

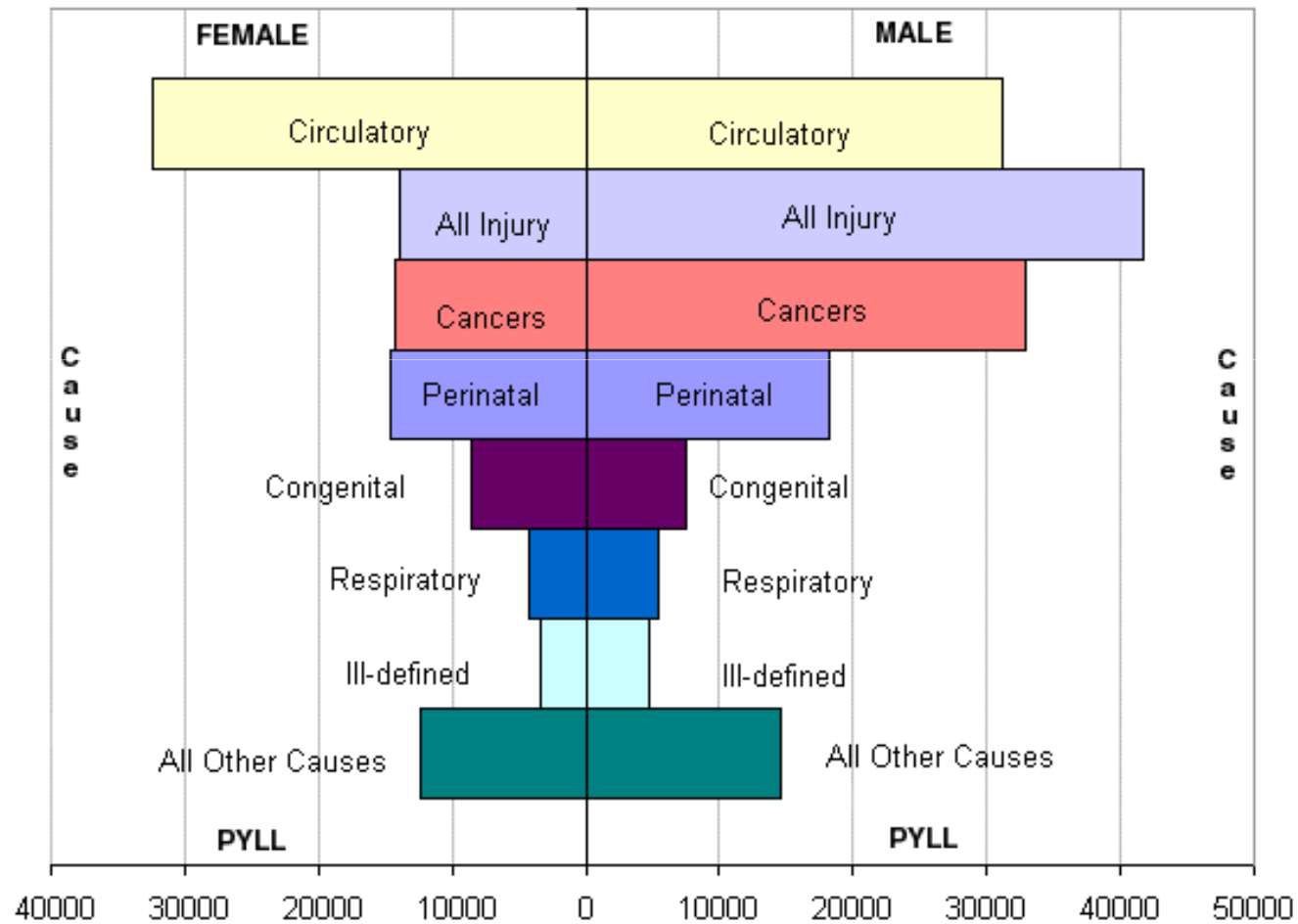
Global burden of Road traffic injury

A short introduction



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Potential Years of Life Lost (PYLL)



Road traffic deaths by sex and age group, world, 2002



Road traffic injuries demonstrate steep socio-economic differentials (especially among pedestrians) in rich and poor countries

