JERRY LEE LECTURE 2009
PUBLIC HEALTH CONTRIBUTIONS TO VIOLENCE PREVENTION

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CAMPBELL CRIME & JUSTICE GROUP

• 19 Published reviews including:
  Neighbourhood Watch
  CCTV
  Mentoring Programs
  Problem-oriented Policing
  Early Family/Parental Training Programs

• 17 Reviews in progress
• 12 Protocols in progress
<table>
<thead>
<tr>
<th>Rank</th>
<th>5-14 years</th>
<th>15-29 years</th>
<th>30-44 years</th>
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<td>1</td>
<td>Childhood cluster</td>
<td>HIV / AIDS</td>
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<td>855 406</td>
<td>855 406</td>
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<td>Road traffic injuries</td>
<td>Road traffic injuries</td>
<td>Tuberculosis</td>
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<td>118 212</td>
<td>354 692</td>
<td>368 501</td>
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<tr>
<td>3</td>
<td>Drowning</td>
<td>Tuberculosis</td>
<td>Road traffic injuries</td>
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<td>113 614</td>
<td>238 021</td>
<td>354 692</td>
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<tr>
<td>4</td>
<td>Respiratory infections</td>
<td>Self-inflicted injuries</td>
<td>Ischaemic heart disease</td>
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<td>112 739</td>
<td>216 661</td>
<td>224 986</td>
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<tr>
<td>5</td>
<td>Diarrhoeal diseases</td>
<td>Interpersonal violence</td>
<td>Self-inflicted injuries</td>
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<td>88 430</td>
<td>188 451</td>
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<td>War injuries</td>
<td>Interpersonal violence</td>
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<td>76 257</td>
<td>95 015</td>
<td>146 751</td>
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<td>7</td>
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<td>Drowning</td>
<td>Cerebrovascular disease</td>
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<td>Respiratory infections</td>
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<td>65 153</td>
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VIOLENCE RISK FACTORS: ALCOHOL

- Many aggregate studies
- Case control studies show link between blood alcohol level and injury
- Dose relationship between alcohol and injury severity
- Links between alcohol and victimisation as strong as links between alcohol and aggression
- Heavy drinking at 18 predicts injury at 32
- Causal link between alcohol prices and violent injury


DATA MATCHING: RECORDING OF VIOLENCE BY THE POLICE AND HEALTH SERVICES

- Crime surveys in Sweden, UK and US demonstrate low recording rates
- Police recording varies by victim age and gender and violence location
- 23% of people injured in violence (hospital data) recorded by police
VIOLENCE IN ODENSE MUNICIPALITY

1403 (100%) victims

869 (62%) victims
327 (23%) victims
207 (15%) victims

ODENSE UNIVERSITY HOSPITAL
POLICE

(Faergemann 2006)

- Police recording not related statistically to Injury Severity Scores

- 13% of firearm violence recorded in Atlanta EDs not recorded by police
(Kellerman et al 2003)
HARM-BASED APPROACH:
National / Regional measurement

Emergency Department data

Local surveillance/prevention

INDEPENDENT NATIONAL CORRELATES WITH ASSAULT INJURY (ED MEASURE)

- Unemployment / Deprivation
- Ethnic minority population
- Alcohol expenditure
- Lager price
- Season
PROTOTYPE CRIME REDUCTION PARTNERSHIP: CARDIFF VIOLENCE PREVENTION GROUP

Statutory in UK: 373 crime reduction partnerships
- Crime and Disorder Act 1998
- Police Reform Act 2002

DISTINCTIVE PUBLIC HEALTH INGREDIENTS

- Data from Emergency Departments:
  Violence location, weapon, assailants, date/time

- ED/ Public Health advocacy in crime reduction partnerships

- ED and Police data combined to inform targeted policing
  (Campbell Systematic Review: Braga 2007)
Licensed premises risk assessment.
Menu of effective policing, situational and environmental interventions:

- Targeted street patrols, CCTV, redeployment of police from suburbs into city centre at night
- Plastic glassware, fast food outlet relocation
- Pedestrianisation of entertainment streets, continuous night time street cleaning (fear of crime measure)

VIOLENCE RELATED ATTENDANCES – CARDIFF A&E
PREVENTING COMMUNITY VIOLENCE
Combining care with prevention

Victim attends ED

- Physical injury treated
- Core assault data recorded and anonymised
- Victim advised on police reporting

Victim contacted to identify:

Primary Prevention

Secondary Prevention: alcohol misuse intervention

Tertiary Prevention: cognitive behavioural therapy

Mental health needs
EFFECT OF CCTV ON POLICE VIOLENCE DETECTION

- CCTV towns (n=5)
- Control towns (n=5)

2 years before CCTV | 2 years after CCTV

(Effendi and Sivarajasingam et al, Injury Prevention 2003)

EFFECT OF CCTV ON ASSAULT VICTIM ED ATTENDANCE

- Control towns
- CCTV towns

2 years before | 2 years after CCTV

Percentage change

(Sivarajasingam et al, Injury Prevention 2003)
TRENDS IN VIOLENCE IN ENGLAND AND WALES

FOUR RANDOMISED EXPERIMENTS

- **Primary prevention**
  Community RCT of toughened glass

- **Secondary prevention**
  Victim and Offender RCTs of alcohol misuse motivational interview

