INSPIRE Webinar:
SAFE ENVIRONMENTS

Finding and Addressing “Hotspots”: The Cardiff Model

Jonathan Shepherd

Professor, Crime and Security Research Institute, Cardiff University

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Violence is disfiguring, frightening, blights cities, disrupts health services and costs a fortune

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

40% of people injured in violence develop PTSD

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

INTRODUCTION

- Safety in public places allows children to move freely and fully participate in learning, working and playing
- Child friendly cities
- New partnerships: expanding the range of stakeholders
- Publicly accountable policing which protects the rights of children
- Violence can be prevented!

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

INTRODUCTION

Characteristics of INSPIRE programmes:

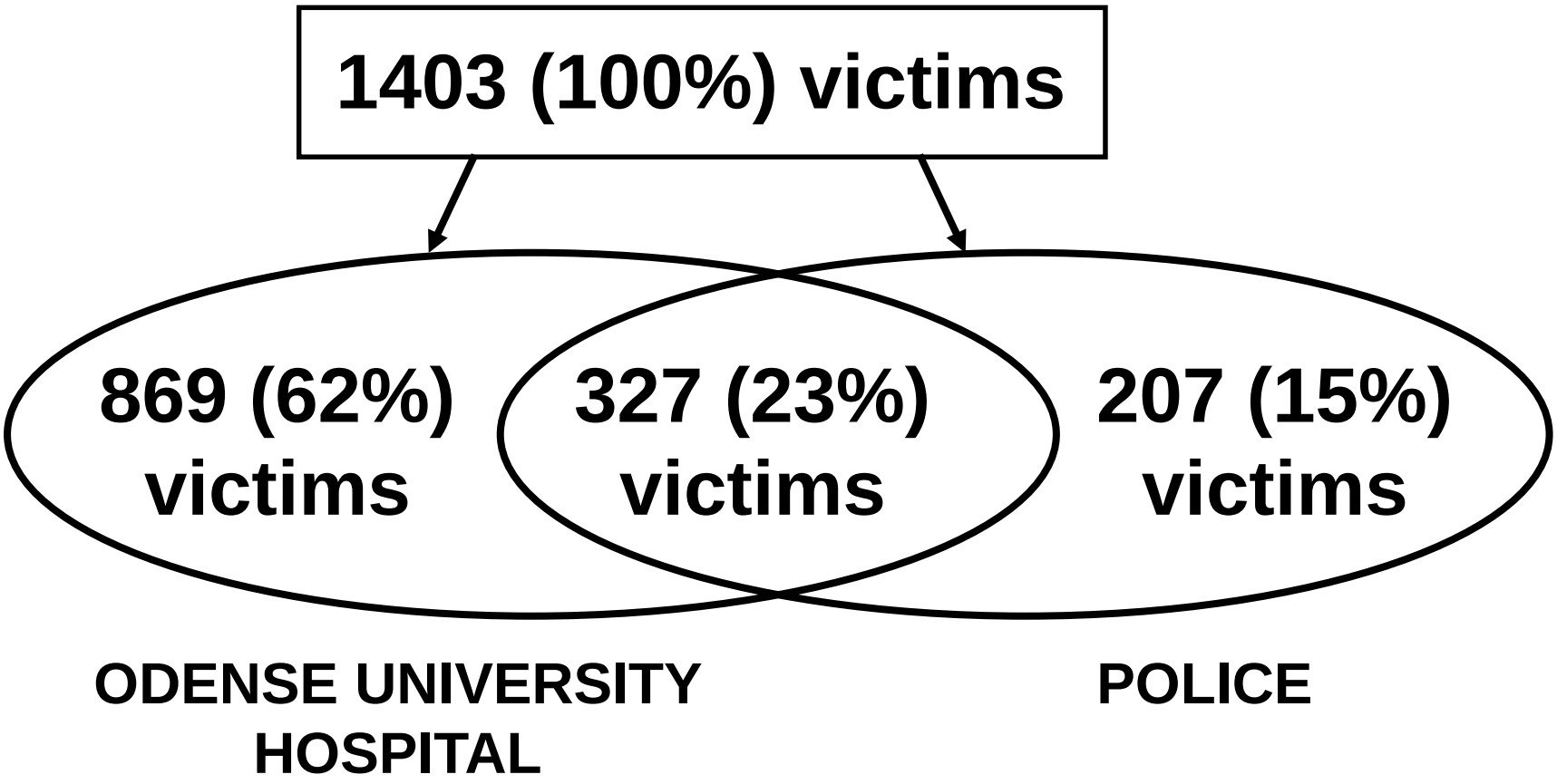
- Data informed
- Effects are immediate and aspirational
- Cost effective
- Sustainable
- Guided by and contributing to the evidence base

