systematic collection, analysis and interpretation of health data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those who need to know.”

    Thacker & Berkelman – 1988
Why Do We Need Injury Surveillance Systems?

• What’s the problem and how big is it?
• Who is at risk?
• How do we design research to find out how to prevent the problem and test it in a community?
• Assess the result of programs (e.g., changes in deaths, injuries, impairments, disabilities, lost work days, loss of ability to perform daily activities, or behaviors)?
Burden of injury

- Deaths
- Hospitalizations
- Emergency Dept visits
- Events reported on surveys
- Unreported events
Public Health Burden of self-directed violence among persons aged 10-24 years -- United States, 2010

- 4,867 deaths*
  - Rate: 7.6 per 100,000

- 35,942 hospitalizations¶
  - Rate: 56.7

- 174,030 Emergency dept. visits§
  - Rate: 269.8

*Source: CDC’s National Vital Statistics System,
¶Source: Agency for Healthcare Research and Quality’s Healthcare Cost and Utilization Project - Nationwide Inpatient Sample (HCUP-NIS)
§ Source: CDC’s National Electronic Injury Surveillance System (NEISS)
Self-directed violence prevention
Problem Description/Surveillance

**Deaths**
- Death Certificates
  - National, State, County
- National Violent Death Reporting System
  - 18 states
- School-Associated Violent Death Study
  - National
National Violent Death Reporting System

• Mission
  – To collect high quality detailed, timely information on all violent deaths in the US

• Primary sources:
  – Death Certificates (DC)
  – Coroner/Medical examiner (C/ME) records
  – Police Records (PR)
  – Crime lab data (Lab)

• Integrates data from diverse sources
• Reports faster than vital statistics
NVDRS (continued)

• The system includes:
  – Suicides
  – Homicides
  – Events of undetermined intent
  – Unintentional firearm injury deaths
  – Legal intervention deaths (excluding executions)

• Plans to expand from 18 to ~28 states in 2014
Current NVDRS States

- OR
- AK
- CO
- UT
- NM
- OK
- WI
- MI
- OH
- KY
- VA
- NC
- SC
- GA
- MA
- RI
- NJ
- MD

- 2003
- 2004
- 2005
- 2010
Self-directed violence prevention
Problem Description/Surveillance

- Nonfatal injuries – official records
  - Natl. Electronic Injury Surveillance System – All Injury Program (NEISS-AIP)
    - Hospital emergency department (ED) visits
  - Other hospital ED records
    - Check with state hospital association or local hospital or trauma center
  - In-patient hospitalizations
    - Check with state hospital association
National Electronic Injury Surveillance System (NEISS-AIP)

- Operated by the US Consumer Product Safety Commission
- Nationally representative sample of hospital emergency departments
- Collects data about all types and external causes of injuries and poisonings treated in US hospital emergency departments
NEISS-AIP (continued)

Case Definition for Self-Harm

Injury or poisoning resulting from a deliberate violent act inflicted on oneself with the intent to take one’s own life or with the intent to harm oneself.
NEISS-AIP (continued)

- Data elements:
  - demographic characteristics
  - disposition
  - underlying cause/mechanism of injury
  - intent
  - principal diagnosis
  - primary body part affected
  - location where injury occurred
  - whether injury was related to work
Web-Based Statistics

- www.cdc.gov/ncipc/wisqars/default.htm
- Injury mortality and leading cause of death statistics available by:
  - Intent, Method
  - Year
  - State
  - Demographics
    - Age, Sex, Race
- Injury morbidity
  - Hospital emergency dept events
Self-directed violence prevention
Problem Description/Surveillance

**Nonfatal injuries - surveys**

- Youth Risk Behavior Surveillance System (CDC)
  - High school students
  - 4 items on suicidal thoughts and behavior
  - National, 43 states, and 21 large urban school districts

- National Survey on Drug Use and Health (SAMHSA)
  - Adults (18+ years)
  - 6 items on suicidal thoughts and behavior
  - National, 50 states + Wash., D.C., and 33 large metropolitan areas
Population-based Surveys

- Youth Risk Behavior Survey
  - Biennial survey (every other year)
  - Administered in school computer-assisted
  - Provides national, state, and sub-state representative estimates on a variety of health risk behaviors
  - Suicide-related information covers a 12 month period
Population-based Surveys

• National Survey on Drug Use and Health (NSDUH)
  – Annual household survey of civilian, non-institutionalized population aged 12 years or older
  – Administered in-person, computer-assisted
  – Provides national, state, and sub-state representative estimates of substance abuse and mental health issues
  – Suicide-related information covers a 12 month period
Considerations for data on suicide-related problems

• Information
  – Diverse data sources
  – Circumstances at time of injury event

• Sources
  – Emergency medical services data (EMS)
  – Linking data between systems [e.g., law enforcement, ME/C, medical records]?

• Access and Dissemination
  – Timeliness
  – Reporting requirements
Conclusion

• Assessment is a foundation for public health action
• Existing systems for assessing self-directed violence are useful but have limitations
• Need exists for improved and expanded surveillance systems regarding self-directed violence

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.atsdr.cdc.gov