

Intimate Partner Violence, Childhood Sexual Abuse & Non-partner Sexual Violence

Global Burden of Disease Study

**Charlotte Watts & Claudia Garcia-Moreno
Naeemah Abrahams (NPSV)
Karen Devries, LSHTM**



What is the Global Burden of Disease ?

- Global initiative that seeks to systematically quantify the health burden of all major diseases globally, and by region
- All health burdens are quantified using DALYs – ‘Disability Adjusted Life Years’
- This assessment includes estimates of the health burden of injury
- Parallel assessment to assess the health burden of several risk factors for health, including:
 - smoking
 - alcohol use
 - unprotected sex
- For the first time interpersonal violence has been included as a risk factor to consider

The GBD Expert Review Group on Partner and Sexual Violence

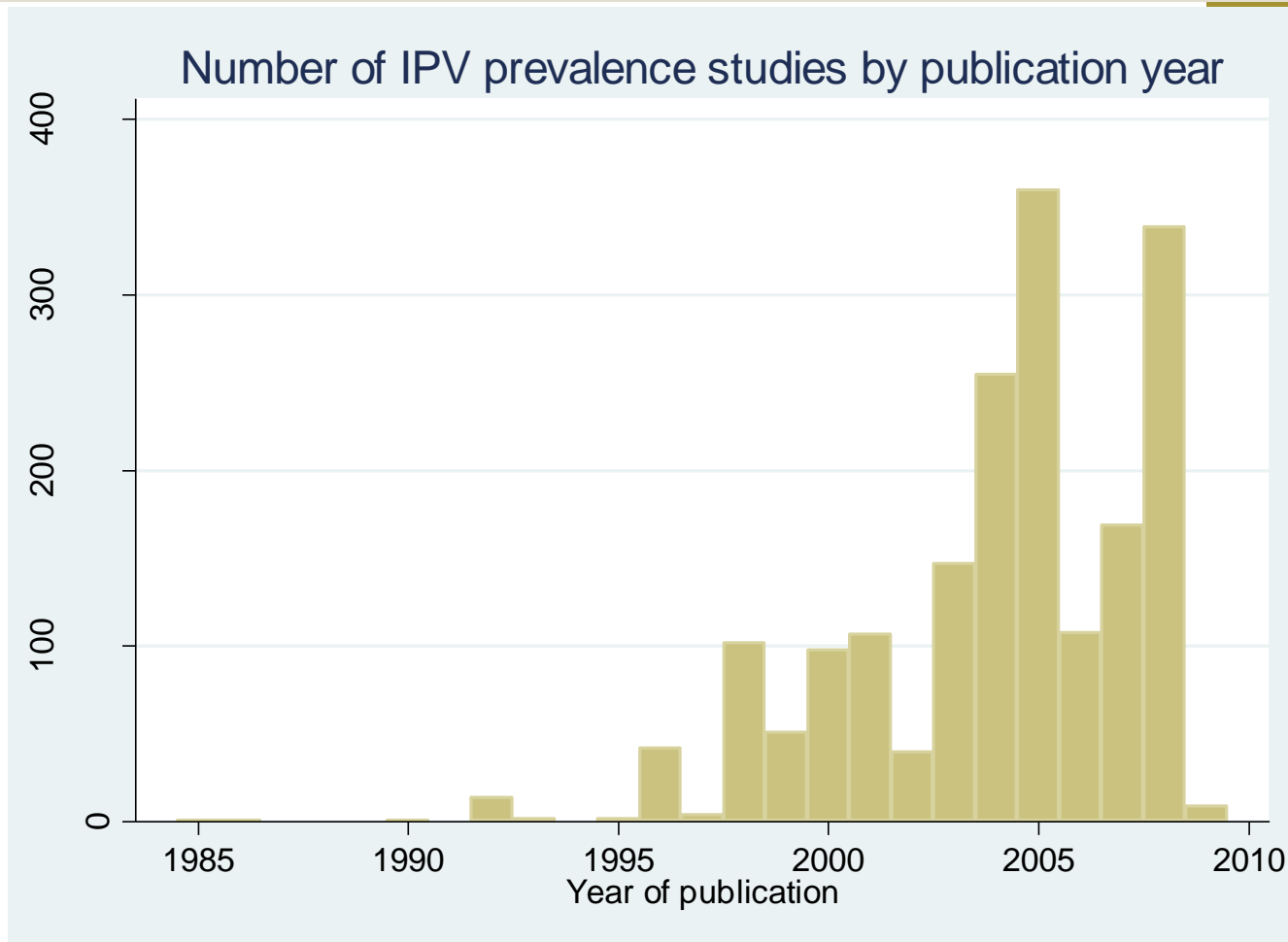
- **London School of Hygiene and Tropical Medicine (LSHTM)**
 - Prof. Charlotte Watts, PhD (chair)
 - Karen Devries PhD (Coordinator)
 - Loraine Bacchus PhD, Jennifer Child, Joelle Mak, Gail Falder
- **WHO**
 - Dr. Claudia Garcia-Moreno, MD, MSc (co-chair)
 - Christina Pallitto PhD
- **MRC Cape Town, South Africa**
 - Naeemah Abrahams, PhD
- **Expert advisory group**
 - including several research groups who have conducted analyses for GBD estimates



Aims of Expert Review Group

1. Systematically review population based evidence on the prevalence of:
 - physical and sexual intimate partner violence
 - child sexual abuse
 - non-partner sexual violence
 - Use this information to obtain regional and global prevalence estimates
2. Systematically review published epidemiological evidence on the association between exposure to each form of violence and different health outcomes
 - Use meta-analysis to obtain aggregate estimates of health effects
3. Estimate the health burden of exposure to each form of violence
 - Identify the extent to which each form of violence contributes globally and regionally to the burden of ill health