DISCOVERY! POLICE DON'T KNOW ABOUT MOST SERIOUS VIOLENCE

- Even in high income countries, less than half of violent offences which result in ED treatment are known to police
- Police knowledge of violence depends on injured people reporting violence – but most don't report
- Police knowledge of violence varies by victim age and gender and violence location

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

VIOLENCE IN ODENSE MUNICIPALITY (DENMARK)



Source: *Faergemann et al, J Forensic Legal Med 2007*

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

- 89% of assaults in Georgia resulting in ED treatment not known to police. *Wu et al JAMA Int Med 2019*

- 9% of shootings resulting in ED care in Seattle, Memphis and Galveston not ascertained by police

  Kellerman et al, N Engl J Med 1996

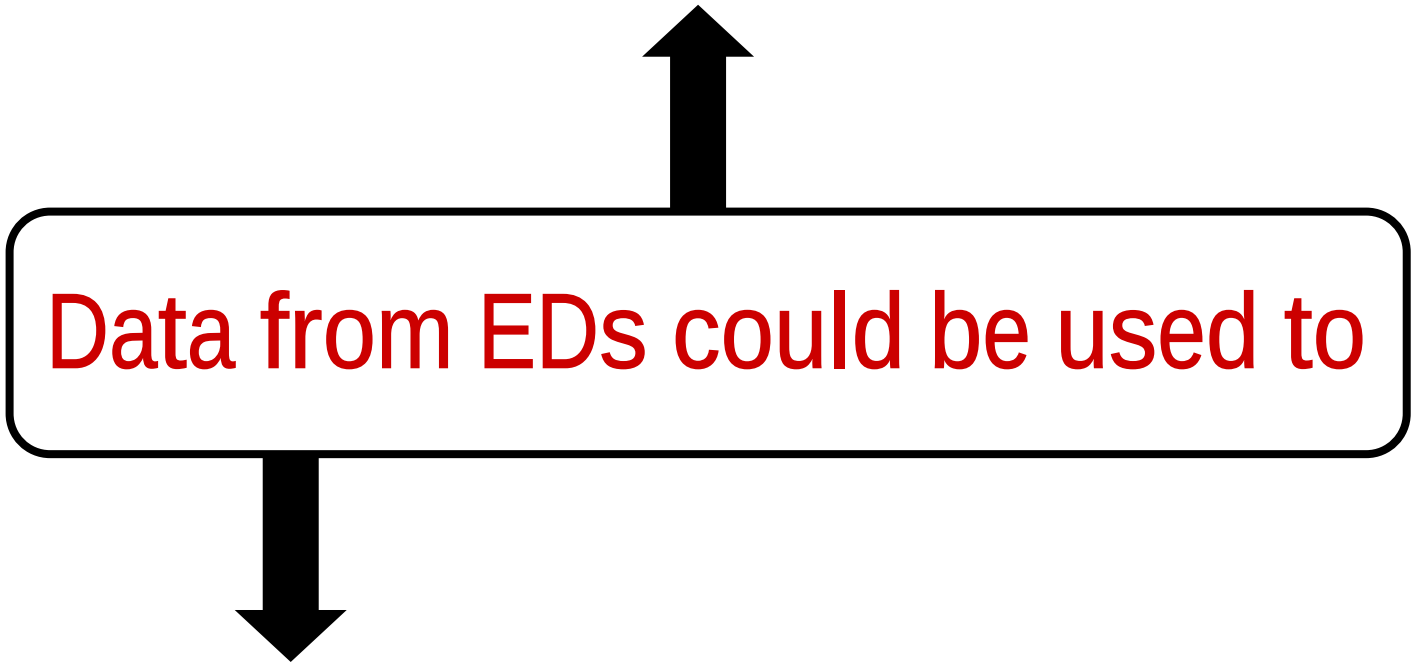
- 13% of shootings resulting in Atlanta ED treatment not represented in police records

  Kellerman el al, Arch Emerg Med 2003

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Implications:

Measure Violence



Prevent Violence (the Cardiff Model)

