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CARDIFF MODEL FOR VIOLENCE PREVENTION

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

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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

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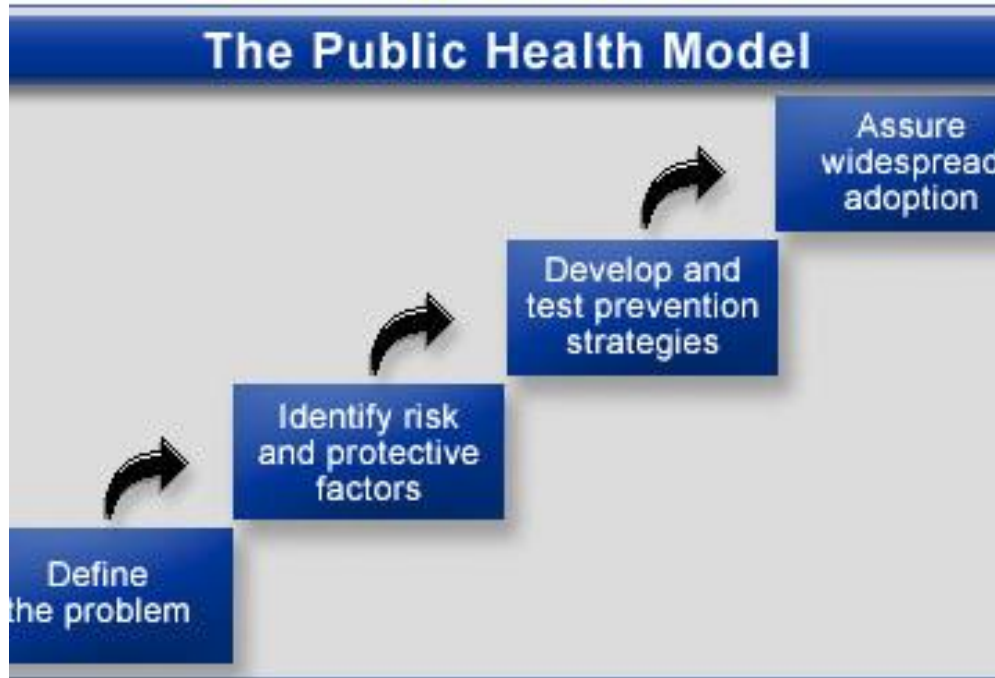


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UK CARDIFF EVALUATION

- 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

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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)

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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

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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

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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

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CURRENT TRANSLATION EFFORTS

Quadriceps
- rectus femoris
- vastus lateralis
- vastus intermedius
- vastus medialis
hamstring

TRANSLATION EFFORTS

- Phase I – Feasibility Study
- Phase II – Full Translation

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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

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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



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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?

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QUESTIONS?

- Jennifer Hernandez-Meier, PhD, MSW
 - jhernandez@mcw.edu
- Sara Kohlbeck, MPH
 - skohlbeck@mcw.edu
- Stephen Hargarten, MD, MPH
 - hargart@mcw.edu



| THANK YOU!