- Decade of Action for Road Safety: 2011-2020



- World Report on Disability & Rehabilitation



- Social Determinants of Health



Table 1:

Injury deaths rise in rank

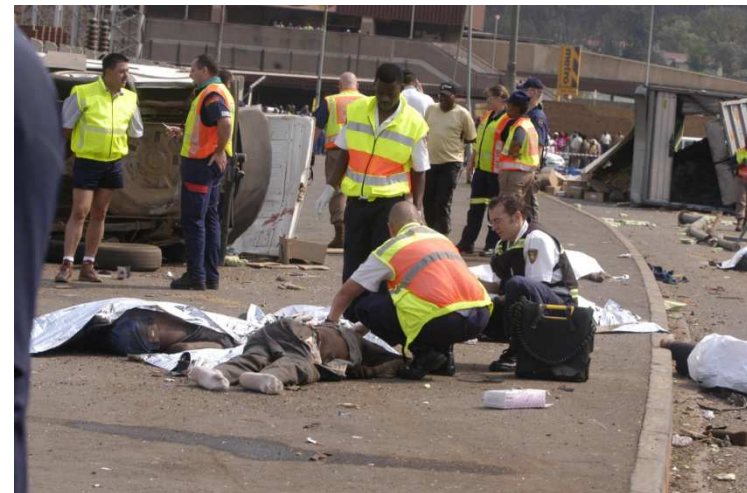
Leading causes of death, 2004 and 2030 compared.

Total 2004	Total 2030
1 Ischaemic heart disease	1 Ischaemic heart disease
2 Cerebrovascular disease	2 Cerebrovascular disease
3 Lower respiratory infections	3 Chronic obstructive pulmonary disease
4 Chronic obstructive pulmonary disease	4 Lower respiratory infections
5 Diarrhoeal diseases	5 Road traffic crashes
6 HIV/AIDS	6 Trachea, bronchus, lung cancers
7 Tuberculosis	7 Diabetes mellitus
8 Trachea, bronchus, lung cancers	8 Hypertensive heart disease
9 Road traffic crashes	9 Stomach cancer
10 Prematurity and low birth weight	10 HIV/AIDS
11 Neonatal infections and other	11 Nephritis and nephrosis
12 Diabetes mellitus	12 Suicide
13 Malaria	13 Liver cancer
14 Hypertensive heart disease	14 Colon and rectum cancer
15 Birth asphyxia and birth trauma	15 Oesophagus cancer
16 Suicide	16 Homicide
17 Stomach cancer	17 Alzheimer and other dementias
18 Cirrhosis of the liver	18 Cirrhosis of the liver
19 Nephritis and nephrosis	19 Breast cancer
20 Colon and rectum cancers	20 Tuberculosis
22 Homicide	

Source: World health statistics 2008 (www.who.int/whosis/whostat/2008/en/index.html)

Road traffic injuries are a huge public health and development problem

- 1.2 million die a year
- >95% of burden of RTI in Low- and middle-income countries
- 20-50 million more are injured or disabled
- 1-2% of GDP, exceeds international aid provided to many low-income countries



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K Watkins & D Sridhar, 2009

Road traffic injuries....

“... a worsening global disaster destroying the lives and livelihoods, hampering development and leaving millions in greater vulnerability”

International Federation of Red Cross & Red Crescent Societies, 1998

Road-traffic injuries: confronting disparities to address a global-health problem

Shanthi Ameratunga, Martha Hajar, Robyn Narton

Evidence suggests that the present and projected global burden of road-traffic injuries is disproportionately borne by countries that can least afford to meet the health service, economic, and societal challenges posed. Although the evidence base on which these estimates are made remains somewhat precarious in view of the limited data systems in most low-income and middle-income countries (as per the classification on the World Bank website), these projections highlight the essential need to address road-traffic injuries as a public-health priority. Most well-evaluated effective interventions do not directly focus on efforts to protect vulnerable road users, such as motorcyclists and pedestrians. Yet, these groups comprise the majority of road-traffic victims in low-income and middle-income countries, and consequently, the majority of the road-traffic victims globally. Appropriately responding to these disparities in available evidence and prevention efforts is necessary if we are to comprehensively address this global-health dilemma.