- **Tertiary prevention**
  RCT of cognitive behavioural therapy to prevent post traumatic stress disorder
PRIMARY PREVENTION: GLASS INJURY

Non-toughened glass

Toughened glass
RCT OF TOUGHENED GLASSES

- 57 UK bars randomised to toughened or non-toughened beer glasses
- Relative Risk: 1.5 (95% CI: 1.1-2.3). Injury rate 60% higher in intervention group
- But, impact resistance of toughened glasses significantly lower: double blind trial
- Conclusion: tougher glass resulted in lower injury risk
- Implementation

PREVENTING COMMUNITY VIOLENCE

Combining care with prevention

Victim attends ED

Secondary Prevention: alcohol misuse intervention
- Physical injury treated
- Core assault data recorded and anonymised
- Victim advised on police reporting

Primary Prevention
- Victim contacted to identify:
  - Mental health needs

Tertiary Prevention: cognitive behavioural therapy
Brief alcohol misuse motivational interviews are effective

Meta-analyses:

- Effective Health Care Research Team 1993
- Mattick and Jarvis 1994
- Wilk et al 1997

‘As effective as more expensive specialist treatments’
‘Double chances of consumption modification at 6-12 months’
Low intervention cost

SECONDARY PREVENTION

TWO RCTs OF A BRIEF ALCOHOL INTERVENTION: VICTIMS AND OFFENDERS

- Maxillofacial clinics
- Magistrates’ Courts
- Men aged 16-35
- 7 units in 6 hours pre-injury/offence
- AUDIT (Alcohol Use Disorders Identification Test) score >8
**RCT: BRIEF INTERVENTION IS EFFECTIVE IN MAXILLOFACIAL CLINICS**

Mean alcohol consumption in past 7 days

- Control Group
- Intervention

95% CI = -0.09, +0.13
95% CI = -0.11, +0.14

*(Smith et al, Addiction 2003)*

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**MAGISTRATES’ COURT RCT**

No effect on re-offending

- Intervention 95% CI = -0.09, +0.13
- Control

95% CI = -0.11, +0.14

- Violent
- Other

*(Watt et al, Journal of Experimental Criminology 2008)*
**CONCLUSIONS**

- This Alcohol Brief Intervention reduced injury but not re-offending
- Alcohol misuse reduced only in victims

**Implications for theory**

- Reducing alcohol-related health costs may be a more powerful motivator of behaviour change than reducing alcohol-related offending costs
- Links between alcohol intoxication and injury stronger than links with offending

**Implications for practice**

- Incorporate brief interventions into victim services
PREVENTING COMMUNITY VIOLENCE
Combining care with prevention

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TERTIARY PREVENTION: POST TRAUMATIC STRESS

18
RCT: FOUR SESSION COGNITIVE BEHAVIOURAL THERAPY FOR PTSD

(Bisson et al, British Journal of Psychiatry 2004)

INTERNATIONAL IMPLEMENTATION

WHO: Violence Prevention Alliance

NATIONAL UK IMPLEMENTATION

Tackling Violence Action Plan 2008-11

Electronic ED data sharing

Wales: Assembly Government
England: Government Regions
Scotland: Violent Crime Unit
EVIDENCE PRODUCTION AND IMPLEMENTATION: CRIME SCIENCES AND MEDICAL SCIENCES COMPARED

Only 85 RCTs of any size in CJS 1982-2004
(Farrington and Welsh 2005)

20th CENTURY RCTs IN MEDICAL SCIENCE AND IN THE SOCIAL SCIENCES

(Shepherd 2007)
### THE MEDICAL SCHOOL MODEL

- Practitioner-scientists (formal training pathways)
- Practitioner-scientist partnerships
- Integrated research, services, education and training
- Communities which produce, disseminate and implement evidence

### THE EVIDENCE CHAIN

**Evidence producers**
- Universities
- Government departments
- Research Councils and charities
- Private sector

**Evidence interpreters**
- Government departments
- Universities
- Cochrane/Campbell Collaborations
- Excellence Institutes
- Private sector
- Media

**Evidence implementers**
- Service practitioners and managers

**Evidence distributors**
- Government departments
- Universities
- Excellence Institutes
- Professional bodies
- Private sector
- Media
CONCLUSIONS AND PROPOSALS

- Compared with medical science, applied crime science is under-developed
- University police schools and offender management schools, which integrate research, training and practice, should be a foundation of criminal justice systems
- Practitioner-academics are needed

CONCLUSIONS AND PROPOSALS

- The production of evidence of criminal justice system and education effectiveness is rarely recognised by governments as a fundamental research need
- National social science field trials units should be developed to increase the quality and volume of evidence production
- Research and development schemes are needed
‘Universities must invade the Hospitals’
Sir William Osler
19th Century Professor of Medicine,
University of Pennsylvania and Oxford University

Nobel Prize Winners 1945

Sir Alexander Fleming (1881-1955)
Ernst Boris Chain (1906-1979)
Sir Howard Walter Florey (1896-1968)

The discovery and therapeutic development of penicillin
UNIVERSITY POLICE SCHOOLS – THE WALES MODEL

The production and management of evidence for public service reform
(Shepherd, Evidence and Policy 2007)