Relatively new but rapidly growing research field

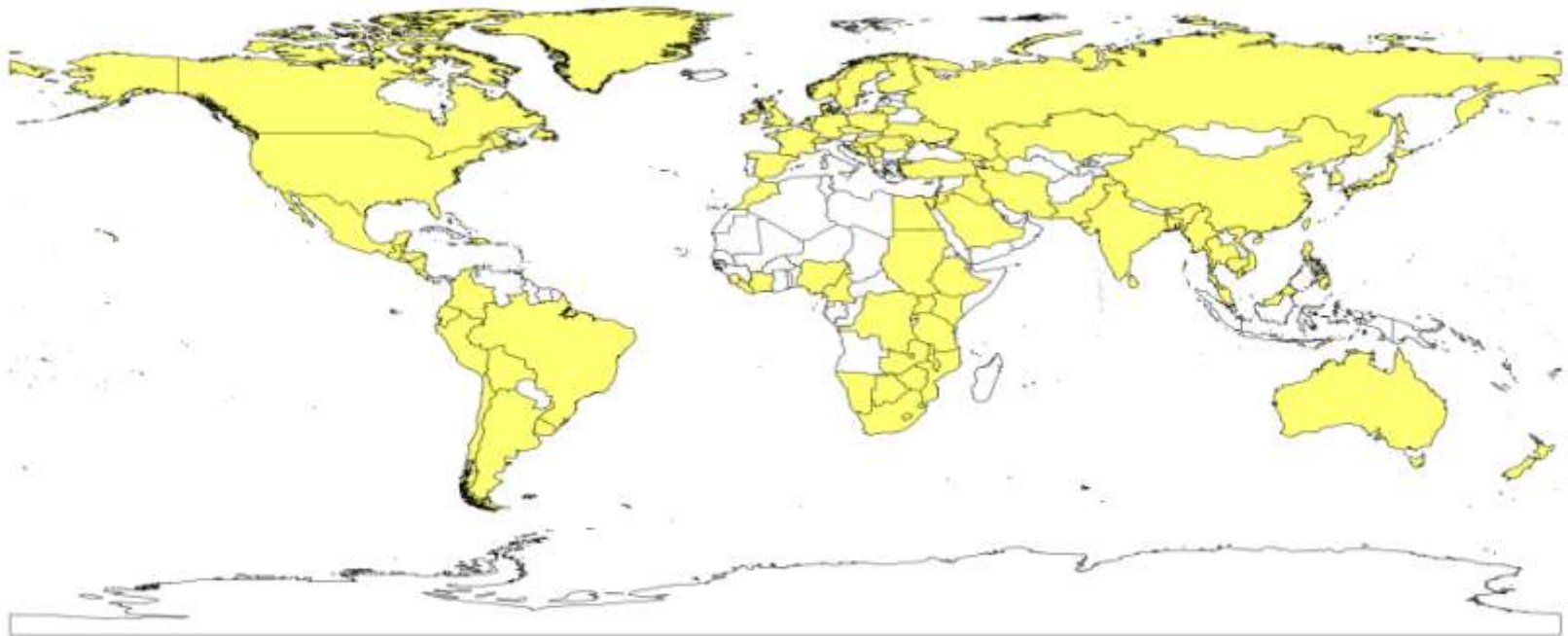


Methods to access prevalence data

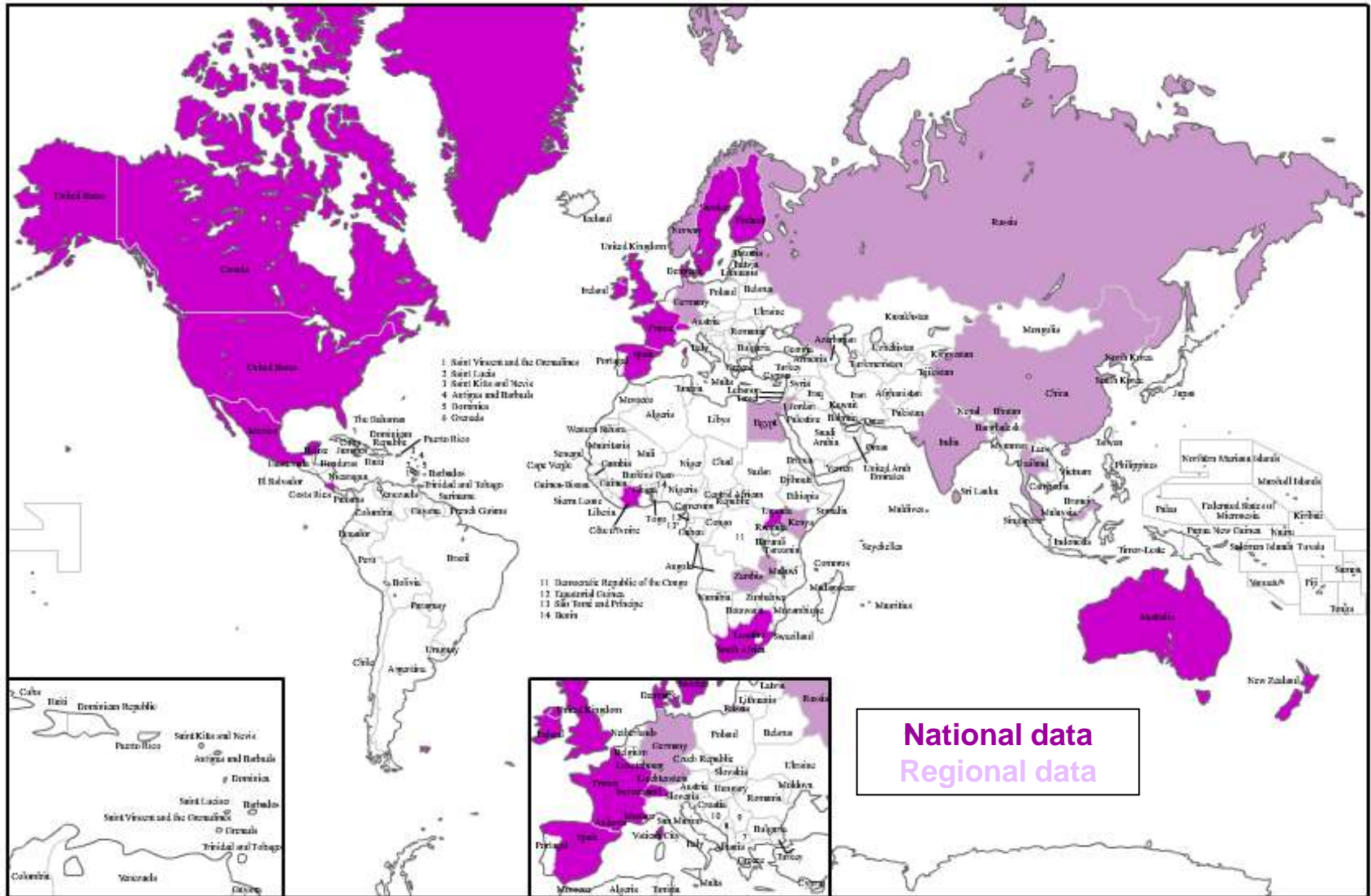
- Searched 24 online databases
 - screened over 30,000 abstracts on prevalence and 20,000 abstracts on health outcomes of violence
- Additional analysis of large international surveys
- Broad range of studies included:
 - national, regional, community representative studies
 - all author definitions of CSA, IPV, NPSV
 - any sex and age-group included
 - all languages, years

Countries with population data on IPV

Countries With Data on IPV Prevalence



Countries with data on CSA prevalence in men, any age



Prevalence data non-partner sexual violence

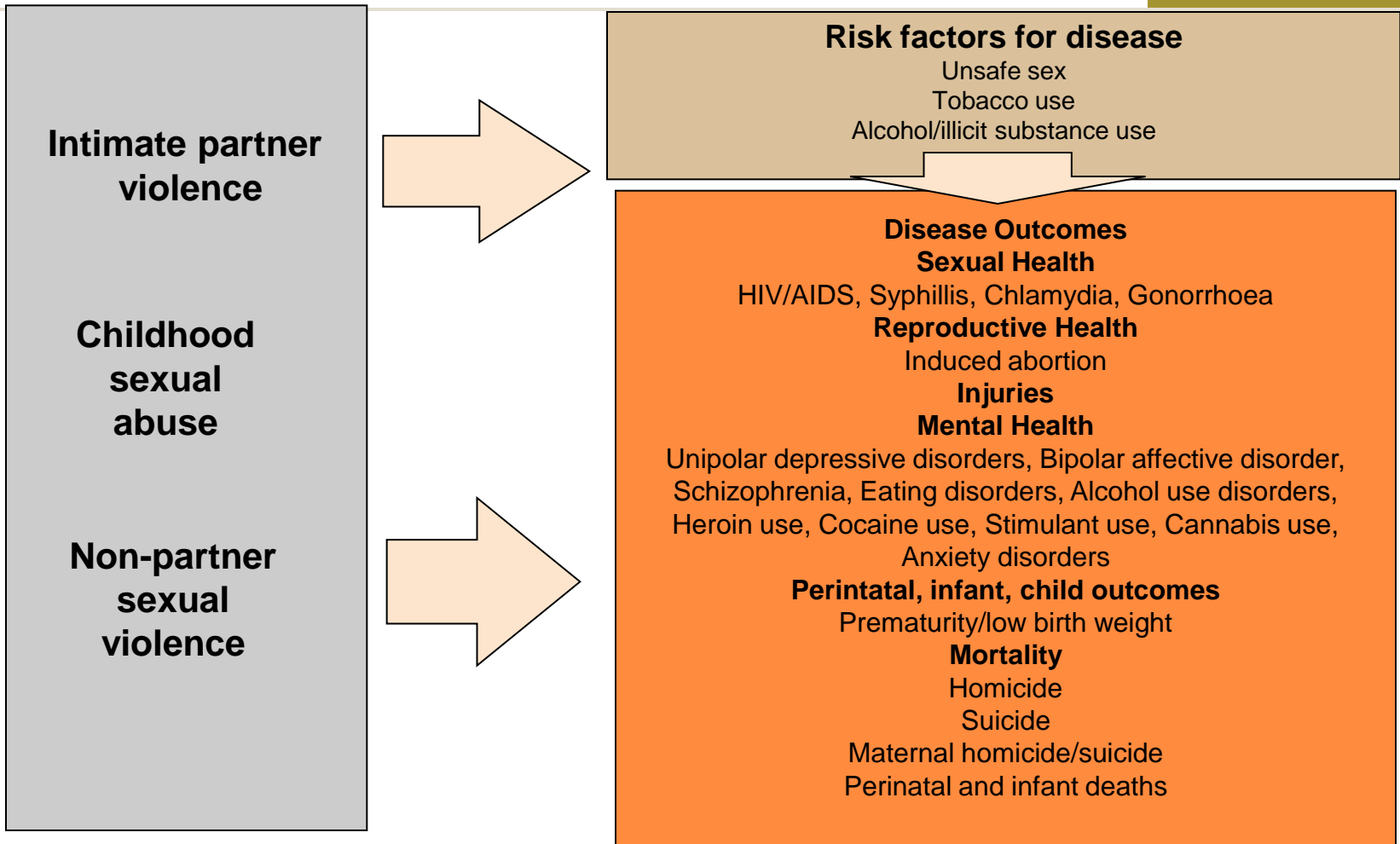
- Overall data from 19/21 regions:
 - Women data in 19/21 regions: 7 regions with 1 country
 - Men data in 14/21 regions: 10 regions with 1 country
- Data covers 42 different countries
 - 23 countries national data
 - 14 countries regional data only

Issues in compiling prevalence data

1. Response bias – under-reporting of exposure will mean that overall estimates conservative
2. Differing definitions
 - IPV: some studies measuring physical IPV only, rather than physical and/or sexual IPV;
 - CSA, some studies measure CSA by one perpetrator only, versus any
 - Non-partner sexual violence – many different definitions
3. Different populations surveyed – national vs regional etc.
4. Missing data in some regions – DISMOD regression model used to estimate prevalences

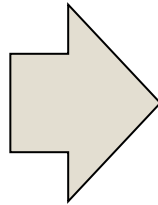
Relationships between violence exposure and disease outcomes

Diseases and Risk Factors Caused by Violence Exposure



Evidence on diseases by exposure to non-partner sexual partner being compiled

**Non-partner
sexual
violence**



Reproductive health

Abortion

Sexual health

HIV/AIDS,
Syphilis,
Chlamydia,
Gonorrhoea

Mental Health

Unipolar depressive disorders,
Bipolar affective disorder,
Eating, Anxiety disorders,
Alcohol , Heroin, Cocaine, Stimulant ,Cannabis

Injuries

Mortality: Suicide, rape homicide

Challenges

- Definitional differences between studies
- Limited body of longitudinal evidence on the health effects of violence exposure
- Bi-directionality of causation for some outcomes
- Less data available on NPSV than IPV and CSA
- Limited data on health effects of IPV and NPSV for men
- Overlaps between forms of violence being considered
- **Limited published data on relationship between exposure to intimate partner violence and injury (using ICD-10 codes) & homicide**

How do we calculate disease burden?

