

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**



TOP EIGHT CAUSES OF DEATH, BOTH SEXES, 2002 SOURCE: WHO

Rank	5-14 years	15-29 years	30-44 years
1	Childhood cluster 200 139	HIV / AIDS 855 406	HIV / AIDS 855 406
2	Road traffic injuries 118 212	Road traffic injuries 354 692	Tuberculosis 368 501
3	Drowning 113 614	Tuberculosis 238 021	Road traffic injuries 354 692
4	Respiratory infections 112 739	Self-inflicted injuries 216 661	Ischaemic heart disease 224 986
5	Diarrhoeal diseases 88 430	Interpersonal violence 188 451	Self-inflicted injuries 215 263
6	Malaria 76 257	War injuries 95 015	Interpersonal violence 146 751
7	HIV / AIDS 46 022	Drowning 78 639	Cerebrovascular disease 145 965
8	War injuries 43 671	Respiratory infections 65 153	Cirrhosis of the liver 135 072



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

Shepherd et al, BMJ 1990;296:1299. Shepherd and Brickley, Br J Criminol 1996;36:546-66. Shepherd et al, J Public Health 2004;26:347-52. Shepherd et al, J Adolescence 2006;29:539-53. Matthews et al, Applied Economics 2006;38:661-70.



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)



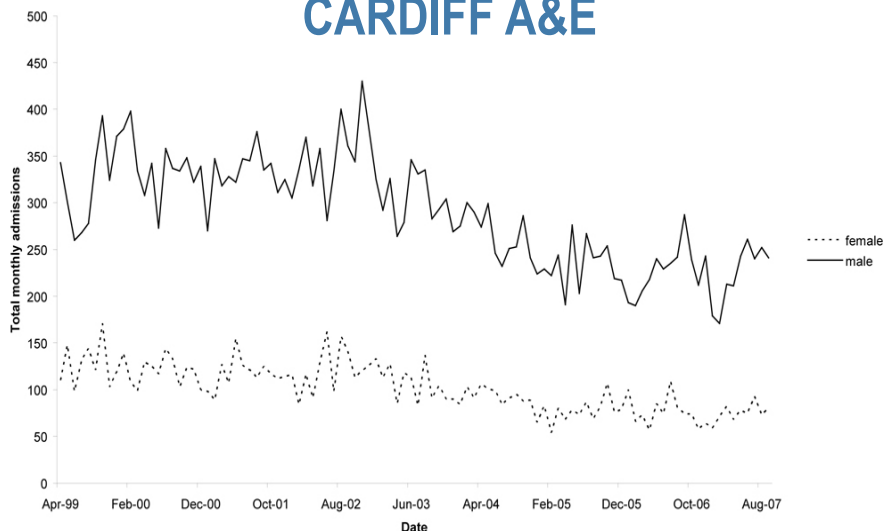
SUPPLEMENTARY VIOLENCE MANAGEMENT

**Licensed premises risk assessment.
Menu of effective policing, situational
and environmental interventions:**

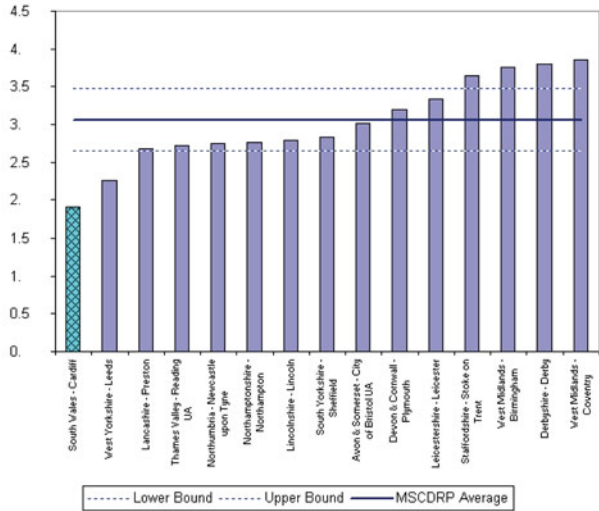
- Targeted street patrols, CCTV, redeployment of police from suburbs into city centre at night
- Plastic glassware, fast food outlet relocation
- Pedestrianisation of entertainment streets, continuous night time street cleaning (fear of crime measure)



VIOLENCE RELATED ATTENDANCES – CARDIFF A&E



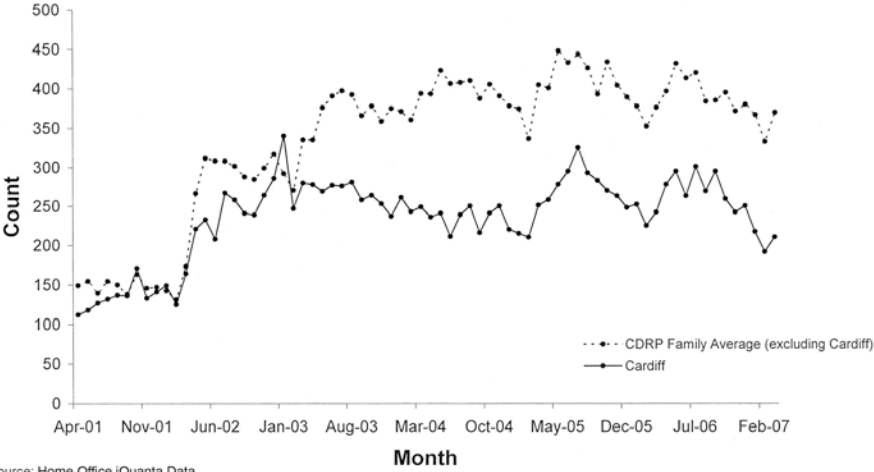
**Barchart - Crimes per 1000 Residents
South Wales - Cardiff
Wounding (serious and other)
'Most Similar' CDRPs
01 Feb 2007 - 30 Apr 2007**



Crimes Per 1000 Residents - Wounding (serious and other) - 01 Feb 2007 - 30 Apr 2007



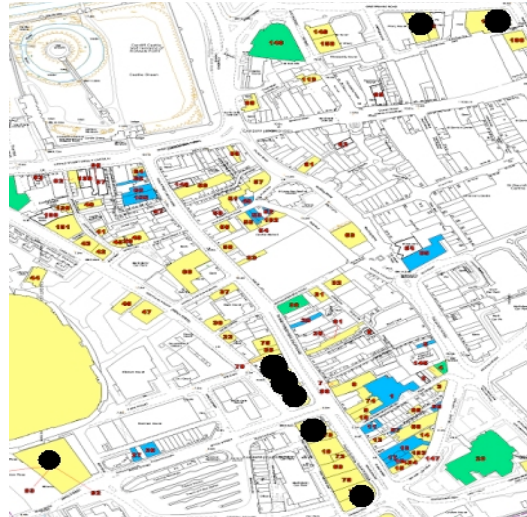
Offences of Less Serious Wounding (Including Racially/Religiously Aggravated Less Serious Wounding) and More Serious Wounding or Other Act Endangering Life Recorded by the Police



Source: Home Office iQuanta Data



VIOLENCE HOTSPOTS IN 21st CENTURY CARDIFF

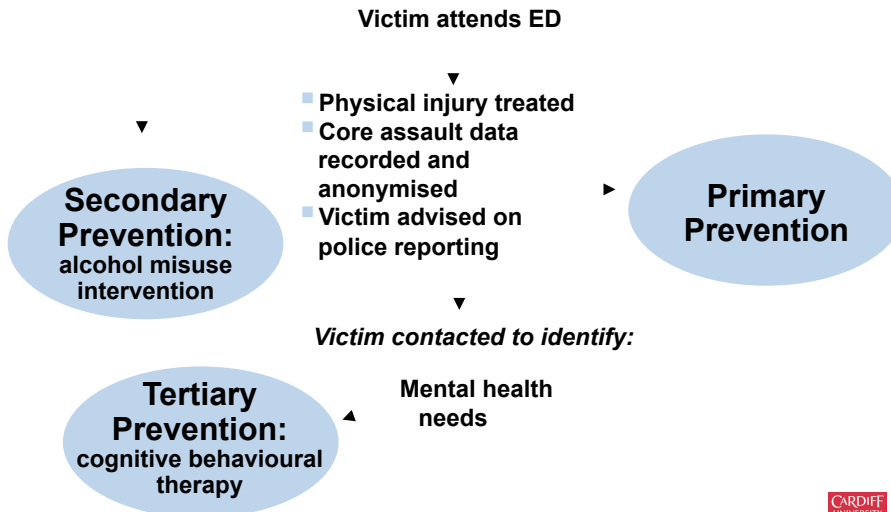


CHOLERA HOTSPOTS IN VICTORIAN LONDON

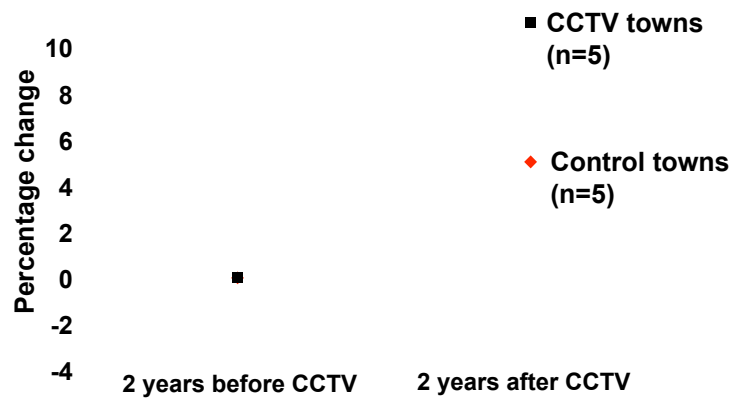


PREVENTING COMMUNITY VIOLENCE

Combining care with prevention



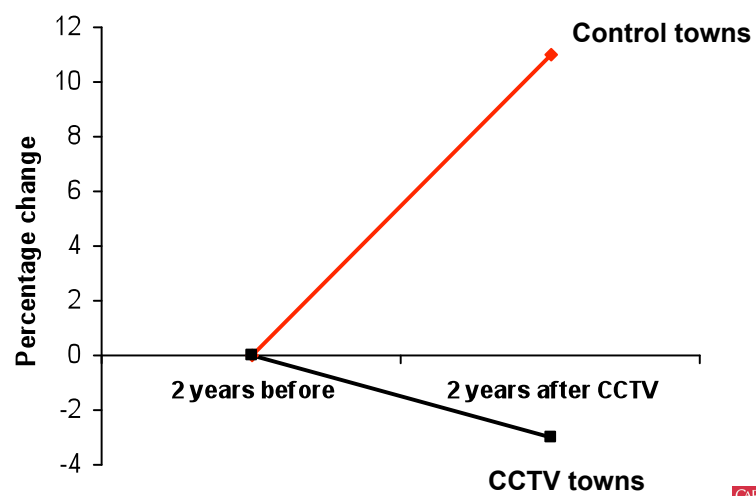
EFFECT OF CCTV ON POLICE VIOLENCE DETECTION



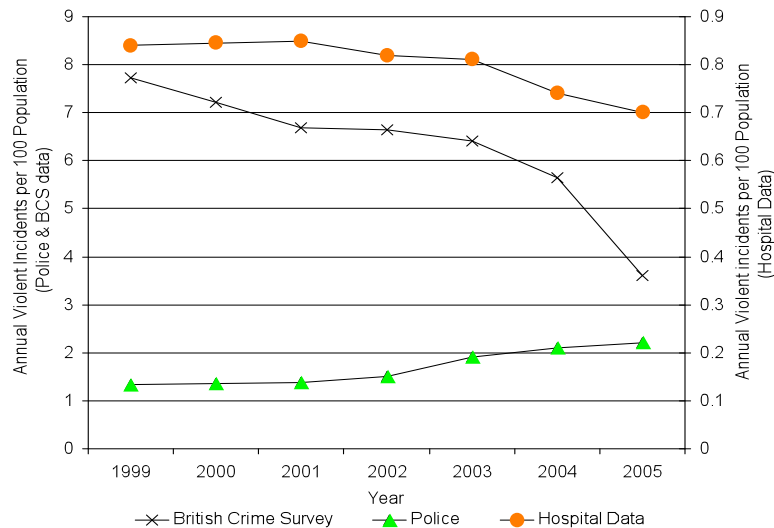
(Sivarajasingam et al, Injury Prevention 2003)



EFFECT OF CCTV ON ASSAULT VICTIM ED ATTENDANCE



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



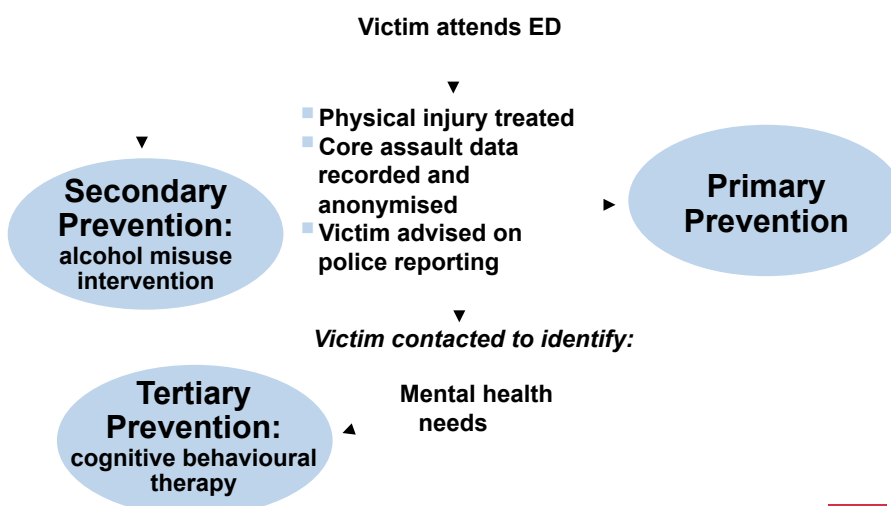
RCT OF TOUGHENED GLASSES

- 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



SECONDARY PREVENTION

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



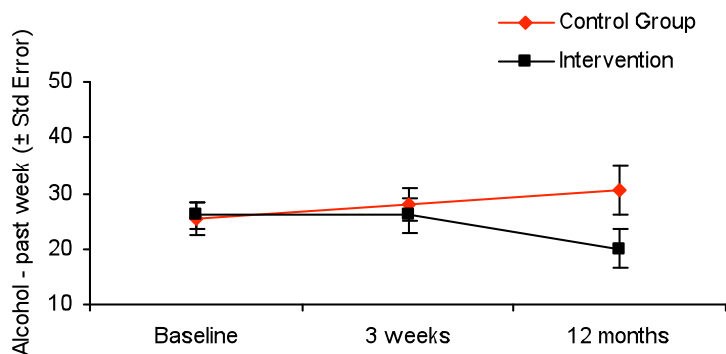
TWO RCTs OF A BRIEF ALCOHOL INTERVENTION: VICTIMS AND OFFENDERS

- 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

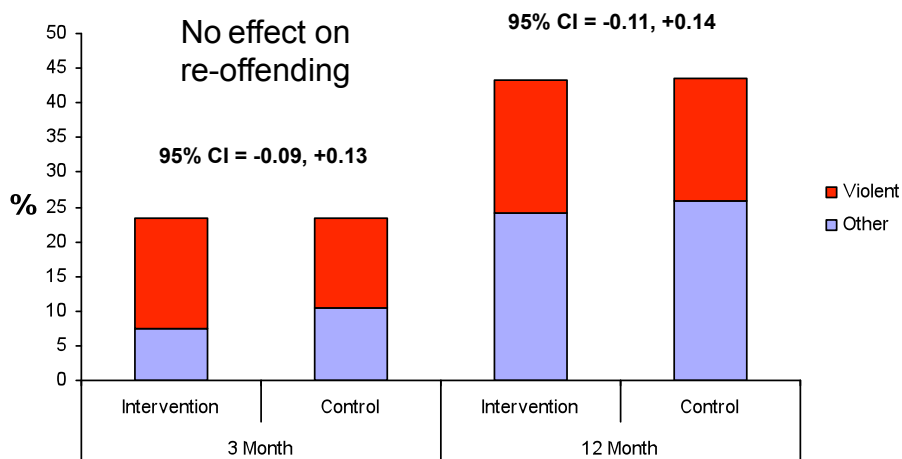
Mean alcohol consumption in past 7 days



(Smith et al, Addiction 2003)



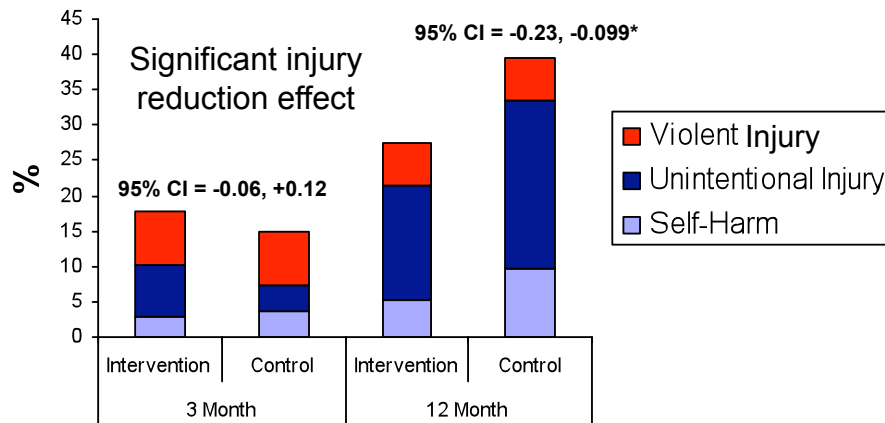
MAGISTRATES' COURT RCT



(Watt et al, Journal of Experimental Criminology 2008)



MAGISTRATES' COURT RCT



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

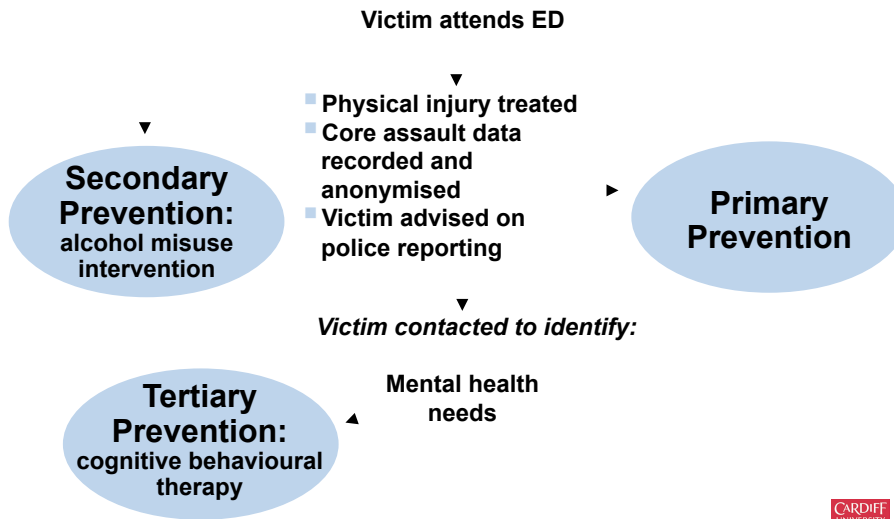
Implications for practice

- Incorporate brief interventions into victim services

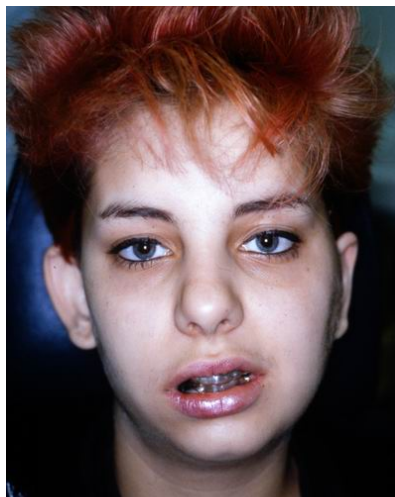


PREVENTING COMMUNITY VIOLENCE

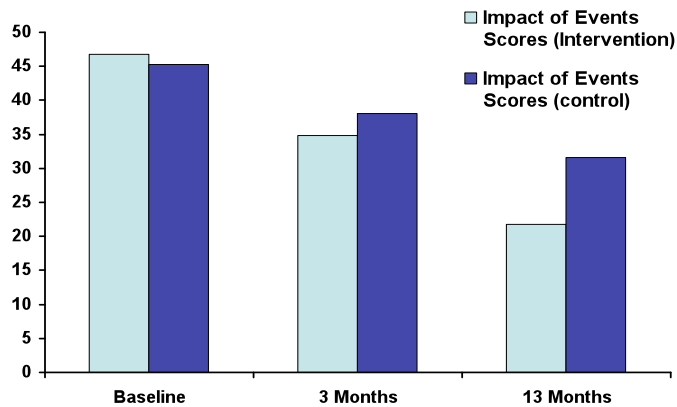
Combining care with prevention



TERTIARY PREVENTION: POST TRAUMATIC STRESS



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

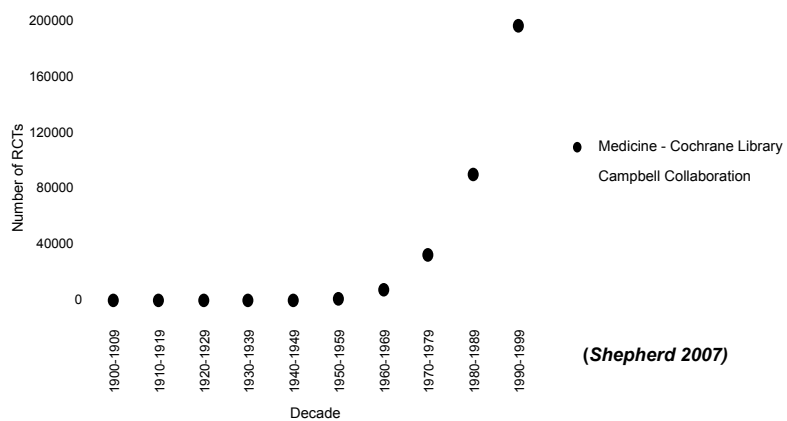
Scotland: Violent Crime Unit