Lancet 2006; 367: 1533–40
Injury Prevention Research
Centre, School of Population
Health, Faculty of Medical and
Health Sciences, University of
Auckland, Auckland, New
Zealand (S Ameratunga PhD);
Centre for Population Health,
National Institute of Public
Health, Cuernavaca, Mexico
(M Hajar PhD); and The George

Percentage change in Road Traffic Fatality rate: 1975 - 1998

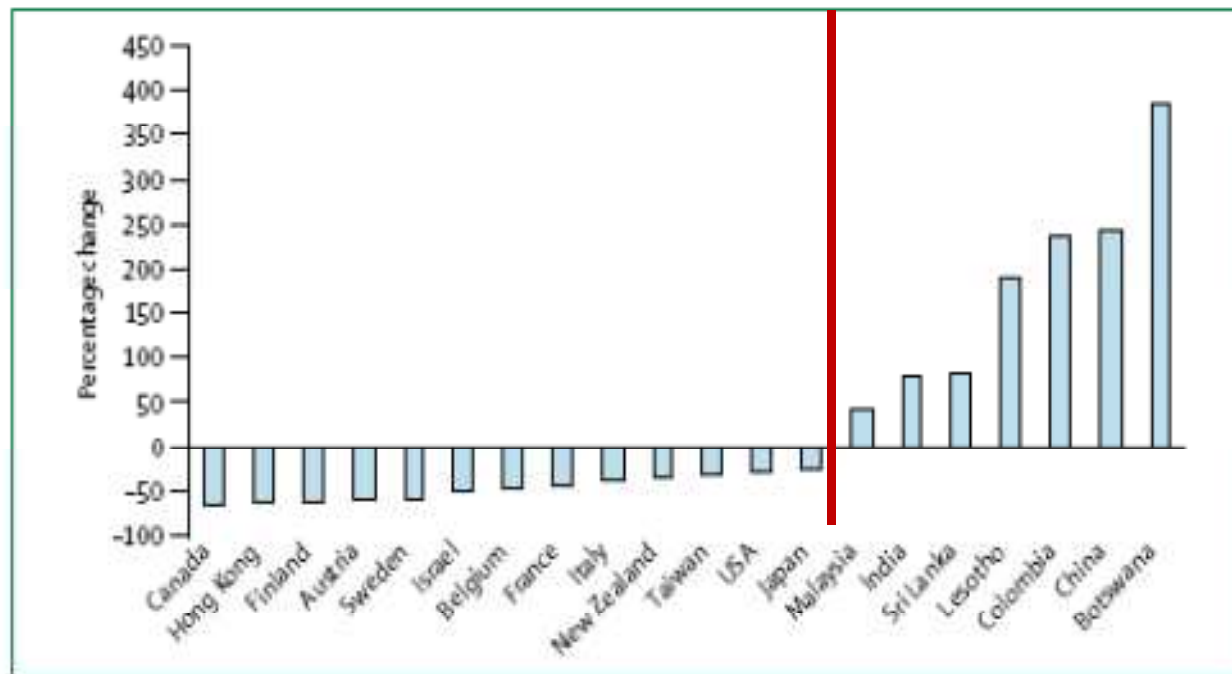
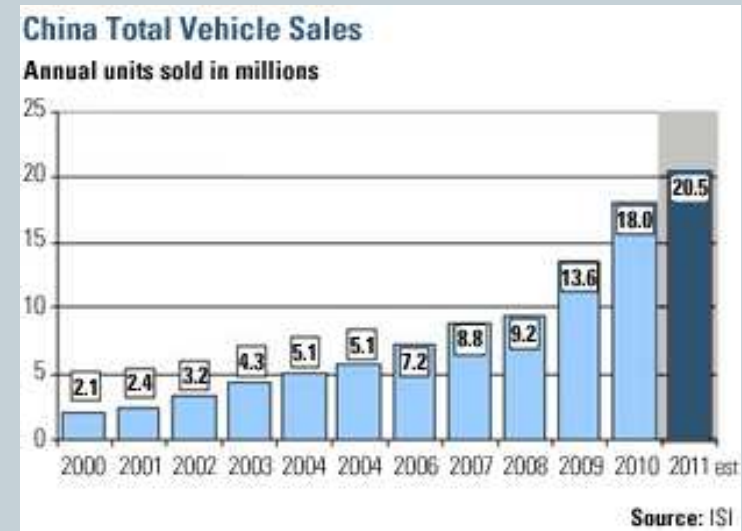