Dr Karen Devries,
Lecturer in Social Epidemiology, LSHTM;
Coordinator, GBD project



What is the burden of disease?

- Burden relates to
 - how much suffering a disease causes (how much death and ill health), and
 - how common it is
- Global Burden of Disease Project aims to measure disease burden for every region

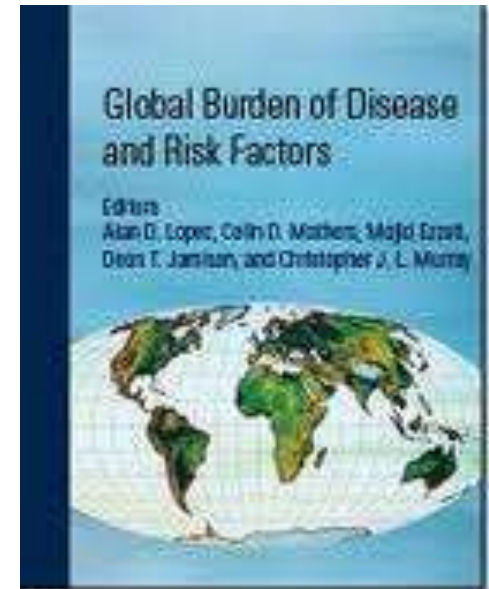


Measuring the Burden: DALYs

- Disability-Adjusted Life Years (DALYs) were developed for the first round of the GBD, to measure disease burden
- DALYS account for morbidity and mortality
- Allow direct comparison of very different conditions
- One DALY can be thought of as one lost year of “healthy” life

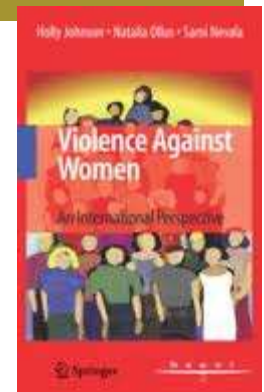
What information do we need to calculate disease burden?

- Prevalence of violence in every country in the world
 - %, proportion of people who have experienced violence
- Relationship with different diseases
 - RR or OR between violence and each disease that can be caused by violence
 - Eg. injuries, STI infection, depression, alcohol use, etc.



Where does evidence come from?

- Systematic reviews of published and unpublished studies
- Large international surveys
 - Demographic and Health Surveys
 - WHO Multi-country study on women's health and domestic violence against women
 - GENACIS
 - International Violence Against Women Surveys



How do we calculate the DALY?

- Once we know prevalence and health effects:
 - Calculate the Population Attributable Fraction
 - This is the number of cases of a disease in the population that would be eliminated if we eliminated violence
- then we take the DALYs associated with that reduction in disease, and add them together
 - This is the total DALYs that would be avoided if violence was eliminated—the burden of disease due to violence

A systematic review of mental and sexual health effects associated with Non partner sexual violence

Global Burden of Disease Study

Naeemah Abrahams & Simukai Shamu,

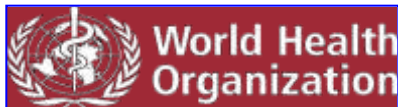
Gender & Health Research Unit

Karen Devries, & Charlotte Watts

London School of Hygiene and Tropical Medicine

Claudia Garcia Moreno

World Health Organisation



Non partners sexual violence

- Non-partner sexual violence (NPSV) in the form of stranger rape brought sexual violence to the worlds' attention
- Shift to intimate partners violence
 - can be seen in the difference in research attention
- Certain parts of the globe has higher levels of NPSV compared to IPV (Brazil city and Samoa – WHO Multi-country study)
- Increasing recognition that victim perpetrator relation is important in terms of impact
 - Timing issues – once off vs long period
 - Contact with perpetrator
 - Issues of shame / stigma/ secrecy

Victim perpetrator relationship

- NPSV perpetrator - anyone other than a current or ex partner
 - Family
 - Father, step, grand, brother, cousin uncle – all other forms of relationships
 - Non family
 - Stranger, acquaintance
 - Work colleagues
 - Teachers/ peers/ students
 - Community members – neighbours/ church members etc
 - Perpetrators from conflict settings

Health outcomes as defined by the GBOD

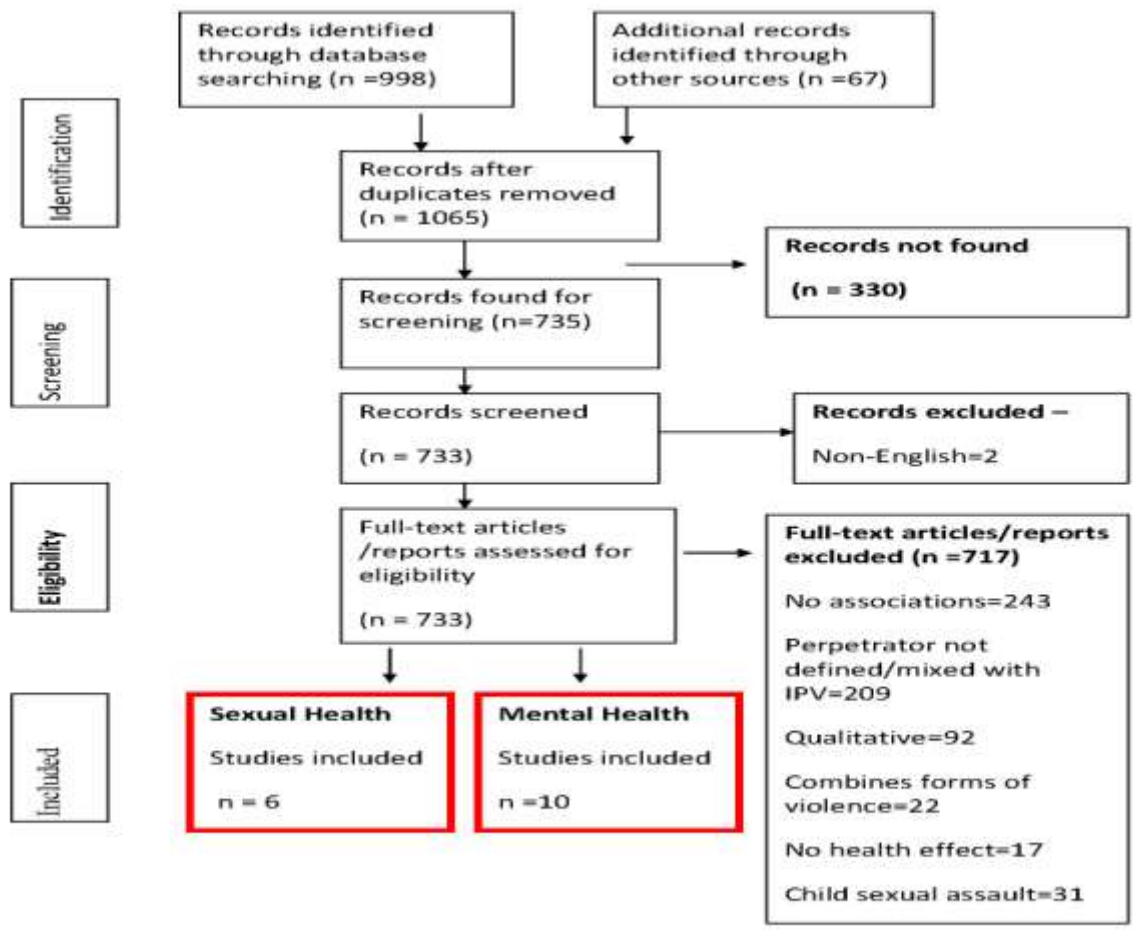
- Mental health
 - Unipolar depressive disorders
 - Bipolar affective disorders
 - Eating, anxiety disorders
 - Alcohol an other drug
- Sexual and reproductive health
 - HIV/AIDS
 - Syphillis
 - Chlamydia
 - Gonorrhoea

Search strategy

- Systematic for period 1998-2010
- Published and unpublished
- Electronic data bases
 - Cochrane library; biomedical sciences databases (Medline, PubMed, Embase, CINAHL, British Nursing Index, Science Direct, British Medical Journal, Wiley InterScience, Health Management Information Consortium); social sciences databases (International Bibliography of Social Sciences, PsychINFO, Web of Science); and international databases (ADOLEC, Global Health, African Healthline, LILACS, Index of Medicus of Eastern Mediterranean and South East Asian and Western Pacific Regions, Medcarib, Popline).
- Hand search of all international surveys
 - Victims surveys
 - DHS
 - WHO Multi country studies
 - Violence against women surveys

Inclusion Criteria

- Published between 1998-2010
- Participants of 15 years and older
- Men and women
- Any sexual violence
- Non partner perpetrators
- Associations between NPSV and at least one mental health/sexual health outcome reported as a odds ratio or a risk ratio
- Original data presented
- Study design
 - Systematic review, Cross sectional, cohort, case control & randomised control trials



HIV/STI

- Associations from 4 studies (6 papers) included – 4 papers from US 2 papers from SA
 - 3 studies reported on association between HIV and NPSV
 - 1 study reported on association between sexual health and NPSV
 - 1 study reported on both females & males
 - 1 longitudinal study; 1 case control 2 cross sectional (US veteran studies)
 - US veteran study only reported significant association between NPSV and HIV for men

