



The DALY – a brief introduction

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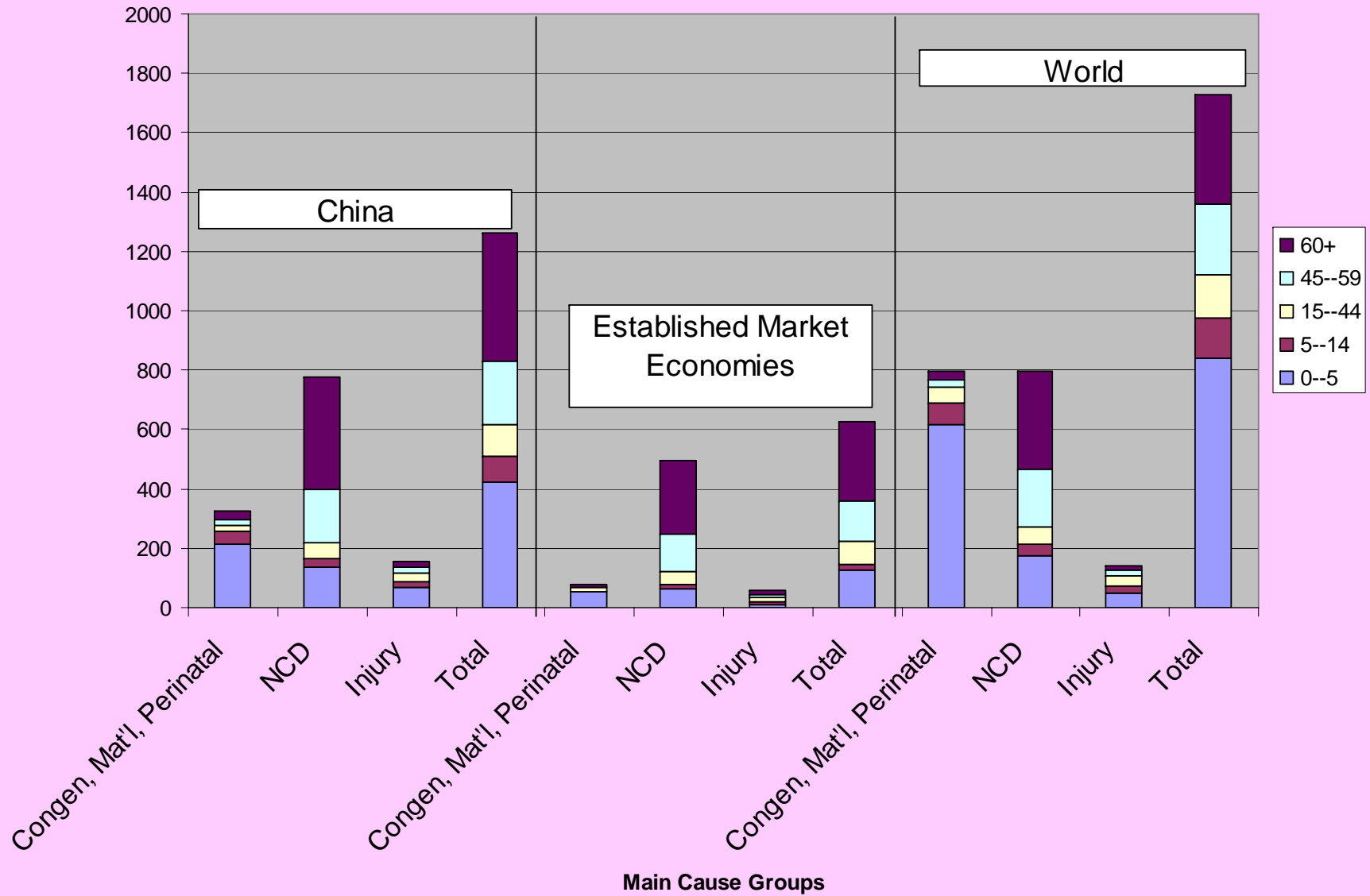
The Disability Adjusted Life Year (DALY)

- A measure of disease burden
 - years of life lost, or lived with disability, due to disease or injury
- A measure of the outcome of health care
 - years of life gained, or years of disability avoided, due to prevention or treatment



Burden of Disease 1990

La Trobe University
DALYs lost per 1000



Taken from World Bank 1993



DALYs can be used to estimate

- Total mortality and morbidity
- Diagnosis-specific disease burden
- Disease burden attributable to a particular risk factor
- Disease burden averted by particular treatments or preventions
- Costs (\$) and benefits (DALYs averted) of particular interventions



The DALY is based on the PYLL (potential years of life lost)

- With disability weightings (from 0-1) for years lived with disability
- With a reduced weight given to years lived far in the future (discount of 3% per annum into the future)
- With greater weight given to years lived in the age group 15-40



Two elements of the DALY

$$\text{DALY} = \text{YLL} + \text{YLD}$$

[disability adjusted life years] =
[years of life lost] + [years lived with
disability]



Years of life lost

- Average age at death
subtracted from
- Average life expectancy (of a person of that age)



DALY is based on *incidence*, the events taking place in one year

- DALY as measure of burden of disease
 - the burden consequent upon the events (incident diseases) of that year
- DALY as measure of *outcome*
 - the burden of disease avoided as a consequence of treatment and prevention in that year



Years lived with disability

- Life expectancy of person with disability
multiplied by
- Weighting factor (0-1) representing the
burden of disability
- $YLD = LE \times DW$



Devising disability weights

- Establish reference weights (standards to judge other conditions)
- Document the disease pathways and health states associated with each condition
- Determine the disability weights for each health state

The costs and effectiveness of health interventions vary greatly.

Figure 3.2 Benefits and costs of forty-seven health interventions