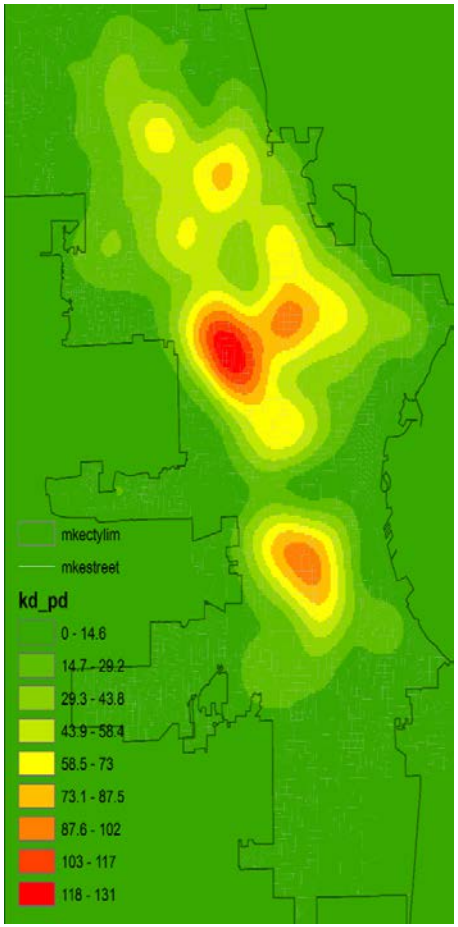
KEY FEATURES OF THE CARDIFF MODEL

- Continuous *data collection* by ED receptionists - precise violence location, time and weapon
- *Data anonymised, shared and combined with police data*
- *Data summarised* by an analyst
- *Data translated into practical prevention* by a multiagency Violence Prevention Board

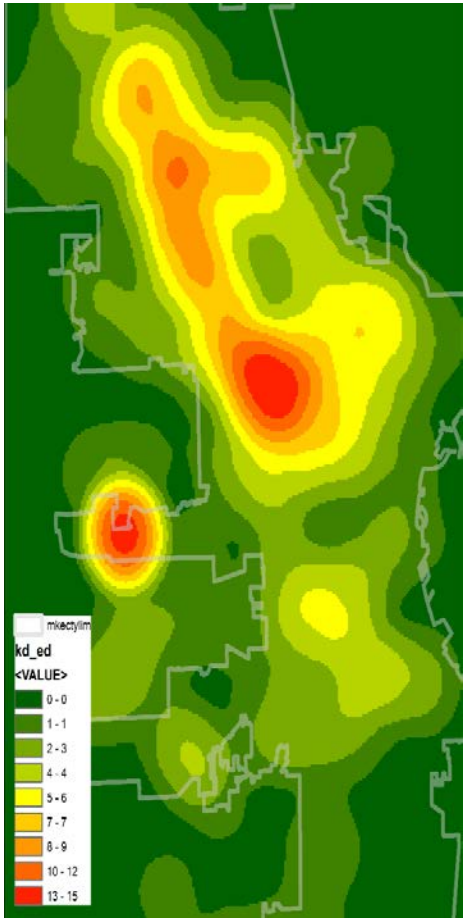
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