Figure: Percentage change in road-traffic fatality rate (deaths/10 000 people) from 1975 to 1998*

* Adapted from data presented by Kopits and Cropper.⁷

Road traffic injury & Economic growth

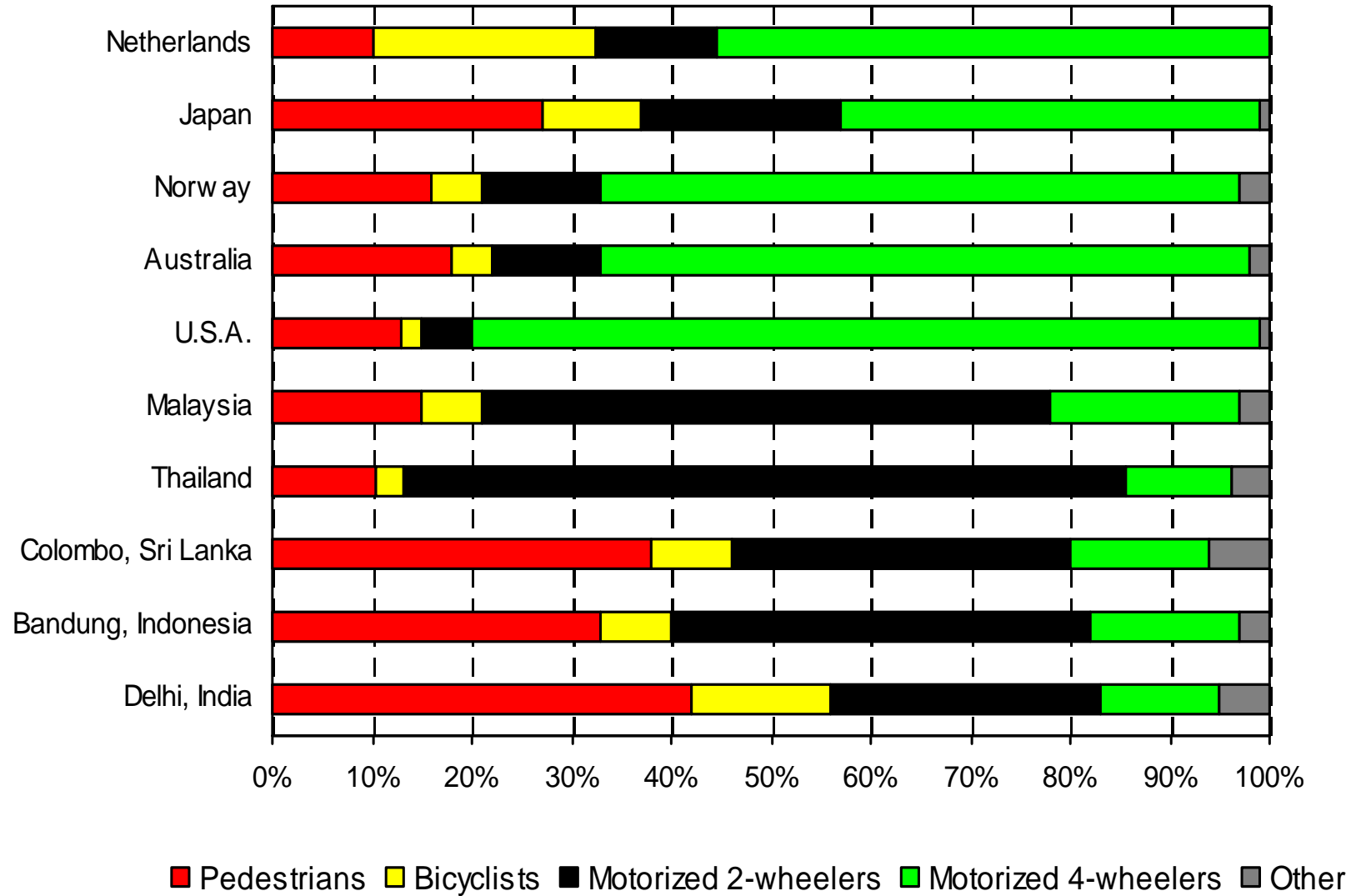
- Rapidity of increase in RTI fatality risk depends on
 - Rate of growth of motorisation
 - Rate of change in fatalities per vehicle
- Over past 25 years
 - In most LMICs, vehicle ownership grew faster than fatalities/vehicle fell
 - Converse occurred in most rich countries



