CARDIFF MODEL FOR VIOLENCE PREVENTION

Health Data Users Group Meeting, Jennifer Hernandez-Meier, PhD, MSW and Sara Kohlbeck, MPH

April 25, 2018
OBJECTIVES

• Introduce the group to the Cardiff Model for Violence Prevention
• Situate the Cardiff Model within the Public Health Model for Violence Prevention
• Discuss the linkage of health data with other community data to advance public health efforts
• Describe Cardiff Model translation efforts in West Allis
CARDIFF MODEL FOR VIOLENCE PREVENTION
CURRENT VIOLENCE SURVEILLANCE

• Communities often rely solely on law enforcement data to understand injury and violence

• United Kingdom (UK) study, in a 6-month period:
  - 66% of assaults were only recorded by emergency departments (EDs)
  - 24% only by the police (PD)
  - 11% were recorded by both ED and PD

• US: 13% of nonfatal shootings seen in Atlanta EDs did not appear in PD records
THE CARDIFF MODEL FOR VIOLENCE PREVENTION

- The **Cardiff Model for Violence Prevention** is

  - An enhanced violence surveillance system that combines health data (from emergency departments), law enforcement data, and other datasets (including emergency medical services) to provide a more comprehensive picture of the burden of violence in a community.
CARDIFF MODEL FOR VIOLENCE PREVENTION

- Originally developed in Cardiff, Wales (UK) (2001)
- Time sensitive, data-driven method for reducing assaultive violence
- Public health, population-based approach
UK CARDIFF EVALUATION

• 4 years post implementation: woundings recorded by police dropped by 42%, relative to comparison cities
• Cost-benefit: ratio of 1:82
PUBLIC HEALTH MODEL FOR VIOLENCE PREVENTION

- The Cardiff Model is aligned with the Public Health Model for Violence Prevention
CARDIFF MODEL STEPS

• **Step 1** 24 hour electronic data collection of assault information by ED staff.
• **Step 2** Monthly anonymization and sharing of data between Hospital Information Technology (IT) and Research Staff.
• **Step 3** Monthly combination of PD, Emergency Medical Service (EMS) and ED data.
• **Step 4** Geomapping and summarizing violence trends, times, locations and weapons.
  - Spatial: geographic patterns and hotspots (e.g., businesses, schools, parks)
  - Temporal patterns: times, days, months
  - Incident patterns: weapon, types
  - Include/layer on other factors & assets (e.g., alcohol outlets, green space)
CARDIFF MODEL STEPS (CONT.)

• **Step 5** Police, health care, public health, community and other stakeholders discuss the data summaries, develop ideas and implement policy and prevention efforts.

• **Step 6** Continuous tracking of the effects of prevention activities on violence trends.
LINKAGE OF HEALTH DATA WITH OTHER COMMUNITY DATA FOR VIOLENCE PREVENTION
USING HEALTH DATA FOR PUBLIC HEALTH

- 3 functions of public health (Institute of Medicine):
  - Assessment and identification of health problems
  - Policy development and mobilization of effort and resources
  - Assuring vital conditions are in place and that crucial services are received

- All 3 functions require access to high-quality data

- Public health agencies access data from variety of sources
  - Vital records
  - Laboratories
  - Surveys

- HOWEVER, **gaps exist**
  - Data is often delayed
  - Data is often presented in aggregate form
USING HEALTH DATA FOR PUBLIC HEALTH

• Use of electronic health records facilitates health data access
• Electronic health data can
  - Guide action
  - Provide geographic information not included in statutory reporting requirements
• Often permissible under HIPAA
  - Need for information related to a public health activity (e.g., surveillance of violence-related ED visits)
  - Public health agencies may have access to protected health information (PHI) to carry out public health activities
  - De-identified data may be shared with other entities
WHY COMPLEMENT WITH ED DATA?

• Timely

• Ideal setting to collect surveillance data:
  - treat 24-hours/day
  - ubiquitous in distribution
  - already collect detailed, person-level data

• Ability to collect data on incidents:
  - not perceived to be serious enough to report to the PD
  - where participants do not want to report to the PD
WHY COMPLEMENT WITH EMS DATA?

• Police don’t escort all paramedic calls
• Patients may refuse treatment or transport to the ED
• Ariel and colleagues
  - Police were unaware of at least half of ambulance hotspots
  - Only 9% of the ambulance calls corresponded with similar police records
CURRENT TRANSLATION EFFORTS
TRANSLATION EFFORTS

• Phase I – Feasibility Study
• Phase II – Full Translation
PHASE II – FULL TRANSLATION

• Funded by the Bureau of Justice Assistance
• 10/1/2016 through 9/30/2018
• Objectives:
  - Fully translate the Model to the City of West Allis
  - Evaluate the barriers and benefits of the Model
  - Evaluate preliminary prevention and policy recommendations and outcomes on interpersonal violence
  - Advocate for the integration of law enforcement-public health partnerships in practice and policy
PHASE II PARTNERS

• Children’s Hospital of Wisconsin (CHW)
• Froedtert Hospital (FMLH)
• Aurora St. Luke’s Medical Center
• Aurora West Allis Medical Center
• West Allis Police Department (WAPD)
• West Allis Public Health
• Milwaukee Police Department (MPD)
• Milwaukee County EMS
PHASE II COMMUNITY PARTNERS

- Project partners +
- Apostle Presbyterian Church
- Family Resource Center
- Mayor's Office of West Allis
- Tavern League of Wisconsin
- West Allis-West Milwaukee Chamber of Commerce
- West Allis-West Milwaukee Community Coalition
- West Allis-West Milwaukee School District
- University of Wisconsin-Milwaukee
PHASE II PROGRESS

• Three community meetings held
• Data linked from FMLH, CHW, WAPD, WAFD (EMS)
  - Working on data linkage with Aurora hospitals
• Found that in February and March 2018, 72% of cases in EMS dataset were not recorded in police records
  - Demonstrates utility of linking health data with police data
• Beginning discussion of violence prevention action plan
QUESTIONS TO CONSIDER

• How could this linked data be useful to you in your work?

• What are some facilitators and/or barriers you envision for implementing the Cardiff Model in the City of Milwaukee?
QUESTIONS?

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THANK YOU!