Paper	Notes on quality	Odds Ratio
Kimberling et al 2007 US veterans/ 25-65+ yrs Male N = 2 900106 Female n = 134 894	Electronic medical record data for those screened for Military sexual trauma - 2 questions. Disease classified according ICD9/ Refer to AIDS Response rate 72%/ training to screen for MST	Male 3.6 (3.29-4.36) * Female 1.38 (0.88-2,17)
Jewkes et al 2006 SA/ Females 15-26 yrs N = 1295	Baseline data from RCT Used WHO questionnaire 2 HIV tests Response rate 91.4% / training of fieldworkers	1.41 (0.73-2.73)
Mc Donnell et al 2003 Us/ Females 18+ yrs N = 611	Case control study HIV positive and negative women recruited from variety of clinics and centres (drug rehab / homeless shelters) 1 question on NPSV followed by severity and frequency questions / training of fieldworkers	2.90 (0.94-8.89)



Associations with Mental Health (for women only)

- All 10 studies from developed countries
- 27 associations that meets GBOD criteria
- Diverse measures used CESD (modified)/ Hopkins Checklist/ Diagnosis by a Dr in last 5 years / Taking medication / Few measurement not mentioned
- Depression
 - Significant associations from 4/5 studies
 - OR: 2.33 (2.24-2.42) [Kimerling, Gima et al. 2007](#)
 - OR: 2.55 (1.63-7.48) [Nicolaidis, Curry et al. 2004](#)
 - Regression Coef 1.56 SE = 0.29 (p = 0.001) [Richman, Rospenda et al. 1999](#)
 - OR: 3.16 (2.68-3.72) [Hankin, Skinner et al. 1999](#)
 - OR: 1.25 (0.61-2.59) [Plichta and Falik 2001](#)
- Depression and/or anxiety
 - 2.59 (1.17-5.72) [Plichta and Falik 2001](#)
- Anxiety
 - Regression Coef: 2.00 (p = <0.001) [Richman, Rospenda et al. 1999](#)
- PTSD
 - 8.83 (8.34-9.35) ([Kimerling, Gima et al. 2007](#))

Alcohol & drugs

- Variety of alcohol and drug related disorders found associated with NPSV
- Quality of studies varied (poor scales or measurement unknown / low response rate/ small samples)
 - Alcohol disorder OR: 2.33 (2.15-2.53) ([Kimerling, Gima et al. 2007](#))
 - Alcohol Abuse OR: 1.89 (1.27-2.60) [Hankin, Skinner et al. 1999](#)
 - Problem drinking OR: 1.30 (0.87-1.94) [Rospenda, Richman et al. 2000](#)
 - Heavy episodic drinking OR: 1:10 (0.80-1.52) [Richman, Rospenda et al. 1999](#)
 - Drinking to intoxication OR: 1.72 (1.26-2.36) [Richman, Rospenda et al. 1999](#)
 - Drinking Alcohol regularly OR: 1.95 (1.5-2.5) [Tschumper, Narring et al. 1998](#)

 - Drug abuse OR: 2.12 (1.94-2.31) ([Kimerling, Gima et al. 2007](#))
 - Drug use OR: 3.91 (2.4-6.4) [Tschumper, Narring et al. 1998](#)
 - Use of Cannabis OR: 2.06 (1.7-2.5) [Tschumper, Narring et al. 1998](#)
 - Prescription drug use OR: 1.75 (1.17-2.62) [Richman, Rospenda et al. 1999](#)

Other associations

- Bipolar disorder
 - 2.25 (2.10-2.41) ([Kimerling, Gima et al. 2007](#))
- Eating disorders
 - OR: 3.05 (2.43-3.83) ([Kimerling, Gima et al. 2007](#))
- Binge eating
 - OR: 1.47 (1.32-1.61) [Ackard and Neumark-Sztainer 2003](#)
- Attempted suicide
 - OR: 3.7 (2.6-5.2) [Tschumper, Narring et al. 1998](#)
- Suicidal thoughts/attempts
 - OR: 3.01 (2.87-3.15) [Ackard and Neumark-Sztainer 2003](#)

Assessing risk of bias

- Definition of NPSV (inclusive)
- Perpetrator (broad/narrow)
- Study design
- Sample size
- Response rate
- Instruments used- NPSV & health outcomes
- Type of interview
- Training of fieldworkers
- Adjustments for confounding in analysis

Conclusions

- NPSV – limited research attention
- Surprisingly association with PTSD has not been studied/reported
- Depression and alcohol use findings was consistent
- Review has shown quality of studies must be improved
- Many methodological challenges in NPSV
- Separating perpetrators in instruments are important for adequate analyses

Is intimate partner violence associated with HIV? Systematic review and meta-analysis

Karen Devries, Gail Falder, Joelle Mak, Jennifer Child, Loraine Bacchus, Helen Weiss, Lori Heise, Charlotte Watts

Background and Methods

- Aim: to determine magnitude of association IPV-HIV
- Systematic review methods:
 - Searched Pubmed, Embase, Cinahl, other databases until Dec 1 2010
 - Screened more than 3000 abstracts
 - Inclusion: any population, any definition of IPV, HIV/STI
 - Analysis stratified by study quality:
 - Prospective studies
 - High quality cross-sectional studies (biological outcome data, unexposed reference group)



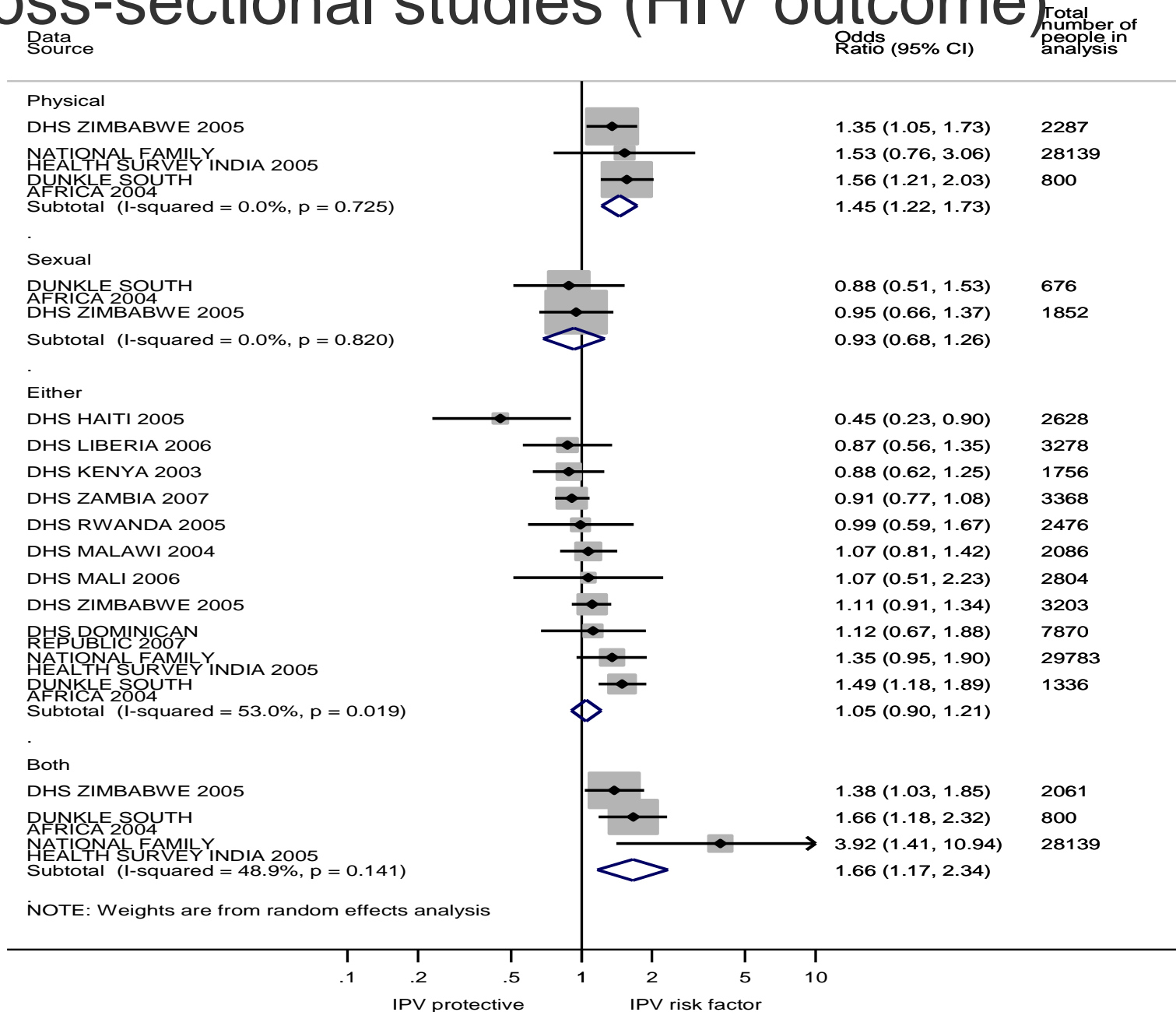
Results

- 35 papers, describing 41 datasets with 121479 participants, reporting 115 estimates included
 - 5 prospective datasets
 - 3 large studies with biological outcomes
 - 2 HIV, 1 STI
 - 3 case-control datasets
 - 35 cross-sectional datasets
 - With biological outcome data AND unexposed reference groups
 - HIV: 12 datasets, 25 estimates
 - STI: 6 datasets, 6 estimates

Prospective studies



Study	Sample	Intimate partner violence measure	HIV/STI measure	Estimate
Jewkes	1099 women, vocational schools in rural Eastern Cape, South Africa, 2002	More than one episode of physical and/or sexual violence, WHO	Incident HIV, biologically confirmed	aIRR=1.51 (1.04-2.21)
Weiss	1991 non-pregnant women aged 18-45, population registers of primary care centre Goa, India, 2001-2003	Physical violence, not further defined Sexual violence, 'the husband or partner forcing sex against the woman's wishes.'	Incident CT/GC/TV, biologically confirmed	aOR=1.40 (0.70-3.00) aOR=3.00 (1.20-7.50)
Zablotska	3422 women aged 15-24, population-based Rakai, Uganda, 2001-2003	Sexual violence, "Sexual partner physically forced you to have sex when you did not want to."	Incident HIV, biologically confirmed	1.6/ 100py in IPSV-, Alcohol- 2.2/ 100py in Alcohol+ 2.3/ 100py in IPSV+

Cross-sectional studies (HIV outcome)



Implications

- Prospective studies suggest exposure to IPV is associated with incident HIV
- Higher quality cross-sectional studies suggest association with physical violence and HIV, but not sexual violence
 - Suggests mechanisms of association—beyond just direct infection
- We need more evidence from cohort studies!