The Cardiff Model in the United States: Milwaukee

Police data



Children's Hospital data

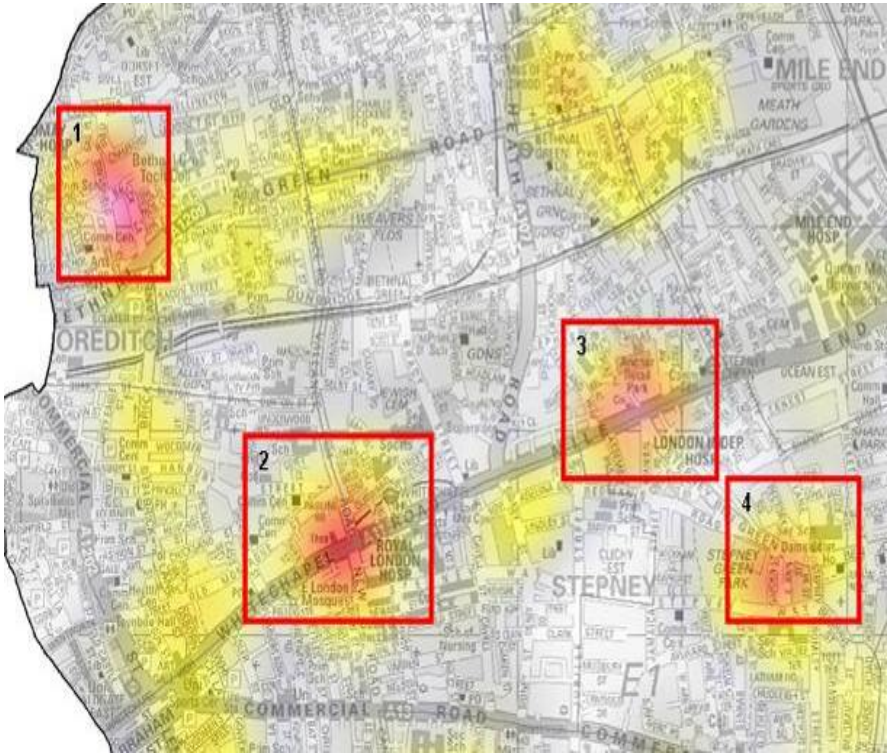


Source: Hernandez-Meier et al, Medical College of Wisconsin

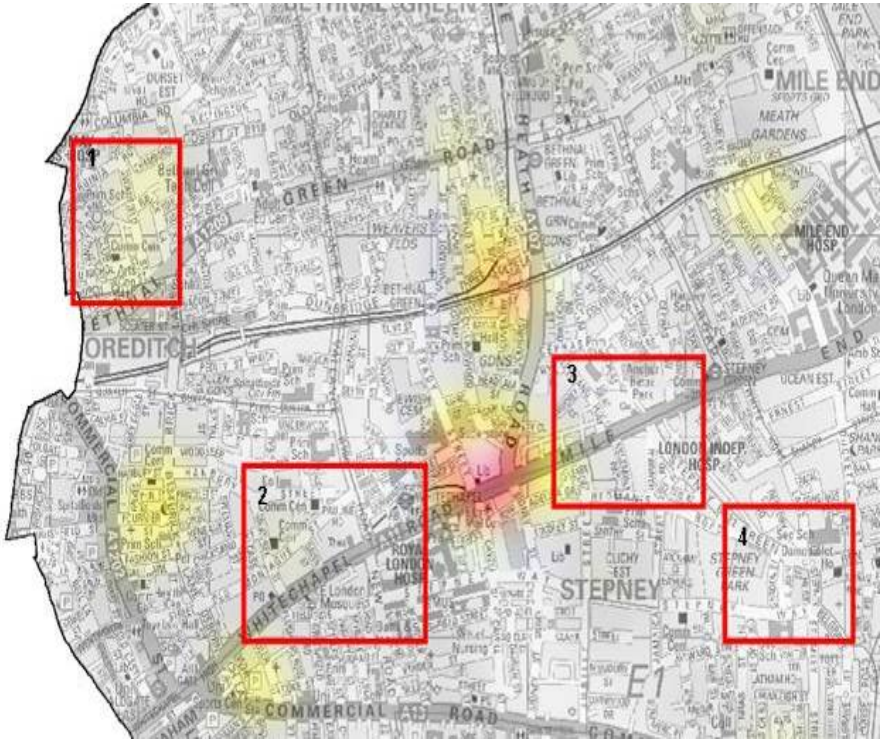
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

