

Inequalities in adolescent assault injuries

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Adolescent assaults

- Violence suffered and perpetrated by adolescents is the subject of current media and political attention
- 1 September 2008
 - 25 teenagers killed in violent circumstances in London
 - Increasing concern over ‘girl gangs’

Adolescent assaults (2)



BROKEN BRITAIN HORROR

Yesterday, Ahmed, 16, should have learned he'd passed 9 GCSEs. But hours before, he was chased by a gang and plunged to his death after clinging to a 60ft balcony...

THEY STAMPED ON HIS FINGERS



Victim... Ahmed and flat block
EXCLUSIVE by KATHRYN LISTER
A 16-year-old boy plunged 60ft to his death after a hooded gang stamped on his fingers as he clung to a lower floor balcony rail.
Innocent Ahmed Beyarsani, 16, died hours before he was due to pick up his GCSE results yesterday, which should have passed all A-C, subjects he took.
Residents in the block heard a scream of terror and a chilling thud before seeing the teenager's dead body on the ground.
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3 kids in air crash 'miracle'
By VERONICA LORRAINE
THE survival of three children in Madrid's devastating plane crash was hailed as "miraculous" last night.
The youngsters were among just 12 people who escaped from the holiday set after a blaze on take-off sent
Continued on Page 7



Glitter's back in the UK
By VIRGINIA WHEELER and SIMON PUGH
PULCHRE former showbiz star Daryll Glitter has set to fly into Britain this morning after being kicked out of Thailand.
Glitter, 64, had to be used to return after serving a jail term for child abuse in Vietnam.
Full story - Page 12



TERRY COP QUIZ
SEE PAGE 7

Adolescent assaults (3)

- Deaths are just the ‘tip’ of the ‘injury iceberg’
- The dimensions of the rest of the iceberg “are largely invisible because of a lack of data on incidence, morbidity and disability” (Stone et al, 2001)

Previous research

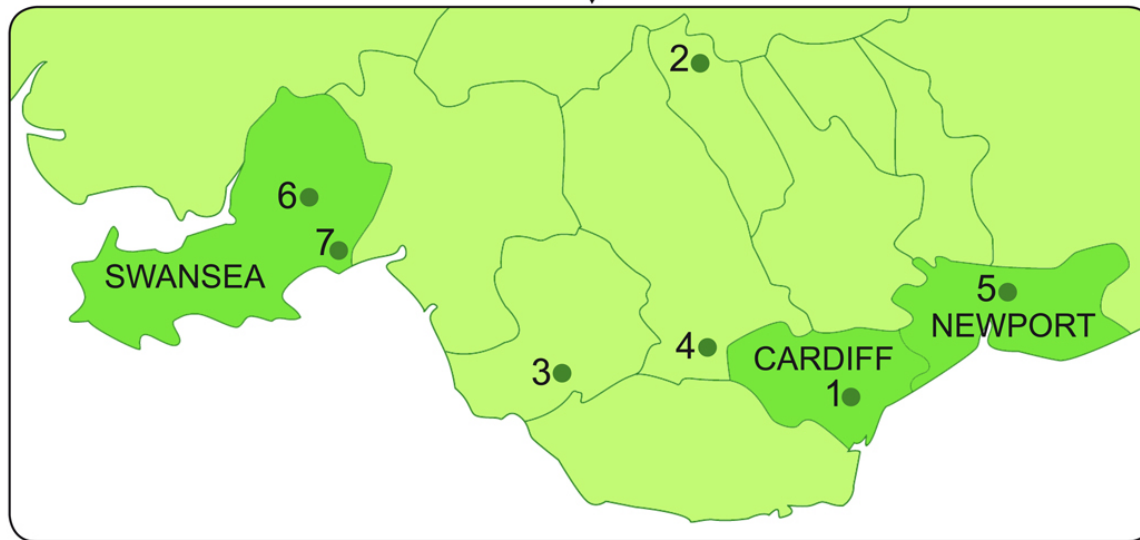
- Criminology / sociology / dental clinical literature
 - Victim and assailant both likely to have been drinking
- Little / no epidemiology
 - Bellis et al (2008) “Violence is a public health problem but health data are under used for describing the problem or developing resources”
 - 2002 – 2006 Hosp ad rates 0-14 years 15.7 to 19.1 / 100,000 pa
 - Inequalities - all 0-14 year olds, 5-6x greater in most deprived fifth
 - Lyons et al (2003)
 - SHR most affluent 0-14 year olds 24 (95%CI 8.3 to 39.6), most deprived SHR 144.9 (95%CI 116.5 to 173.2)

Research questions

- What are the rates of adolescent assault injury to residents of urban areas in South Wales?
- How do adolescent assault injury rates compare between cities and their feeder towns?
- How do assault injury rates vary between boys and girls and with deprivation?

Methods

- Data from 7 A and E departments in South Wales



- 1 University Hospital of Wales
- 2 Prince Charles General Hospital
- 3 Princess of Wales Hospital
- 4 Royal Glamorgan Hospital

- 5 Royal Gwent Hospital
- 6 Morriston Hospital
- 7 Singleton Hospital

Methods (2)

- All 11-17 year olds receiving treatment for violence related injuries
- 1 October 2005 to 30 September 2006
- Used postcodes of residence to assign individual to a unitary authority (UA)
- City areas – Cardiff, Swansea, Newport
- Town areas – Rhondda, Bridgend, Neath Port Talbot, Merthyr Tydfil, Torfaen, Caerphilly

Methods (3)

- Postcodes used to assign individuals to the electoral division in which they lived
- Electoral divisions in each UA grouped into fifths of deprivation
- Deprivation fifths based on Townsend Scores for all Wales
- Assignment to fifths at all Wales level

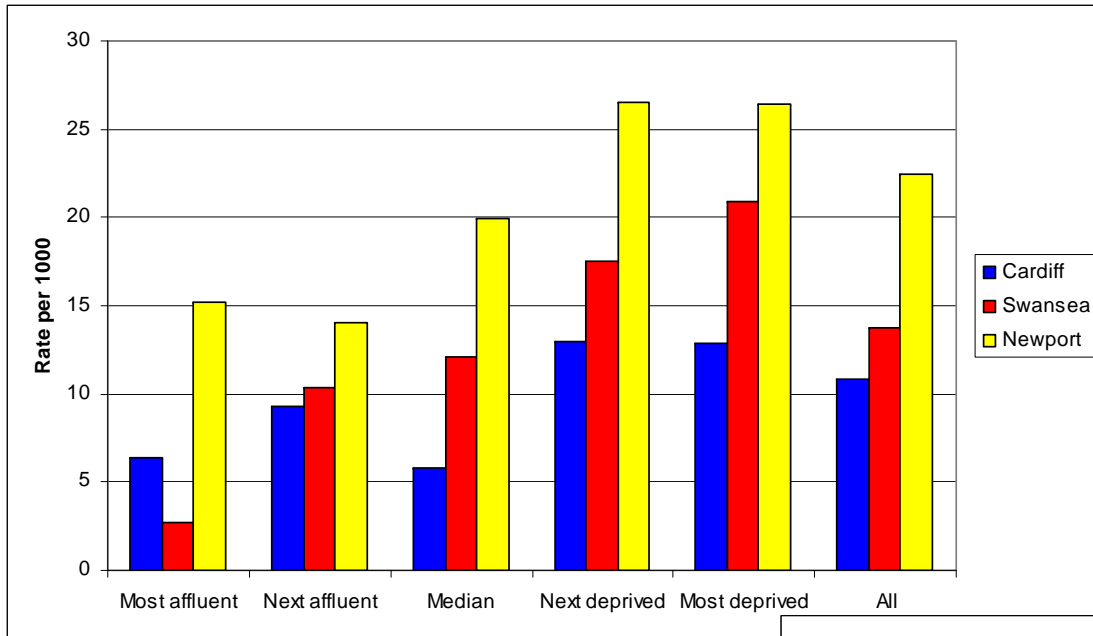
Methods (4)

- Number of assaults to males and females separately
- By deprivation fifth and UA
- NHSAR used to derive population profiles for each fifth in each UA
- Injury rates for males and females for each fifth
- Injury rate ratios and 95% CIs v most affluent

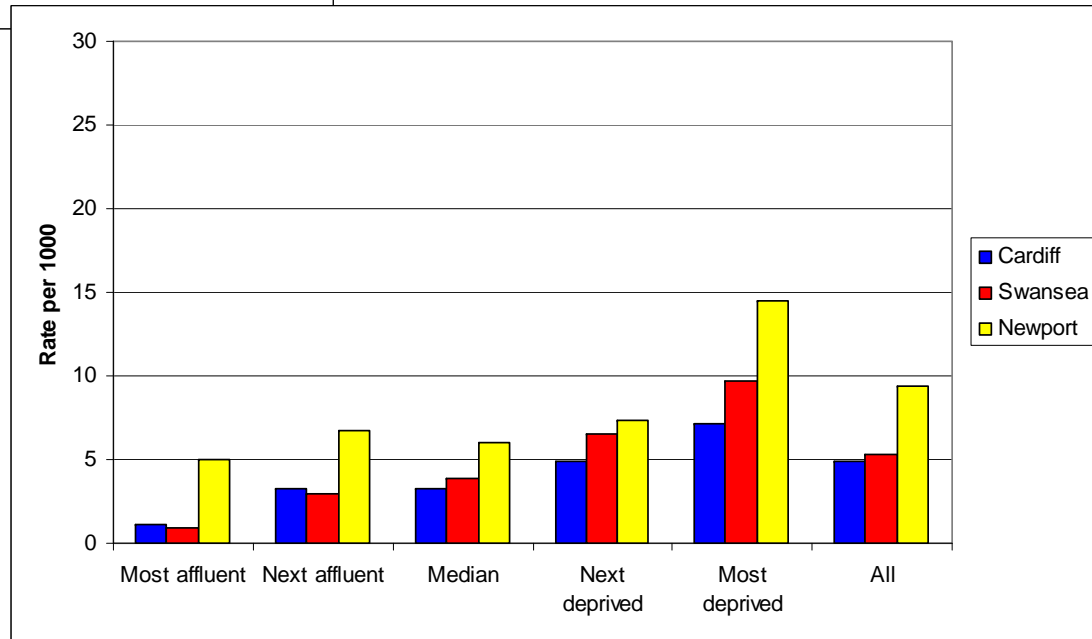
Results

- 1472 assaults
- 1016 males (69.0%) and 456 females (31.0%) aged 11-17
- Overall injury rates
 - Cities (475 males and 224 females)
 - 14.2 per 1000 males, 6.0 females
 - Towns (541 males and 232 females)
 - 13.1 males, 5.6 females

3 Cities – Rates per 1000



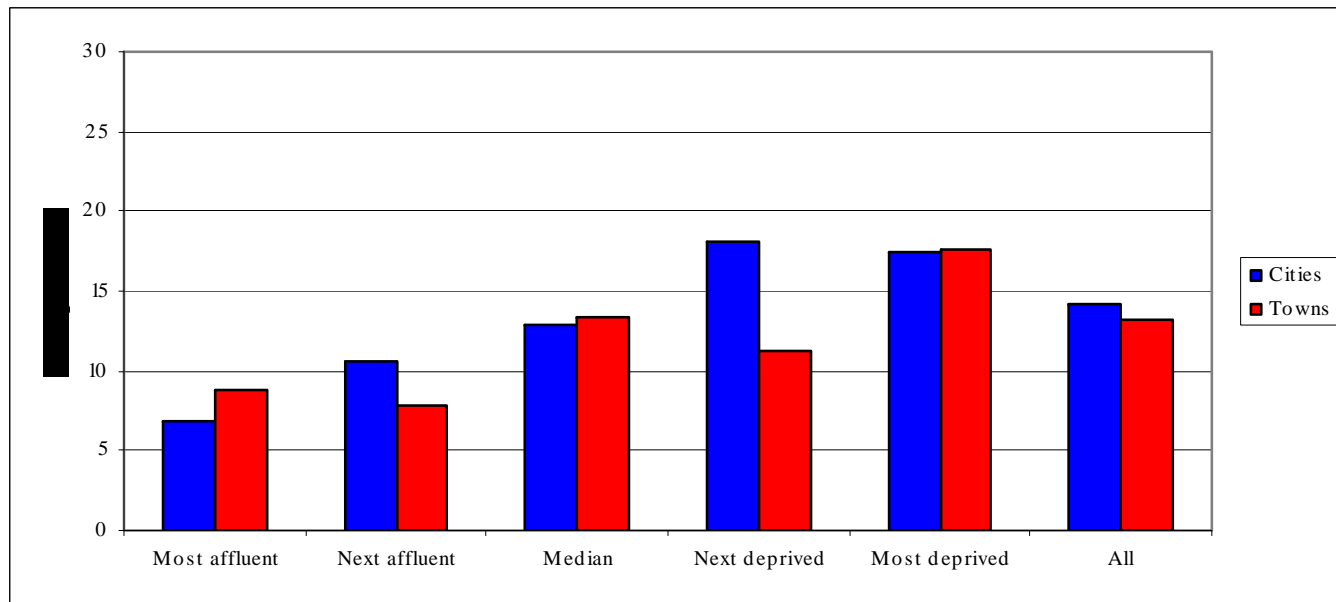
Males



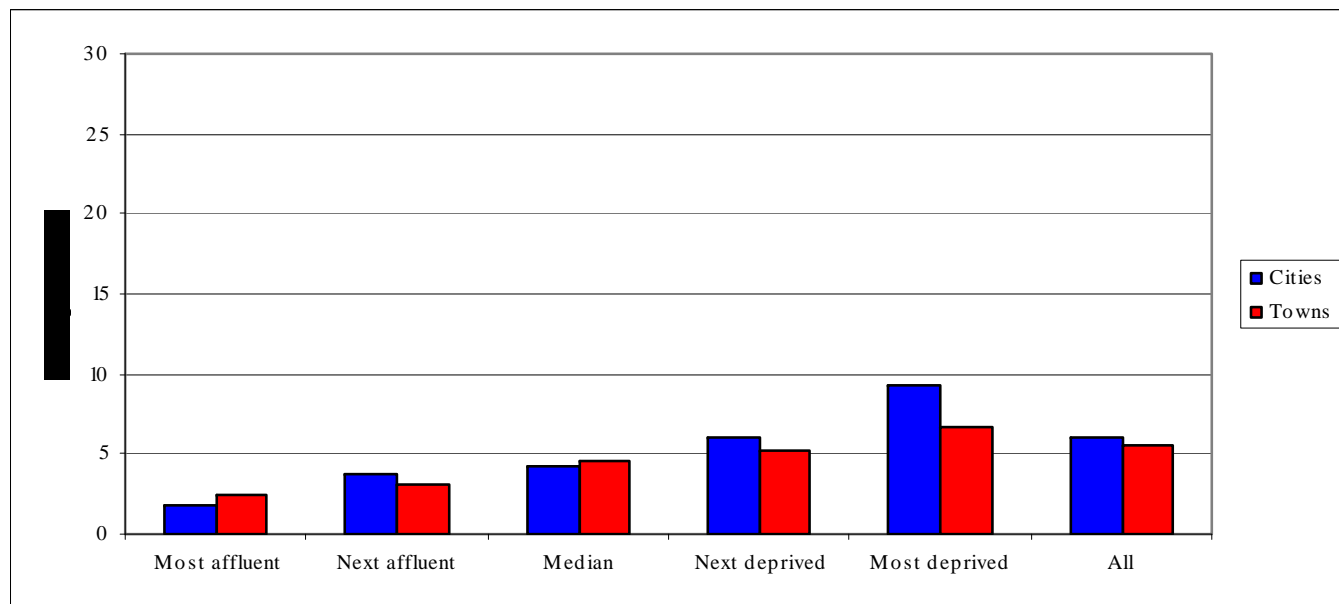
Females



Cities v Towns – Rates per 1000



Males



Females

Rate ratios – 3 cities

Male	Cardiff	Swansea	Newport
Most affluent	1	1	1
Next affluent	1.46 (0.79-2.69)	3.82 (1.48-9.88)	0.92 (0.44-1.92)
Median	0.91 (0.29-2.86)	4.46 (1.77-11.27)	1.32 (0.66-2.63)
Next deprived	2.03 (1.17-3.52)	6.49 (2.63-16.01)	1.75 (1.00-3.06)
Most deprived	2.02 (1.25-3.26)	7.74 (3.21-18.69)	1.74 (1.02-2.99)
Female	Cardiff	Swansea	Newport
Most affluent	1	1	1
Next affluent	2.91 (0.93-9.06)	3.15 (0.73-13.64)	1.35 (0.46-3.97)
Median	2.91 (0.62-13.56)	4.03 (0.98-16.54)	1.19 (0.39-3.68)
Next deprived	4.25 (1.48-12.20)	6.78 (1.73-26.60)	1.46 (0.58-3.67)
Most deprived	6.31 (2.38-16.73)	10.11 (2.68-38.13)	2.90 (1.26-6.65)

Rate ratios – Cities v towns

Males	Cities	Towns
Most affluent	1	1
Next affluent	1.55 (1.03 to 2.33)	0.88 (0.55 to 1.42)
Median	1.89 (1.23 to 2.90)	1.52 (1.03 to 2.25)
Next deprived	2.67 (1.88 to 3.81)	1.27 (0.88 to 1.87)
Most deprived	2.57 (1.85 to 3.59)	1.99 (1.39 to 2.86)
Females	Cities	Towns
Most affluent	1	1
Next affluent	2.14 (1.06 to 4.32)	1.30 (0.59 to 2.83)
Median	2.40 (1.16 to 5.00)	1.90 (0.96 to 3.79)
Next deprived	3.40 (1.82 to 6.38)	2.17 (1.13 to 4.17)
Most deprived	5.26 (2.93 to 9.41)	2.79 (1.47 to 5.28)

Discussion

- Increased deprivation associated with increased risk of assault injury for boys and girls
- Inequalities between most deprived and most affluent were greater for females
- Inequalities in assault rates between boys and girls narrowed with increasing deprivation
- Differences between cities (may be due to small numbers), but little difference between cities and towns

Discussion (2)

- No comparative data
 - All Wales pedestrian injury rates, all 4-16 year olds
 - Emergency department 5.9 / 1000 / 3 years (1998-00)
 - STATS 19 4.6 / 1000 / 3 years
 - Child pedestrian injuries – 3-8 times more likely amongst the most deprived (depending on data source / gender)
 - Burn injuries – up to 16 times more likely amongst the most deprived
 - Rates of injuries are far lower than assaults
- No trend data against which to compare these findings

Sources of bias

- Variations in reporting practice / willingness to seek treatment
- Distance decay
- Variations in coding practice / recognition of assaults
- Variations in individual definitions
- Involvement of alcohol may create a reporting bias

Limitations

- No information on context
- No information on involvement of alcohol
- Data analysed according to place of residence
- Assaults classification
 - Sub-groups likely to involve very small numbers
- A very simple analysis
 - Flaws in the approach used
 - Flaws also in more sophisticated approaches

Next steps

- More data
 - Repeat these analyses
- Efforts needed to ensure that inequalities gaps do not widen further
- Develop proactive interventions
 - Wait for assaults to happen, then intervene
- Assaults – lack ownership
 - Home office – UK government courts and policing
 - Health – devolved function
 - Community safety – local government
 - PH leadership required?

Next Steps (2)

- Mikton (2008)
 - “Violence has long been considered a criminal justice and human rights issue. More recently it has also been viewed as a public health problem”.
- Challenge for public health
 - Not just to be part of a problem
 - But to lead in developing a solution

Acknowledgements

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