Intimate Partner Homicide: Preliminary Findings from a Global Systematic Review

Heidi Stöckl, Karen Devries, Alexandra Rotstein, Charlotte Watts, and
Claudia Garcia Moreno

London School of Hygiene and Tropical Medicine
World Health Organisation



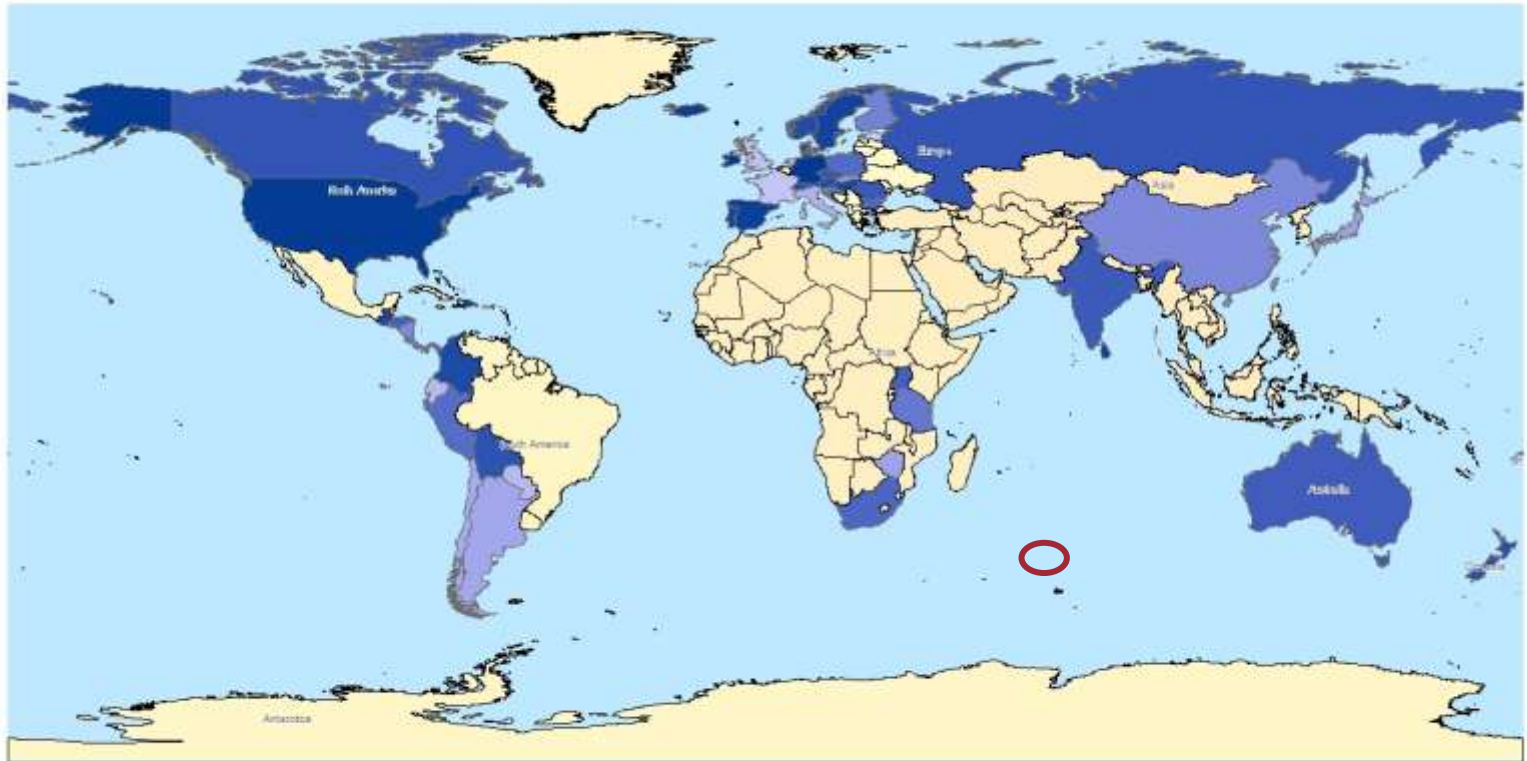
Aims of search

To provide global estimates of homicides caused by intimate partner violence

Search Strategy

1. Systematic review of the literature from 1994 onwards, using the main search engines such as Medline, Embase, Web of Science...
2. Looked up and emailed every statistical office in the world to ask for data or direction to another body who might have the data

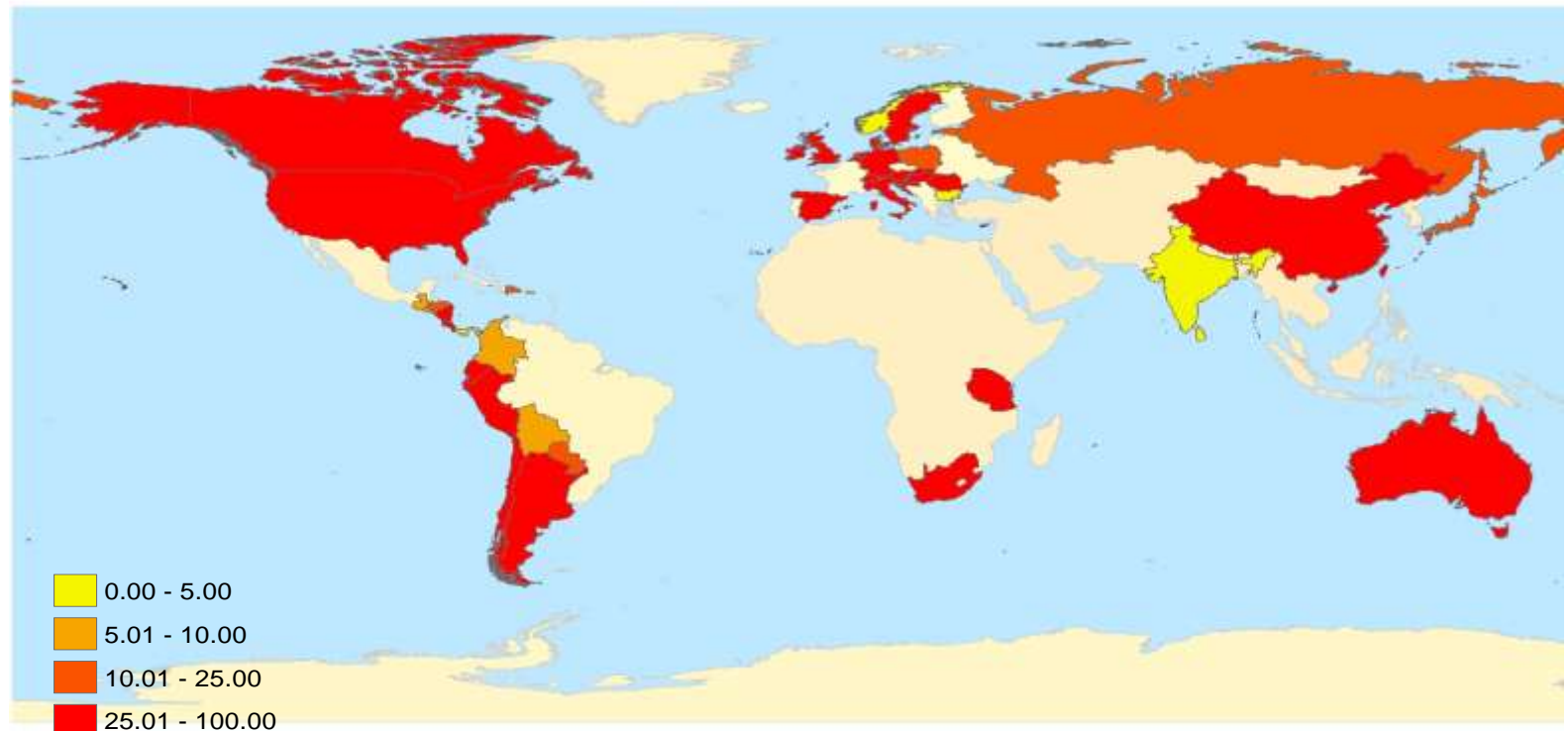
Countries with data available



Data issues and limitations

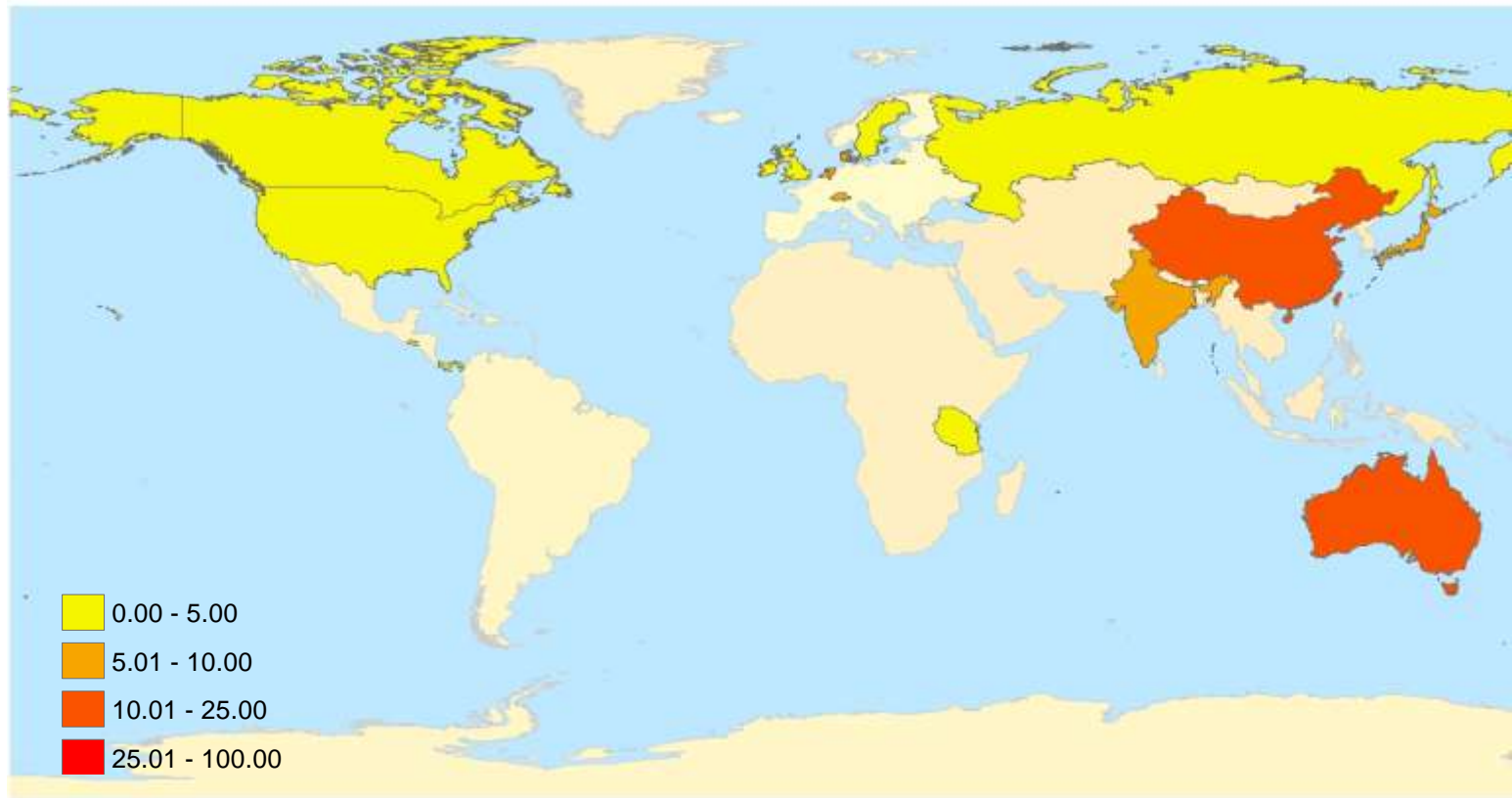
- Different measures of size – total number of IPV homicides or rates /100000 or 1000000
- Range of data sources - police, court, forensic, other reviews...
- Not all data national - often regional or from small scale studies
- Large amount of missing information on victim-offender relationships
- Data comes from different years (1965-2011)
- Different populations are investigated or only specific forms of homicide

Results 1: Percentage of female homicides committed by an intimate partner

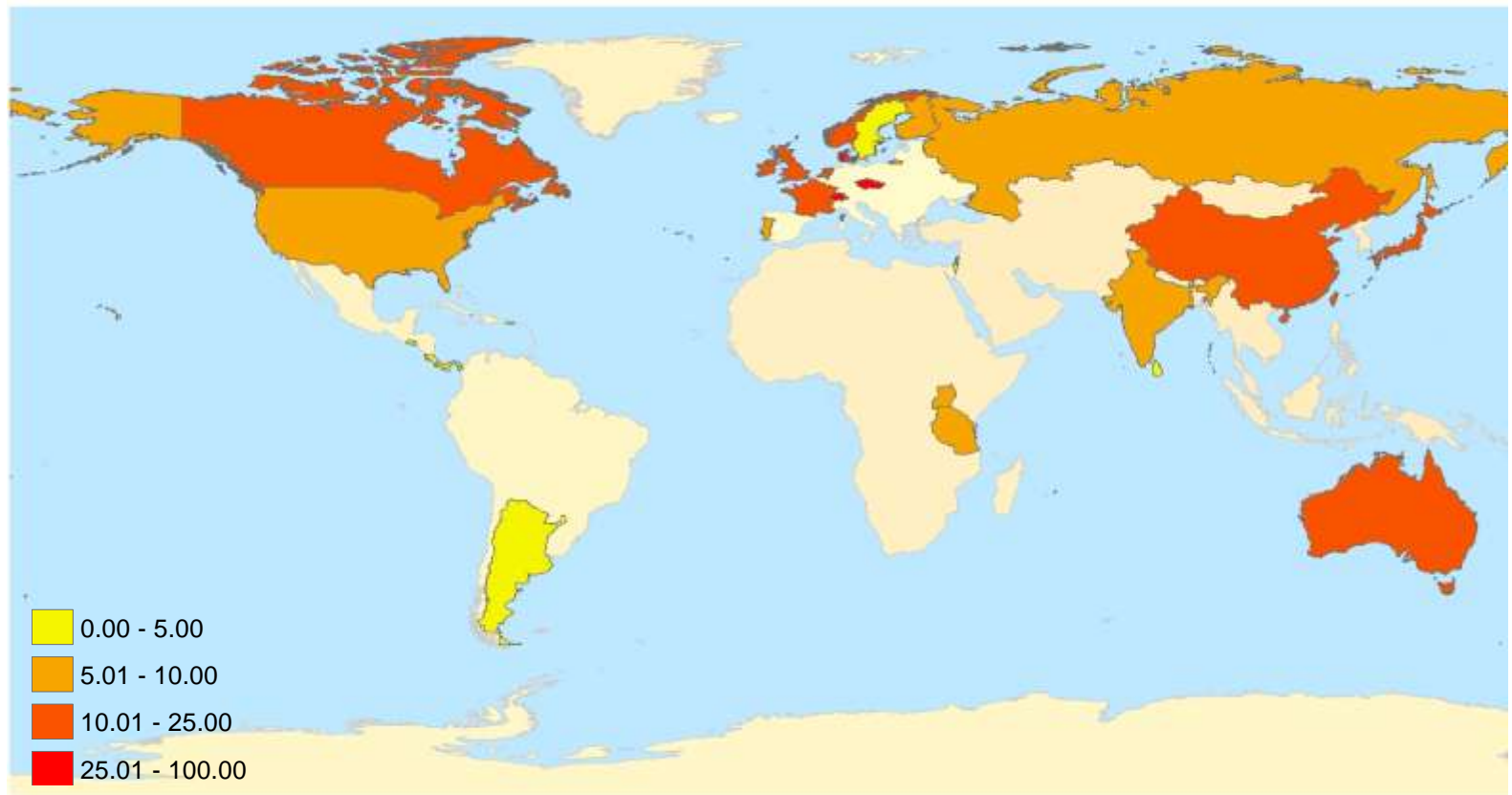


In most countries, more than 25% of female homicides are committed by an intimate partner

Results 2: Percentage of male homicides committed by an intimate partner



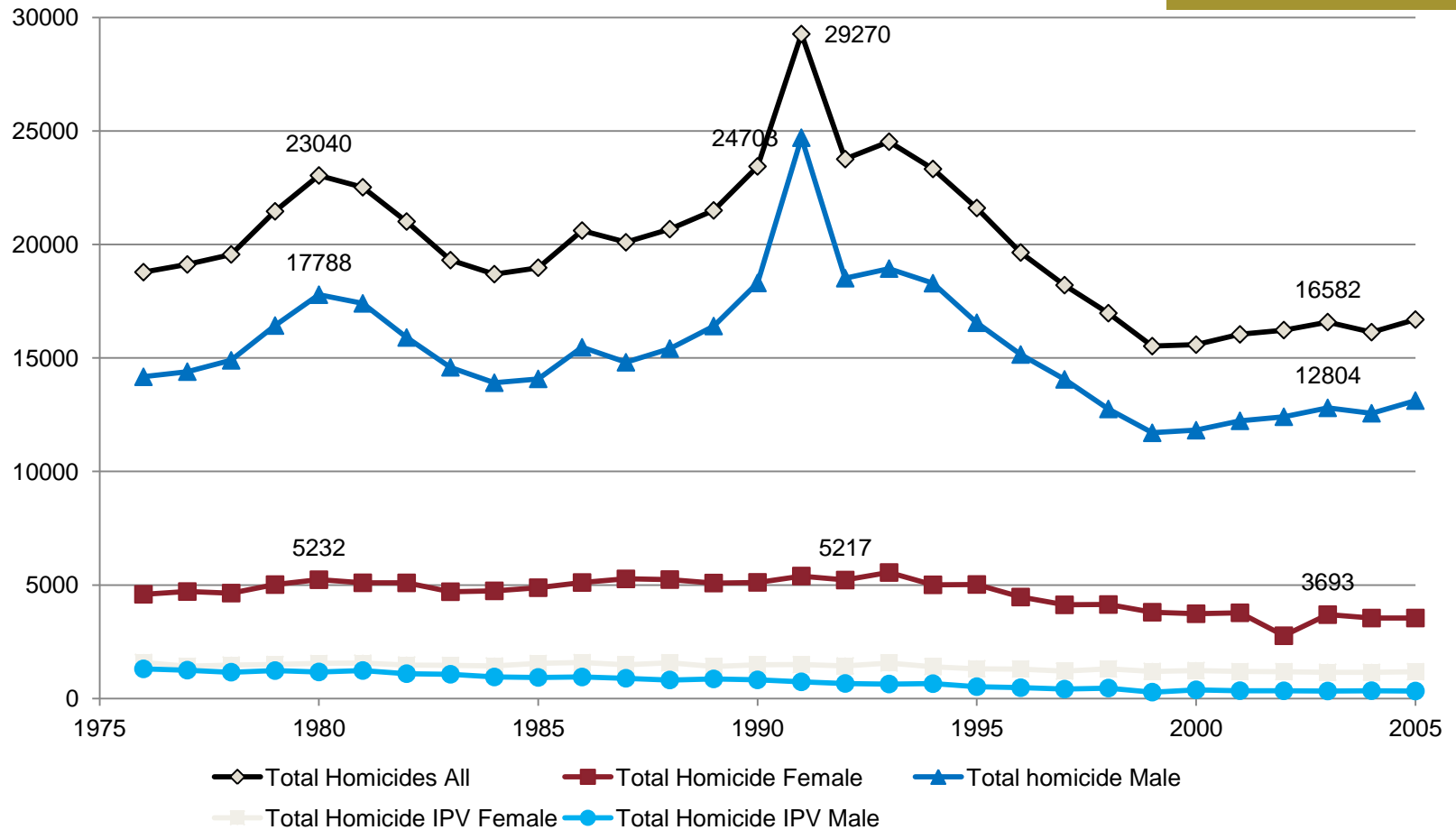
Percentage of intimate partner homicides among all homicides



In most countries, around 5-25% of homicides are committed by an intimate partner

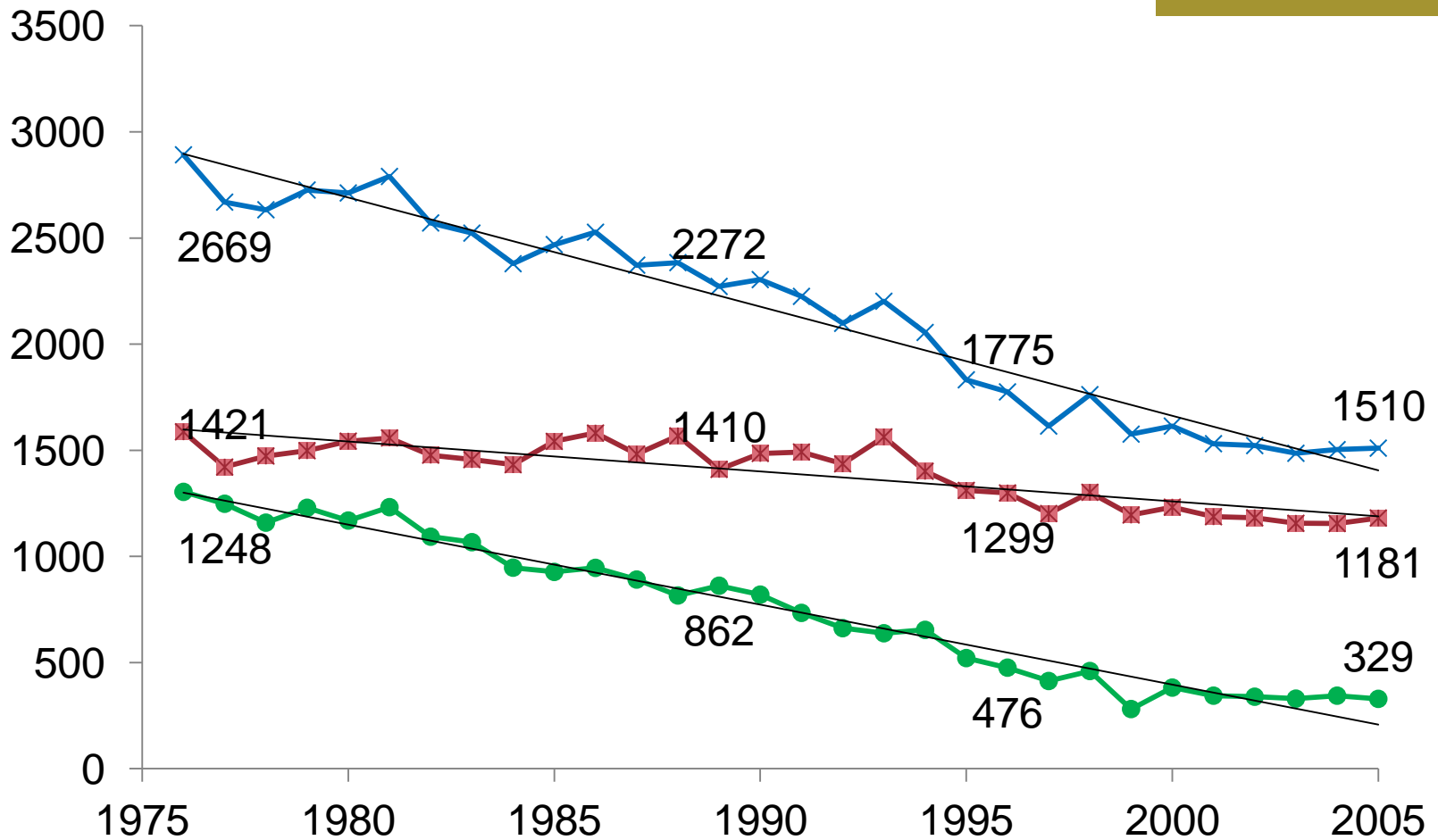
Results 3: Indication of trends

Total number of homicides and intimate partner homicides
USA (Fox et al 2010)



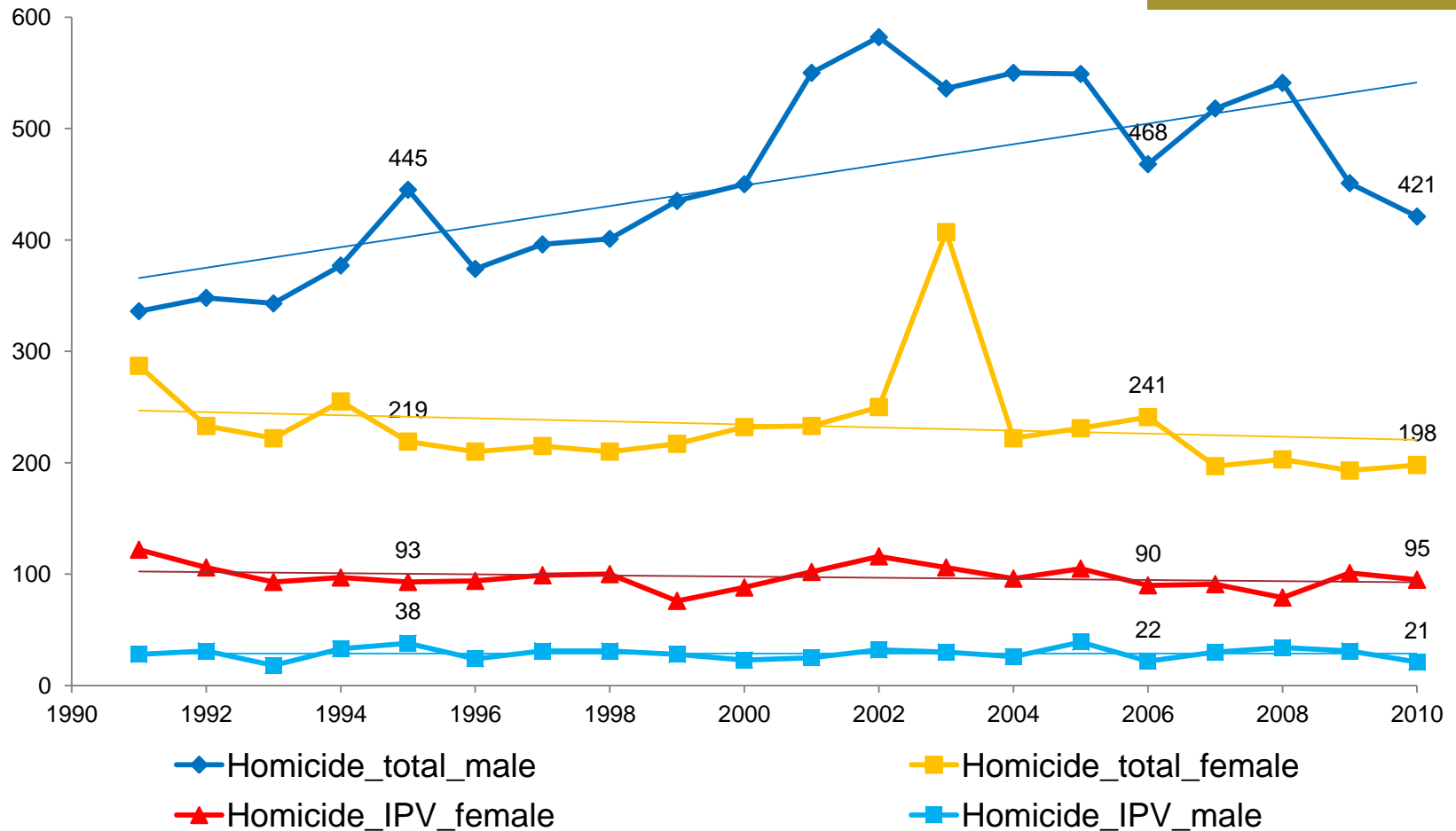
Total number of intimate partner homicides USA