The Cardiff Model in London: ED data reveal more violence hotspots

ED Data



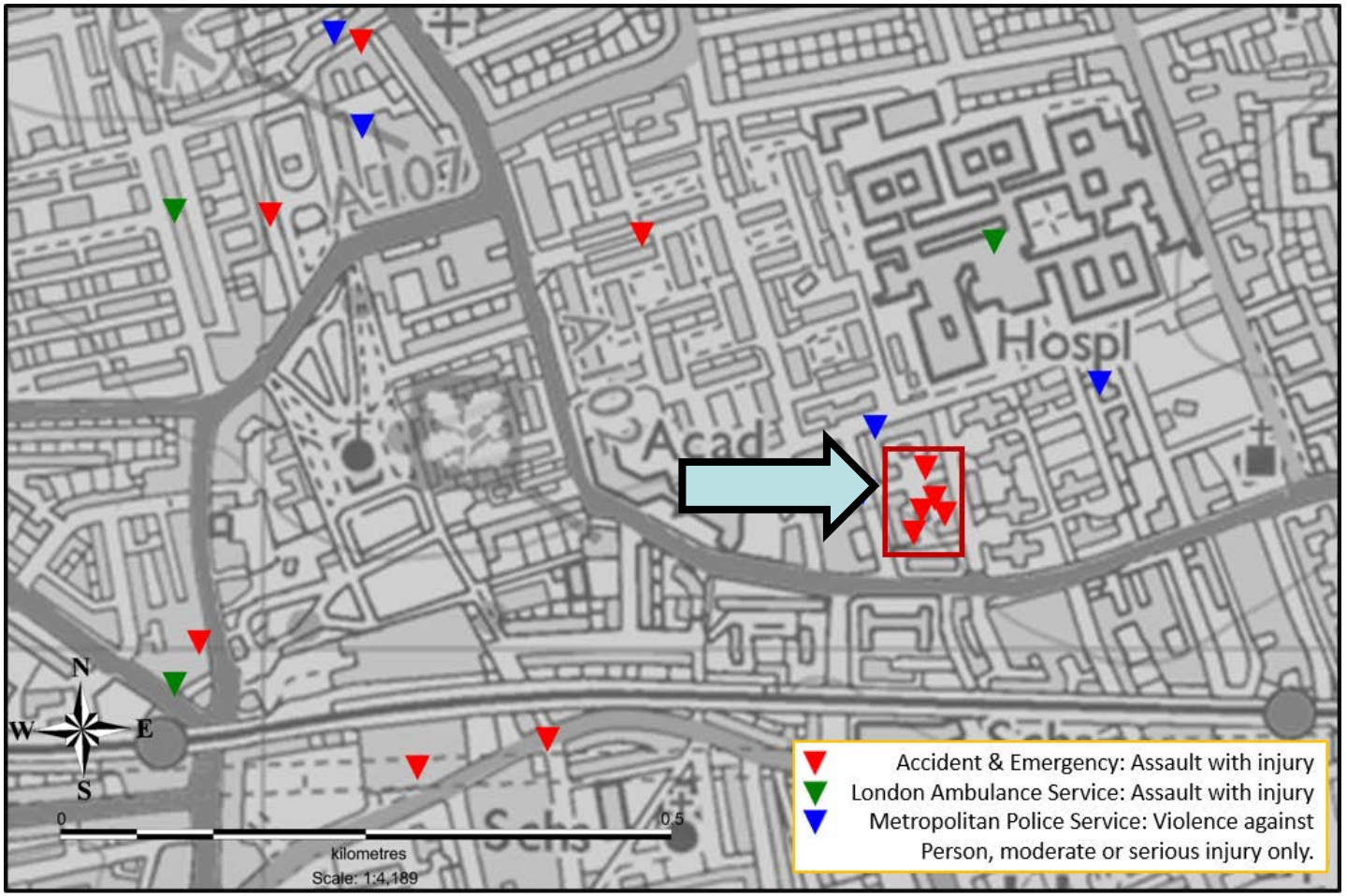
Police Data



Source: *Shepherd et al, Police Professional 2016*

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

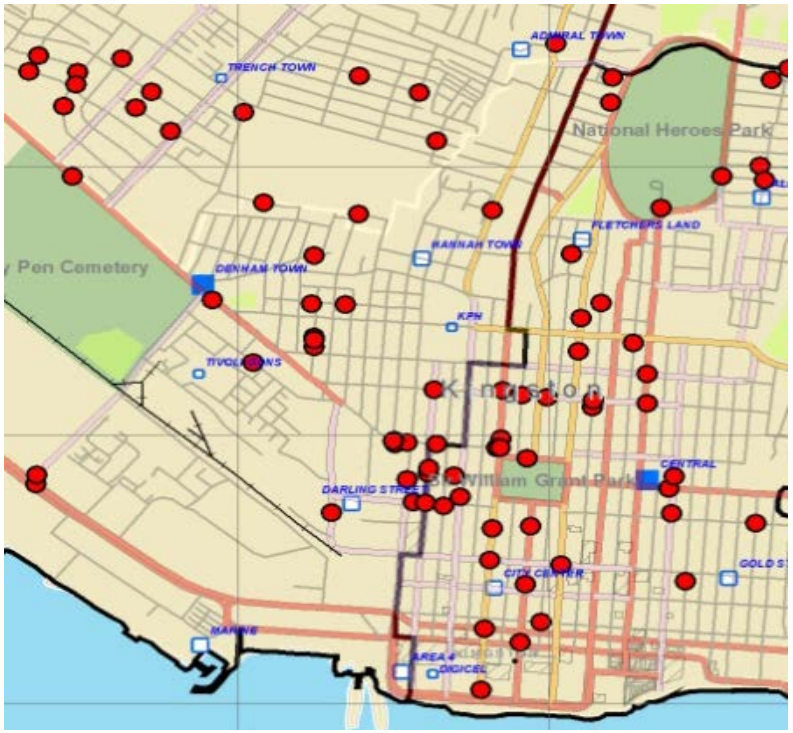
The Model reveals drug markets and gang violence locations invisible to police



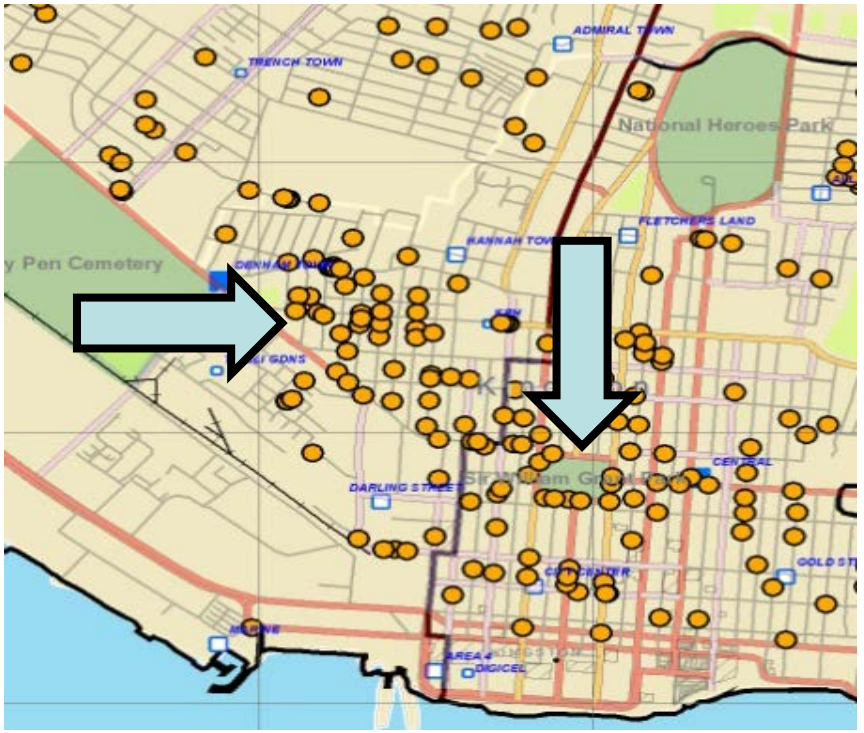
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