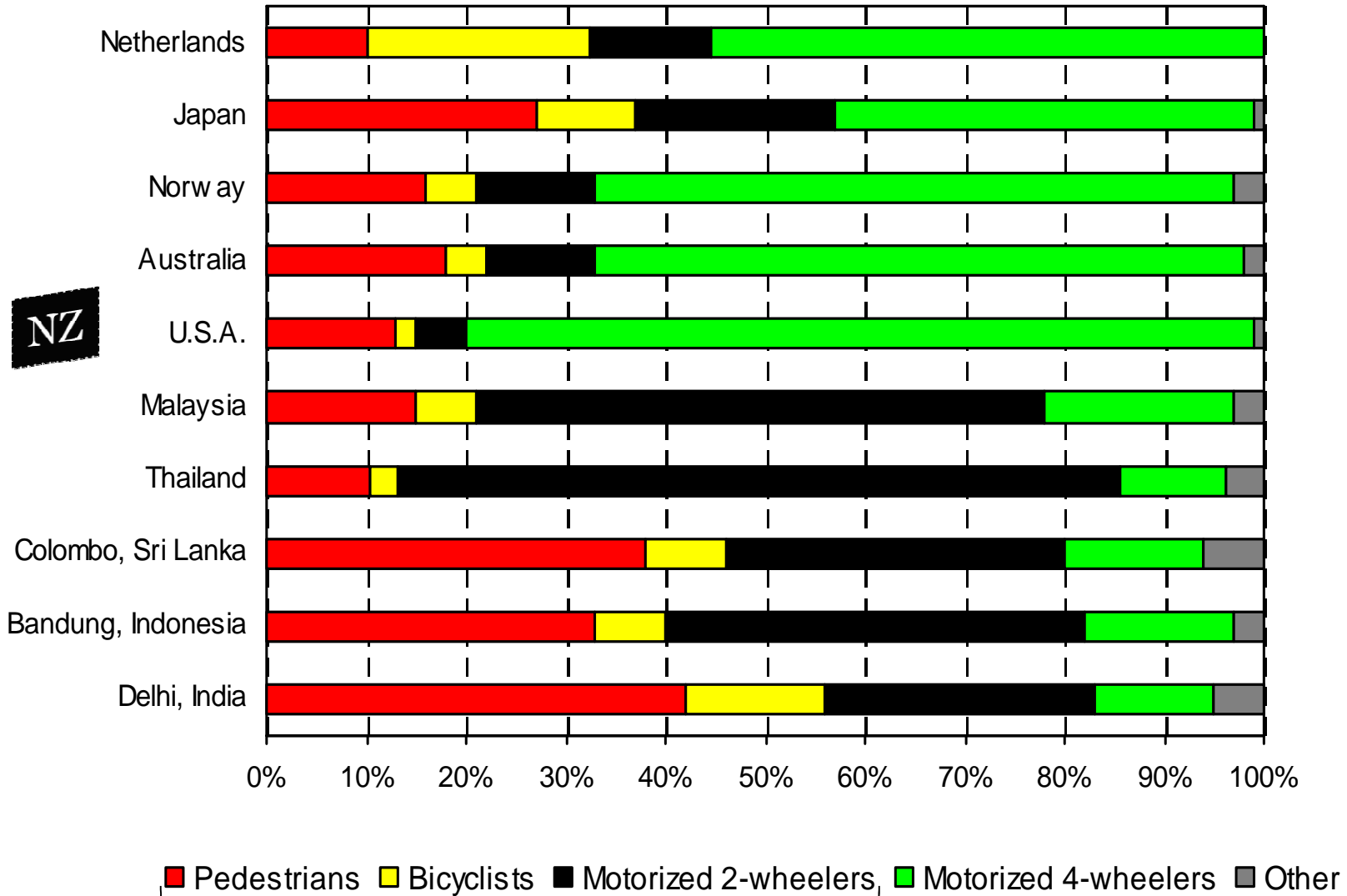


- Who is likely to own a car?
- Which types of road users are at risk of more serious injury?

Proportions of Road Crash Deaths by Type of Road User

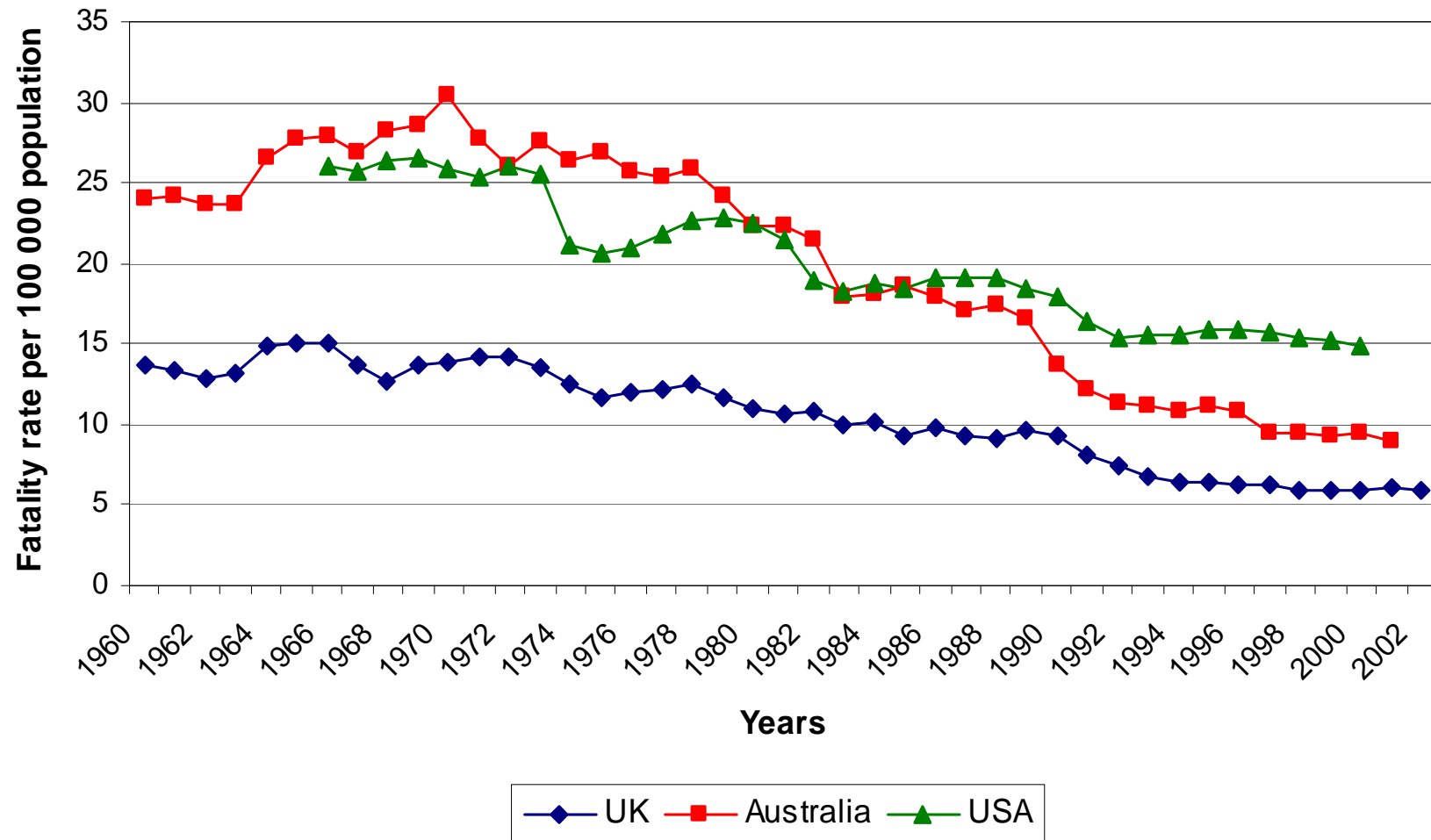


Proportions of Road Crash Deaths by Type of Road User



Vulnerable Road Users

Road traffic crashes can be prevented



Solutions can be adapted in low- and middle-income countries

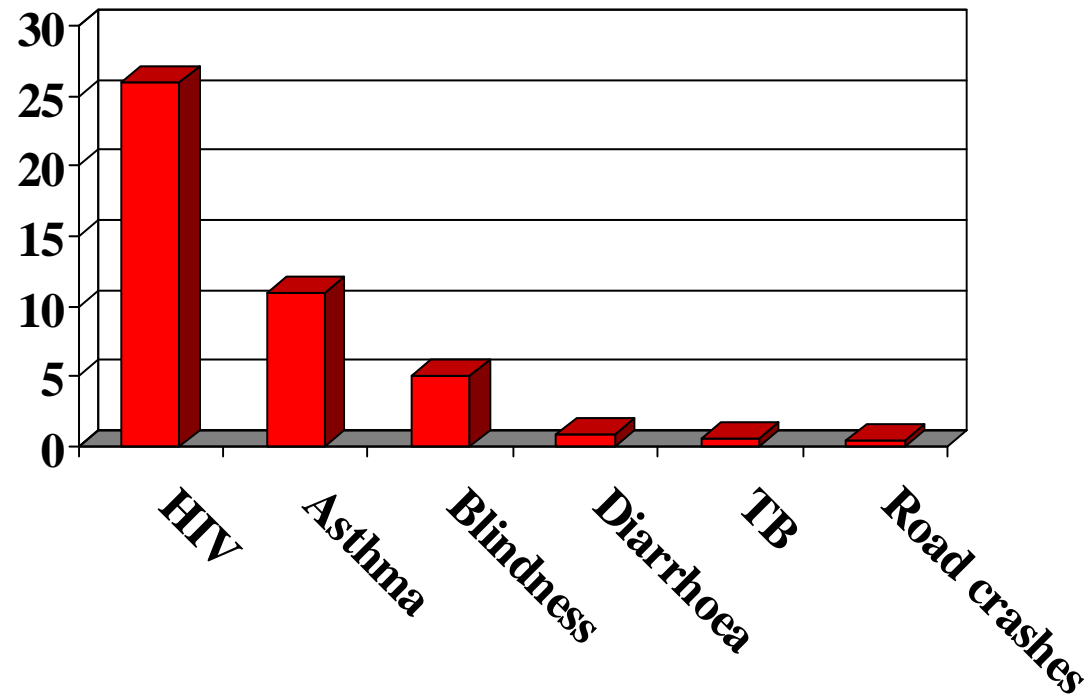
- Speed
- Alcohol
- Seat-belts and child restraints
- Helmets
- Visibility





Dan Chisholm et al, *BMJ* March 2, 2012 (mathematical modelling study):
In sub-Saharan Africa and South East Asia, simultaneous enforcement of combined road safety laws (eg, anti-speeding, drink-driving and motorcycle helmet laws) represents most efficient and cost-effective approach to reducing RTIs.

Research Spending vs. Future DALY Burden



■ Ratio of Research Dollar Spent in 2000 to DALYS lost in 2020

The Pacific at Night



Traffic-Related Injury in the Pacific (TRIP) Project



WELLCOME TRUST - HEALTH RESEARCH
COUNCIL OF NZ



The Pacific at Night