EVIDENCE PRODUCTION AND IMPLEMENTATION: CRIME SCIENCES AND MEDICAL SCIENCES COMPARED



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



(Shepherd 2007)

Only 85 RCTs of any size in CJS 1982-2004

(Farrington and Welsh 2005)

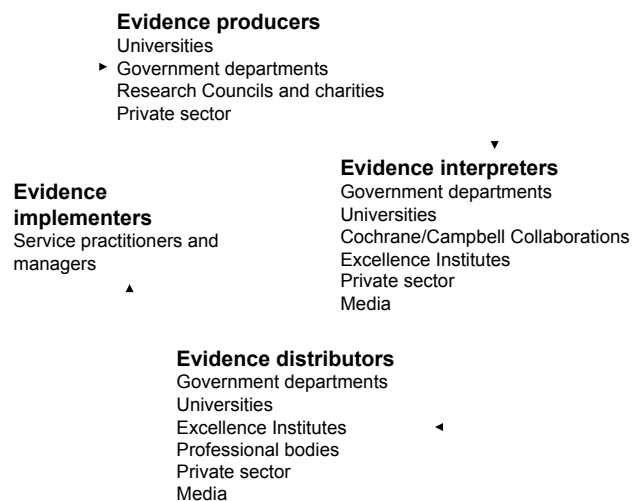


THE MEDICAL SCHOOL MODEL

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



THE EVIDENCE CHAIN



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
(1898-1968)

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)