The Cardiff Model in Kingston, Jamaica

Police data



ED data



Source: Lyew-Ayee, GeoInformatics Institute, University of the West Indies

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

CARDIFF's VIOLENCE PREVENTION BOARD

Accountability for Prevention

EFFECTIVE VIOLENCE PREVENTION

Targeted policing and CCTV

Disrupting drug supply and gang activity

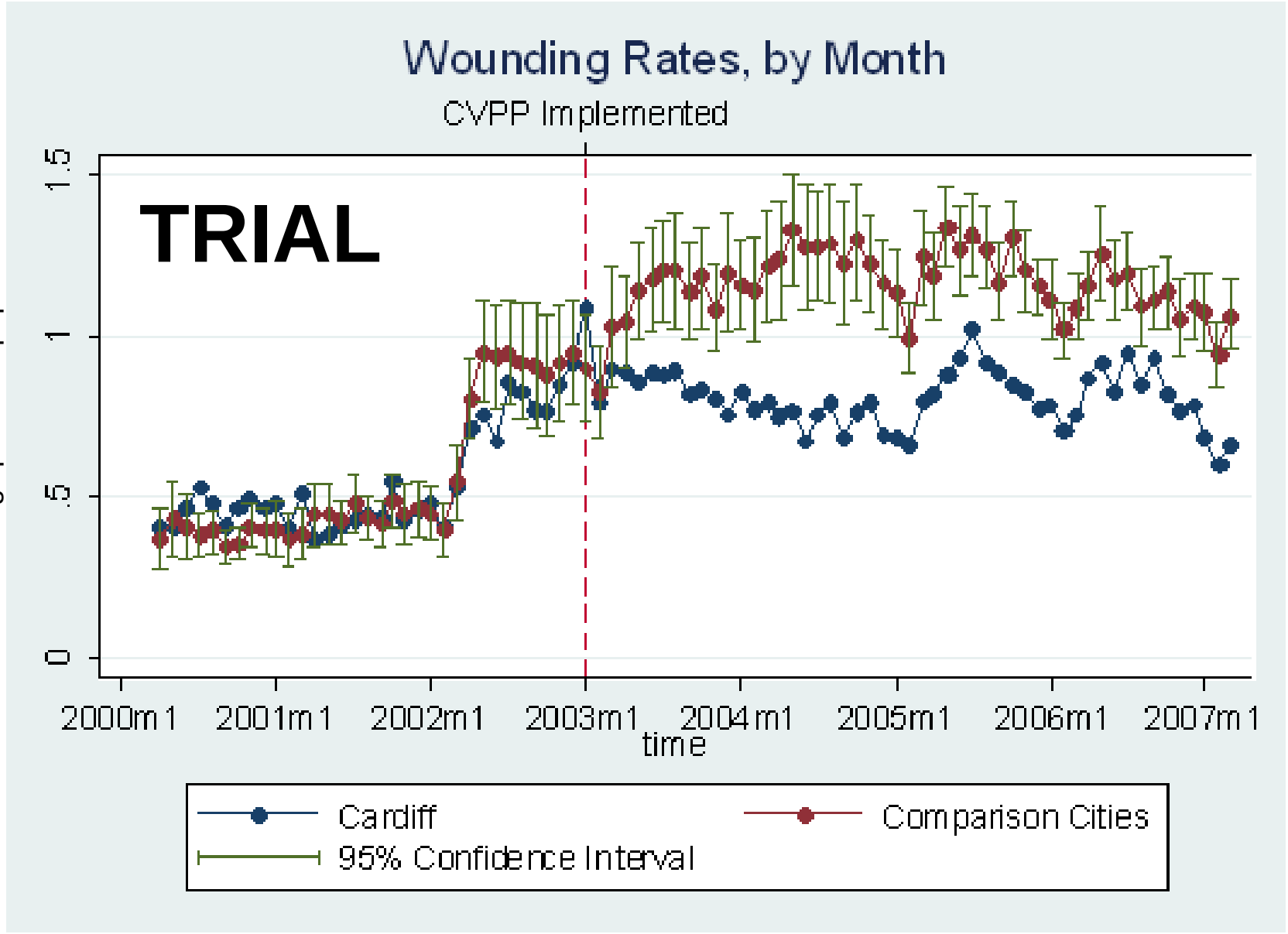
Alcohol and entertainment licensing

Situational interventions:

- Park redesign
- School based child safeguarding
- Transport hub interventions
- Pedestrianisation of entertainment streets
- Fast food outlet relocation

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Does this approach work?



