

# Delivering a Population impact from clinical interventions

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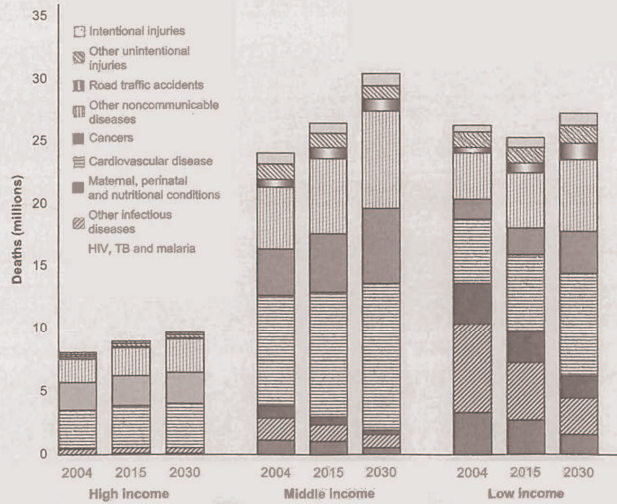
WPRO, WHO

Hong Kong University Department of Nursing Studies  
Workshop 23/05/08

## Overview of Presentation

- The Chronic Disease Burden
- Population and Targeted approaches
- 3 Interventions with huge potential
- Characteristics required for effective chronic disease management

PROJECTED DEATHS BY CAUSE FOR HIGH-, MIDDLE- AND LOW-INCOME COUNTRIES

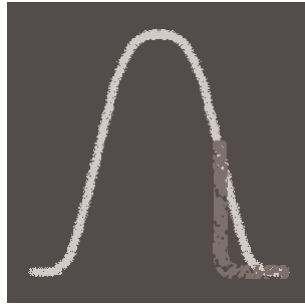


LEADING CAUSES OF DEATH, 2004 AND 2030 COMPARED

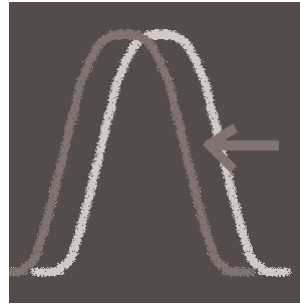
2004			2030		
Disease or Injury	Deaths (%)	Rank	Rank	Deaths (%)	Disease or injury
Ischaemic heart disease	12.2	1	1	14.2	Ischaemic heart disease
Cerebrovascular disease	9.7	2	2	12.1	Cerebrovascular disease
Lower respiratory infections	7.0	3	3	8.6	Chronic obstructive pulmonary disease
Chronic obstructive pulmonary disease	5.1	4	4	3.8	Lower respiratory infections
Diarrhoeal diseases	3.6	5	5	3.6	Road traffic accidents
HIV/AIDS	3.5	8	6	3.4	Trachea, bronchus, lung cancers
Tuberculosis	2.5	7	7	3.3	Diabetes mellitus
Trachea, bronchus, lung cancers	2.3	8	8	2.1	Hypertensive heart disease
Road traffic accidents	2.2	9	9	1.9	Stomach cancer
Prematurity and low birth weight	2.0	10	10	1.8	HIV/AIDS
Neonatal infections and other*	1.9	11	11	1.6	Nephritis and nephrosis
Diabetes mellitus	1.9	12	12	1.5	Self-inflicted injuries
Malaria	1.7	13	13	1.4	Liver cancer
Hypertensive heart disease	1.7	14	14	1.4	Colon and rectum cancers
Birth asphyxia and birth trauma	1.5	15	15	1.3	Oesophagus cancer
Self-inflicted injuries	1.4	16	16	1.2	Violence
Stomach cancer	1.4	17	17	1.2	Alzheimer and other dementias
Cirrhosis of the liver	1.3	18	18	1.2	Cirrhosis of the liver
Nephritis and nephrosis	1.3	19	19	1.1	Breast cancer
Colon and rectum cancers	1.1	20	20	1.0	Tuberculosis
Violence	1.0	22	21	1.0	Neonatal infections and other*
Breast cancer	0.9	23	22	0.9	Prematurity and low birth weight
Oesophagus cancer	0.9	24	23	0.9	Diarrhoeal diseases
Alzheimer and other dementias	0.8	25	29	0.7	Birth asphyxia and birth trauma
			41	0.4	Malaria

\* Comprises severe neonatal infections and other, noninfectious causes arising in the perinatal period.

## What To Do: Prevention High Risk & Population Approaches

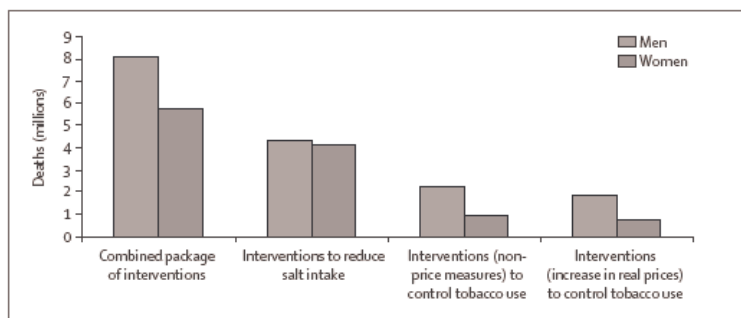


**Truncate high risk end of exposure distribution (e.g. organise an obesity clinic). Clinical approach to disease prevention.**



**Reduce a small amount of risk in a large number of people (e.g. reduce fat a little in fast-food outlets). Lifestyle change plus environmental approach.**

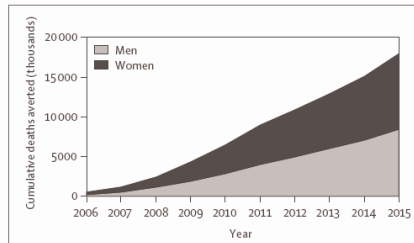
## Population Interventions: Salt Reduction and Tobacco Control



**Over 10 years, 13.8 million deaths averted:**

- 8.3 million from salt reduction
- 5.5 million from tobacco control
- 75.6% cardiovascular disease; 15.4% respiratory disease; 8.7% cancer

# Health Effects of Multi-drug Treatment



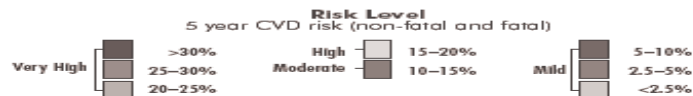
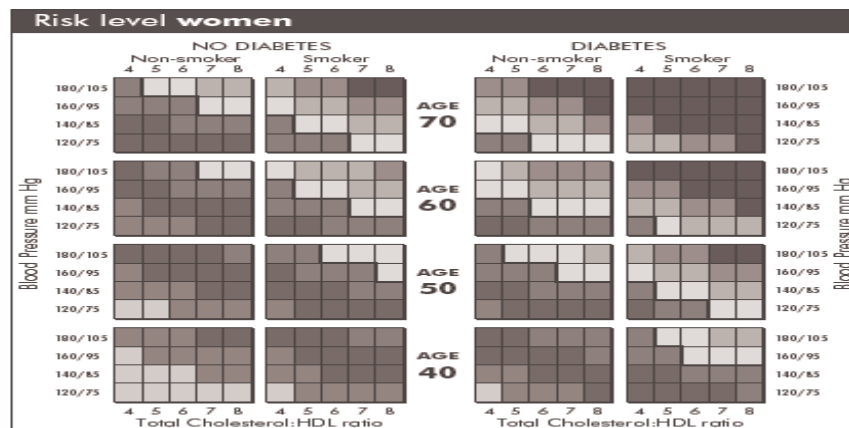
Age (years)	Person-years of treatment (thousands)		Number of deaths averted (thousands)	
	Men	Women	Men	Women
40-49	73 024	41 560	515	207
50-59	111 167	133 213	1 651	1 365
60-69	123 900	152 660	3 092	3 139
70-79	94 400	127 900	3 159	4 780
All ages	402 490	455 333	8 417	9 491

Table 5: Person-years of treatment and number of deaths averted by age and sex, 2006-15

Cumulative deaths averted: 17.9 million (95% CI: 7.4 – 25.7) over 10 years

- ~ 1/5<sup>th</sup> of all cardiovascular disease deaths for this period
- 56% of deaths prevented would be in people < 70 years old
- 54% of deaths averted from heart disease; 46% from stroke
- Largest absolute number of deaths averted would occur in India (5.8 million), China (4.8 million) and Russia (1.7 million)

# CVD Risk Assessment



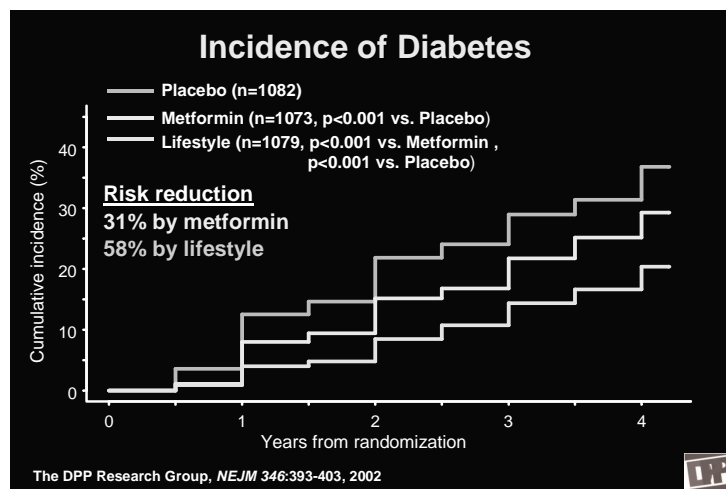
## How to prevent 10 Million dying from NCDs in WPRO\*

Tobacco Control	1.5m
Salt reduction (15% red)	2.4m
Risk approach through PHC	5+m

At an average cost of \$1.10 per head per year.

\*Extrapolated from Global Figures Lancet 2007 (Mid and low income countries only)

## Prevention Works: Reducing Diabetes Incidence



Requirements for Chronic Care Management that  
is effective at the population level.

- People and Population centred
- Accessible
- Affordable; drugs, nil or affordable user payments
- Appropriate use of screening and interventions, high risk approach
- Teams, with key role of nursing
- Equity focused

Thank you