(Fox et al 2010)

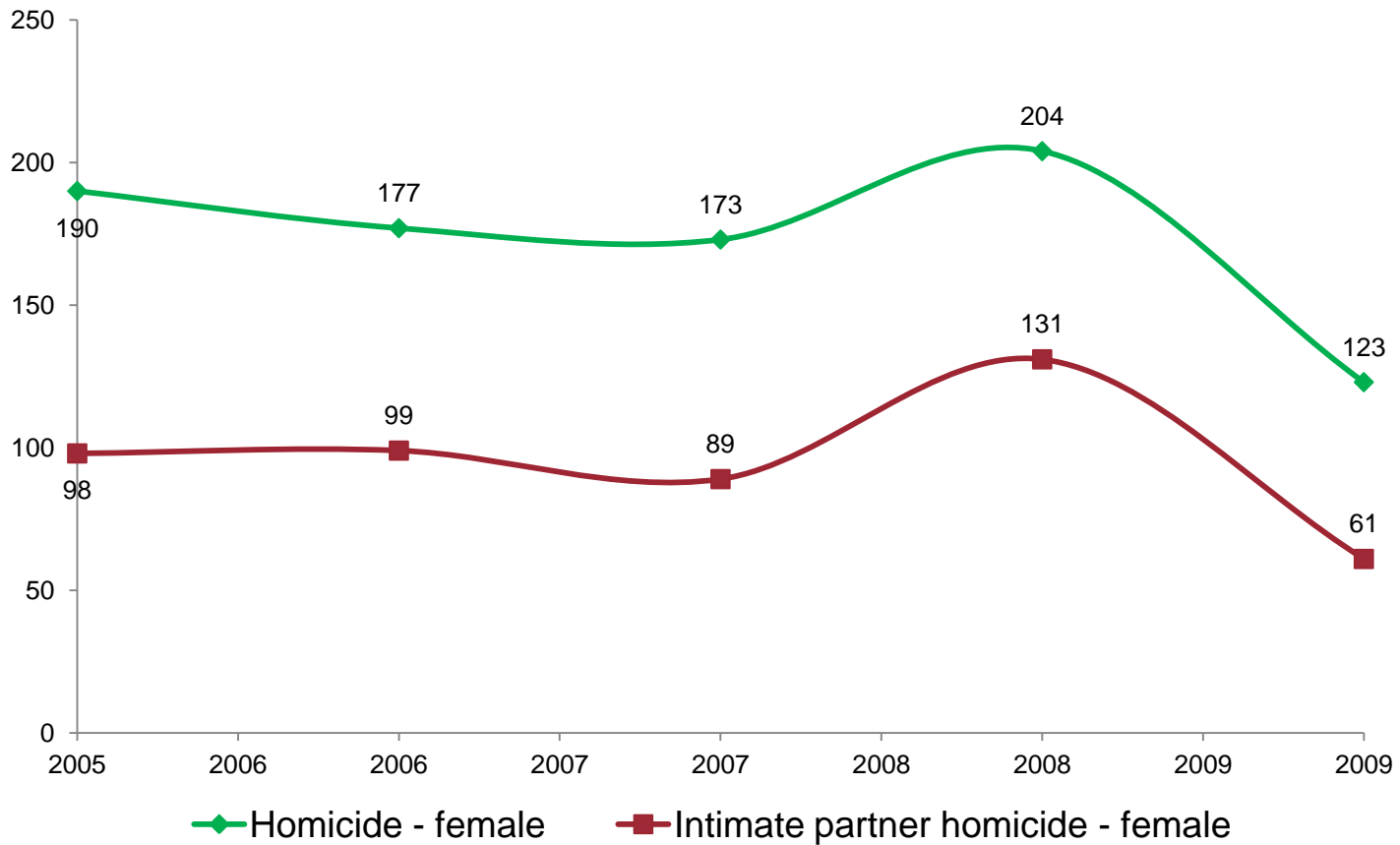


Total number of intimate partner homicides by gender

UK (Colemann 2011 & Flod-Page 2003)

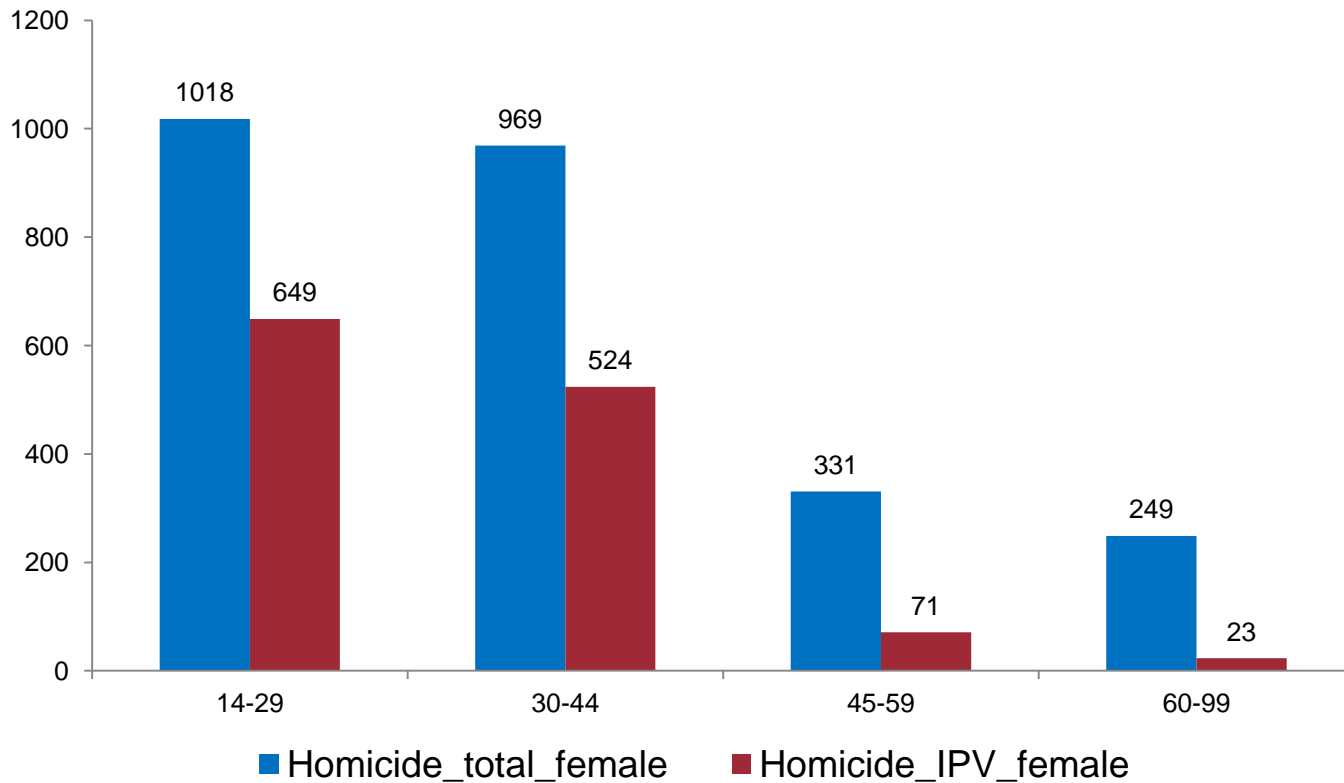


Total number of female intimate partner homicide Dominican Republic (Dominican Republic National statistics 2010)



Intimate partner femicide according to age

South Africa (Abrahams et al, 2009)



Conclusions

- Men are by far more likely to be killed by any perpetrator than women
- Intimate partner homicide affects women more than men, in many countries a third to a half of the homicides of women are committed by intimate partners.
- Approximately 5-10 percent of male homicides are committed by intimate partners

Recommendations

- Limited compilation of routine data on intimate partner homicide – especially in non-industrialized countries
- Important that data systems routinely integrate questions on perpetrator of homicide

Policy implications: GBD technical but powerful

- **Mexico City** - rape and intimate partner violence against women account for 5.6% of all DALYs and is a more important source of DALYs lost than heart disease, motor vehicle accidents, or pneumonia
(Lozano R.A. 1999)
- **South Africa** - interpersonal violence (IPV, male on male violence, CSA) second leading cause of healthy years of life lost amongst adults
(Norman R et al, 2007)
- **Australia, Victoria.** IPV 8% of disease burden among women 18-44 years of age, and is a larger risk to health than raised blood pressure, tobacco use, and increased body weight
(Vos et al 2006)

Discussion points

- We have done comprehensive searches, but still have regional gaps in data – is there anything upcoming that we should know about?
- Burden under-estimated, due to GBD methods and gaps in data.
- Emotional abuse not included – too many methodological challenges
- How can we better quantify the contribution of intimate partner violence to injury and homicide among women?
- How can this data be used to move forward the agenda for these forms of violence – are there strategic opportunities?