Source: *Florence et al BMJ 2011*

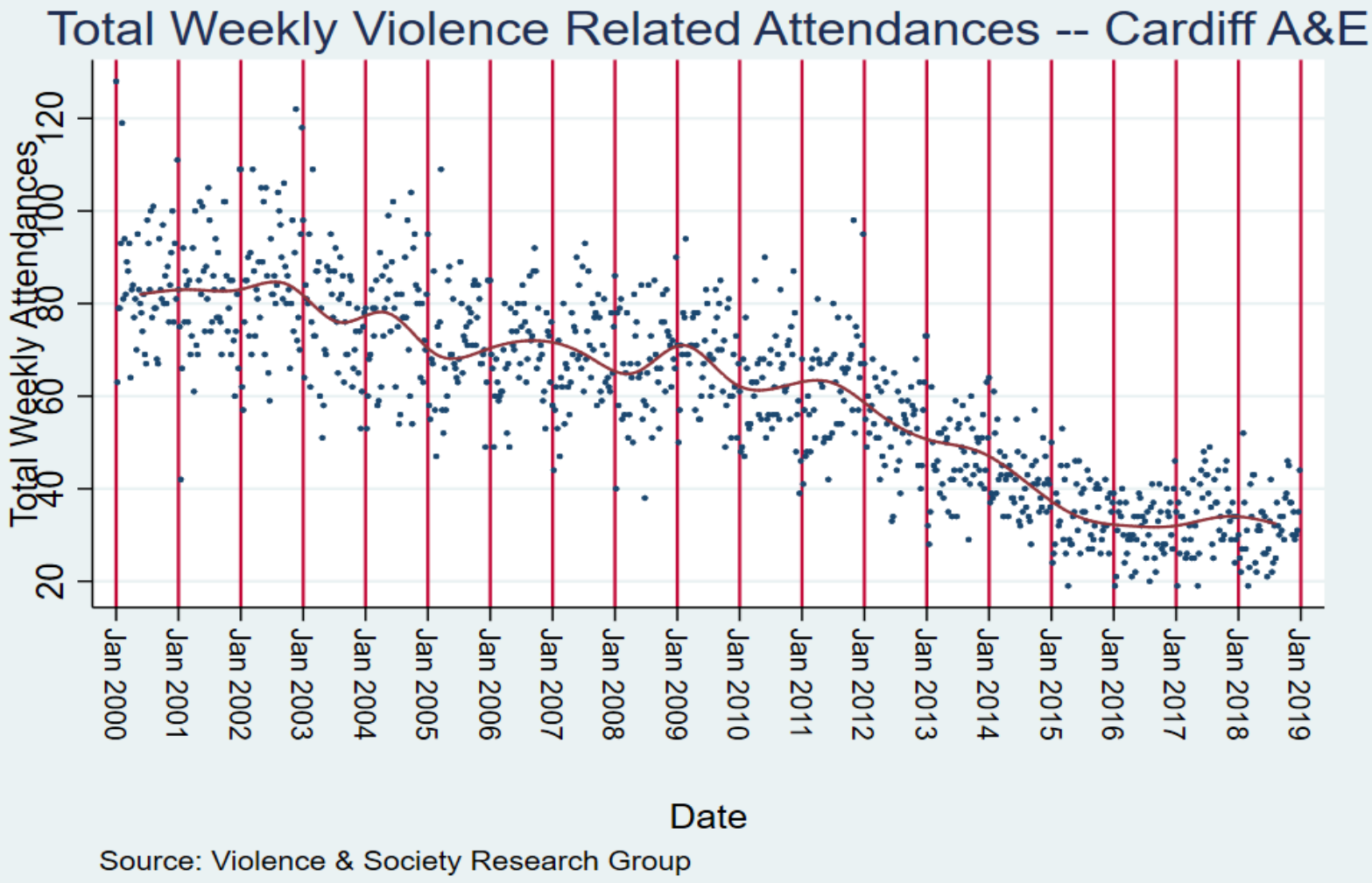
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Hospital Admissions:

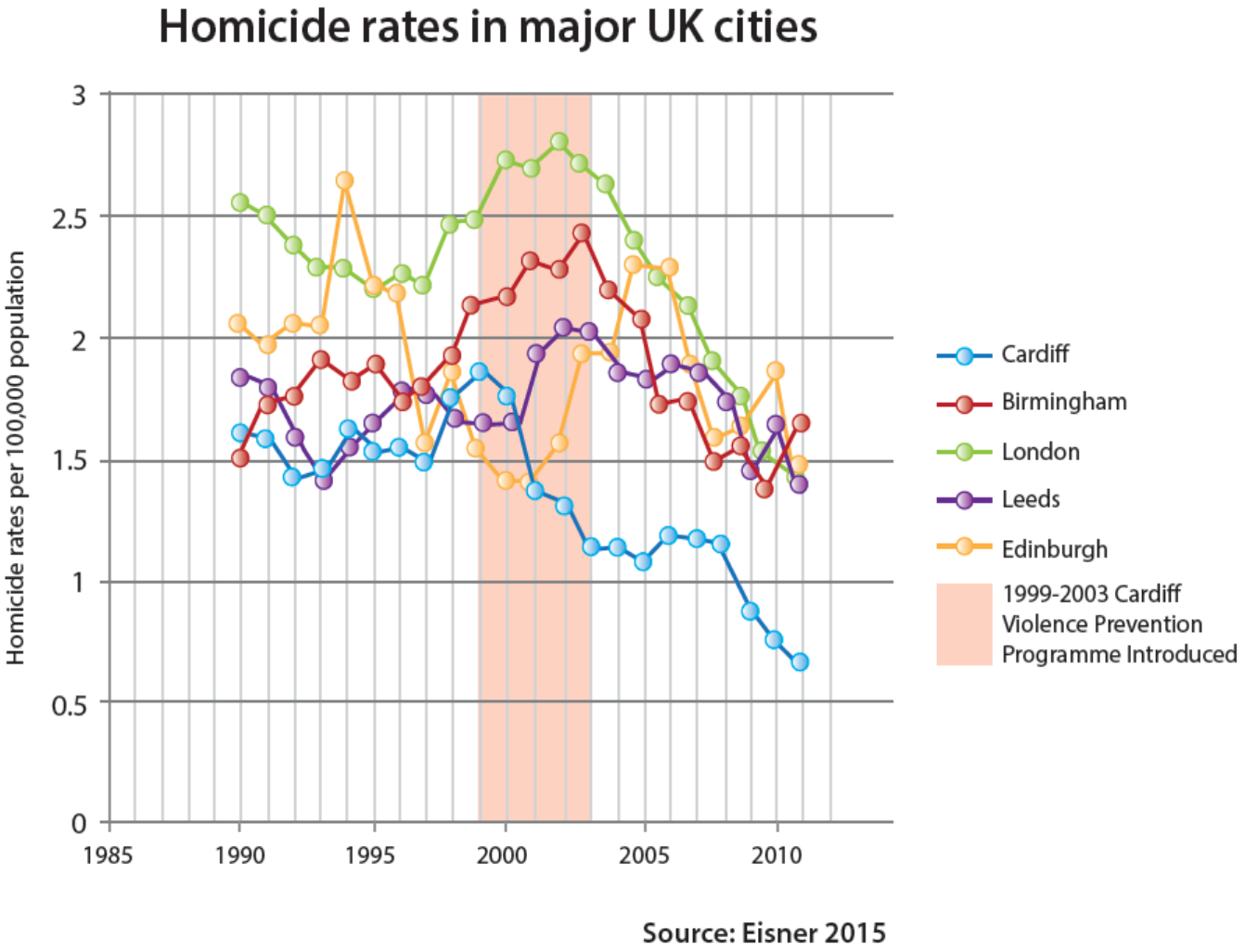
Down 24/year/100,000 population in Cardiff

Up 36/year/100,000 in comparison cities

INDICATOR: ED Attendances



INDICATOR: Homicide rate



Costs and benefits

- Annual cost of Intervention: £5,176
- Annual cost of woundings avoided (benefits): £789k
- Cost/Benefit Ratio - total costs avoided = 1:82
- Cost/Benefit Ratio - criminal justice costs avoided = 1:19
- Cost/Benefit Ratio – health service costs avoided = 1:15

Source: *Florence et al. Injury Prevention 2014*

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

HOW THE MODEL WORKS

- Earlier and more frequent police intervention – reduces harm
- Identification of weapon trends – informs weapon control
- Identification of park, walkway and school violence locations – informs local authority actions
- Identification and support of people injured in domestic violence – prevents repeat victimisation

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

Key Elements of Success

- Leadership
- Time to develop partnership
- Adequate data quality
- Purposeful data analysis
- Explain the purpose of data collection
- Keep the process simple

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

International implementation

WORLD HEALTH ORGANISATION

Implementation of the recommendations of the World Report on Violence and Health

e.g. In the UK, Netherlands, United States, Australia, Colombia, Jamaica

The Cardiff Model: Resources

- https://www.cdc.gov/violenceprevention/about/fundedprograms/cardiffmodel/toolkit.htm
- https://www.cardiff.ac.uk/crime-security-research-institute/publications/research-briefings/the-cardiff-model
- https://www.who.int/violenceprevention/about/participants/vctg_cardiff/en/

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD