Community-based Intervention for Prevention and Control of CVD

Dongbo Fu

School of Public Health, Fudan University, Shanghai, China

Tutors

Dr. Ruitai Shao

WHO/NPH/NCP

Dr. Mark van Ommeren

Department of Mental Health and Substance Dependence,WHO

Outline

Introduction

Objectives

Methods

Findings

Conclusions & Recommendations

Introduction

- **CVD is the leading cause of death worldwide**

- **Of the estimated 16.6 million deaths attributed to CVD worldwide, 80% is in developing countries**

- **Developing countries need to define and implement preventive interventions for CVD**

Objectives

- to identify evidence-based, cost-effective community-based interventions for prevention and control of CVD;

- to form recommendations for their appropriate use in the developing countries.

Methods

- **literature review**

MEDLINE 1966 to March 2003

searches of reference list of papers

hand searching

Findings

1. Community-based interventions for primary prevention of CVD

2. Community-based Interventions for secondary prevention of CVD

Findings

1. primary prevention

- **High-Risk versus Population Approach**
- **Single Cardiovascular Risk-Management versus Comprehensive Cardiovascular Risk-Management**
- **Individual behavior Change versus Policy and Environmental changes**

North Karelia Project(Finland)

Stanford Three-Community Study(USA)

Stanford Five-City Project(USA)

Minnesota Heart Health Program(USA)

Swiss National Research Programme

German Cardiovascular Prevention Study

Kilkenny Health Project(Ireland)

Comprehensive Cardiovascular Community Control Program(CCCCP)(WHO/ EURO)

CINDI(EURO),CARMEN(AMRO)

Interhealth(WHO headquarter)

Risk factor changes in North Karelia 1972-1997
(30-59 Years)

Year	Men			Women		
	Smoking %	S-Cholesterol mmol/l	Blood Pressure mmHg	Smoking %	S-Cholesterol mmol/l	Blood Pressure mmHg
1972	**52**	**6.9**	**149/92**	10	**6.8**	**153/92**
1977	**44**	**6.5**	143/89	10	6.4	141/86
1982	**36**	**6.3**	145/87	15	6.1	141/85
1987	**36**	**6.3**	144/88	16	6.0	139/83
1992	**32**	**5.9**	142/85	17	5.6	135/80
1997	**31**	**5.7**	**140/88**	16	**5.6**	**133/80**

Puska Public health Medicine 2002

Age-adjusted mortality rates of coronary heart disease in North Karelia and the whole of Finland among males aged 35-64 years from 1969 to 1995.

Mortality/100 000 population
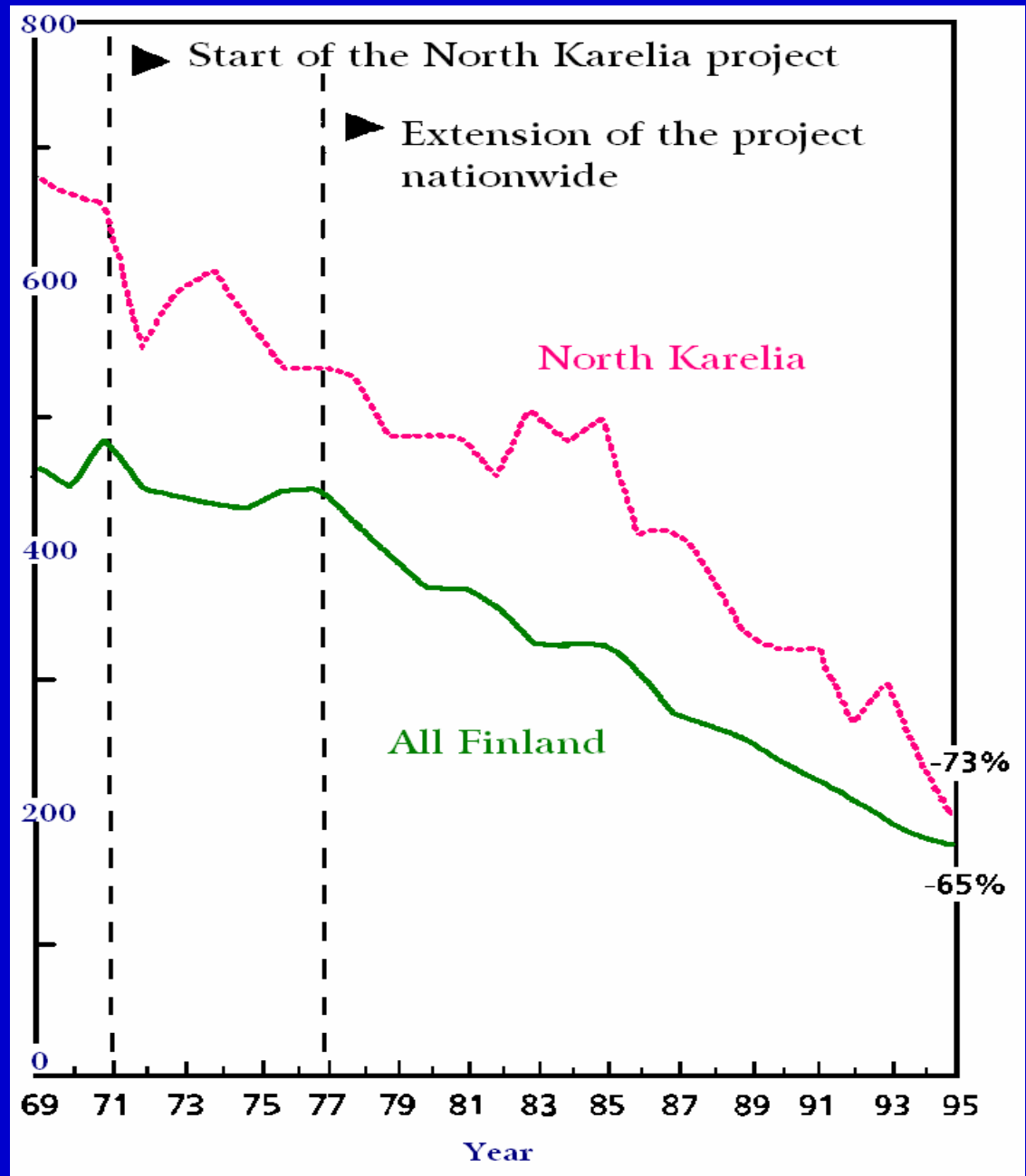
Findings

2. secondary prevention

- **Evidence**
  – lifestyle changes such as smoking cessation, can significantly contribute to reduction in CVD mortality in people with established CVD and their recurrence.

- **Indicators of quality of life for CVD patients**

commonly used indicators for assessment of QOL in patients with CVD

Psychological

Social interactions

Symptom relief

Functional capacity and role activities

Economic

Life satisfaction

Perceptions of general health status or well-being

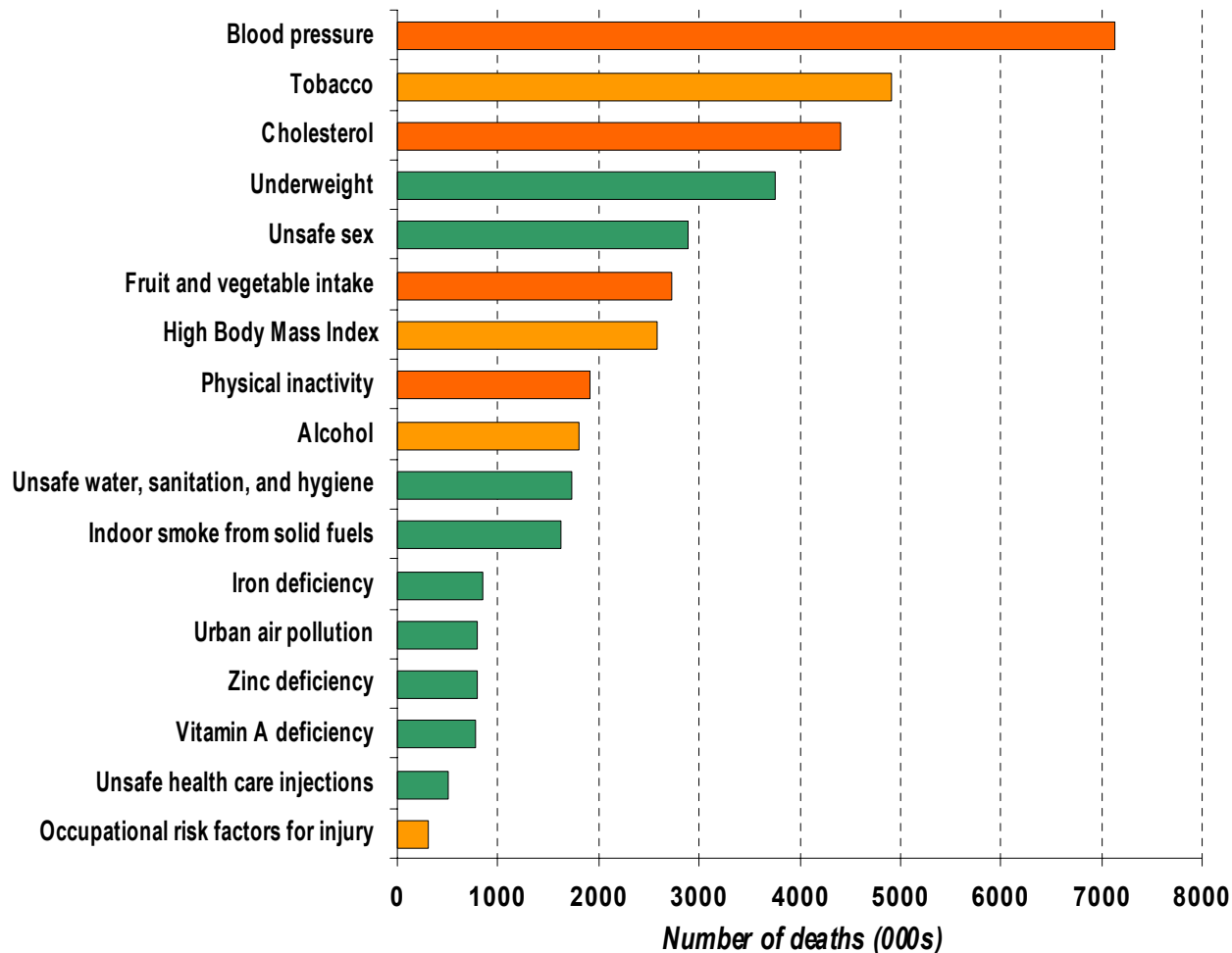Sleep disturbance

Side effects

Conclusions & Recommendations

1. Both primary and secondary prevention are needed

2. Community-based primary prevention should

-- target common lifestyle risk factors using comprehensive risk-management strategies

World
Deaths in 2000 attributable to selected leading risk factors

Risk factor	Number of deaths (000s)
Blood pressure	~7100
Tobacco	~4900
Cholesterol	~4400
Underweight	~3700
Unsafe sex	~2900
Fruit and vegetable intake	~2700
High Body Mass Index	~2600
Physical inactivity	~1900
Alcohol	~1800
Unsafe water, sanitation, and hygiene	~1700
Indoor smoke from solid fuels	~1600
Iron deficiency	~850
Urban air pollution	~800
Zinc deficiency	~800
Vitamin A deficiency	~800
Unsafe health care injections	~500
Occupational risk factors for injury	~300

Number of deaths (000s)

Conclusions & Recommendations

--combination of population approach and high-risk approach

Strategies aimed at diet and physical activity of the population shift the blood pressure distribution of the whole population to the left

Present distribution

Optimal distribution

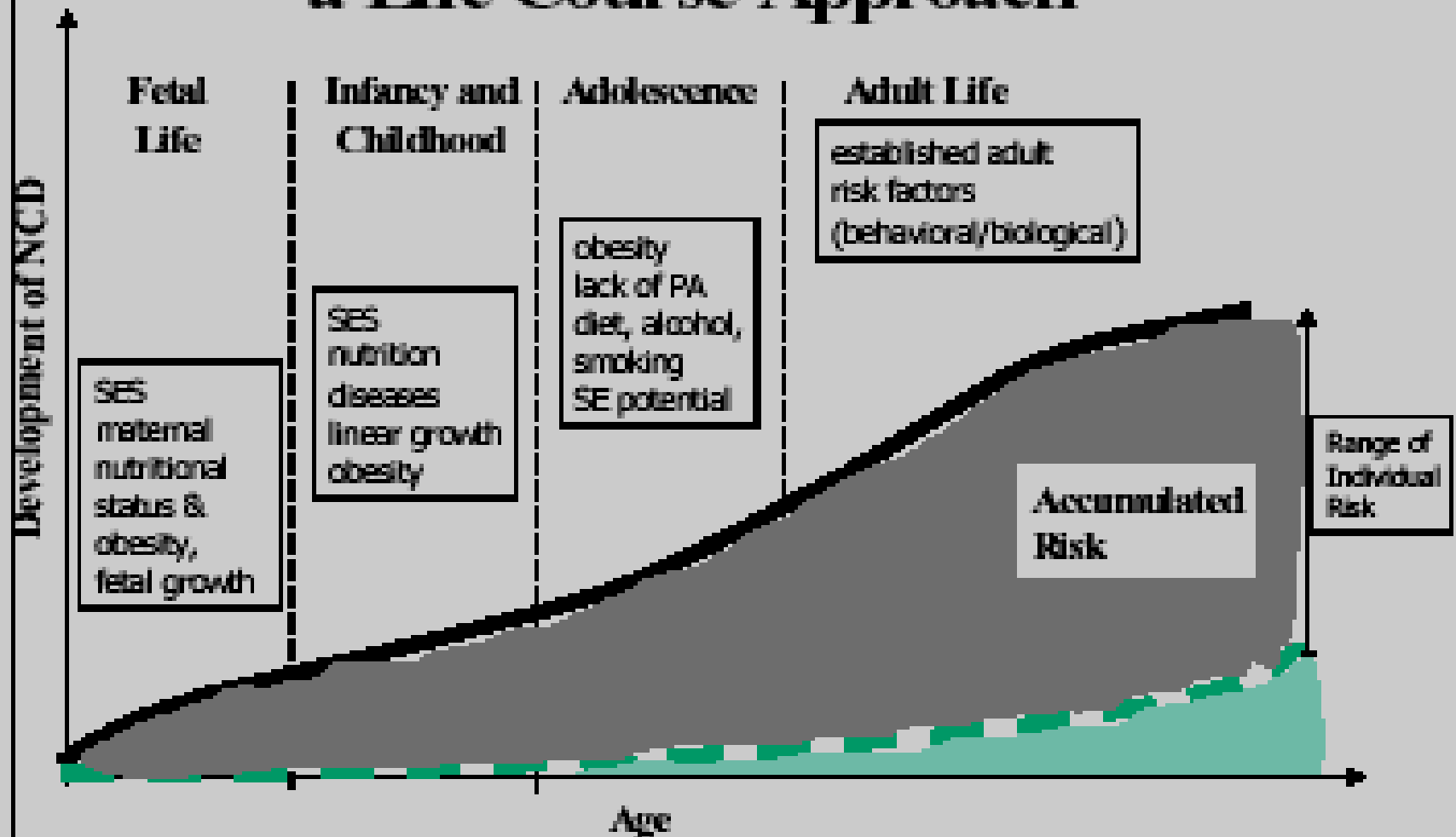High-risk strategy focuses on about 25% of the population
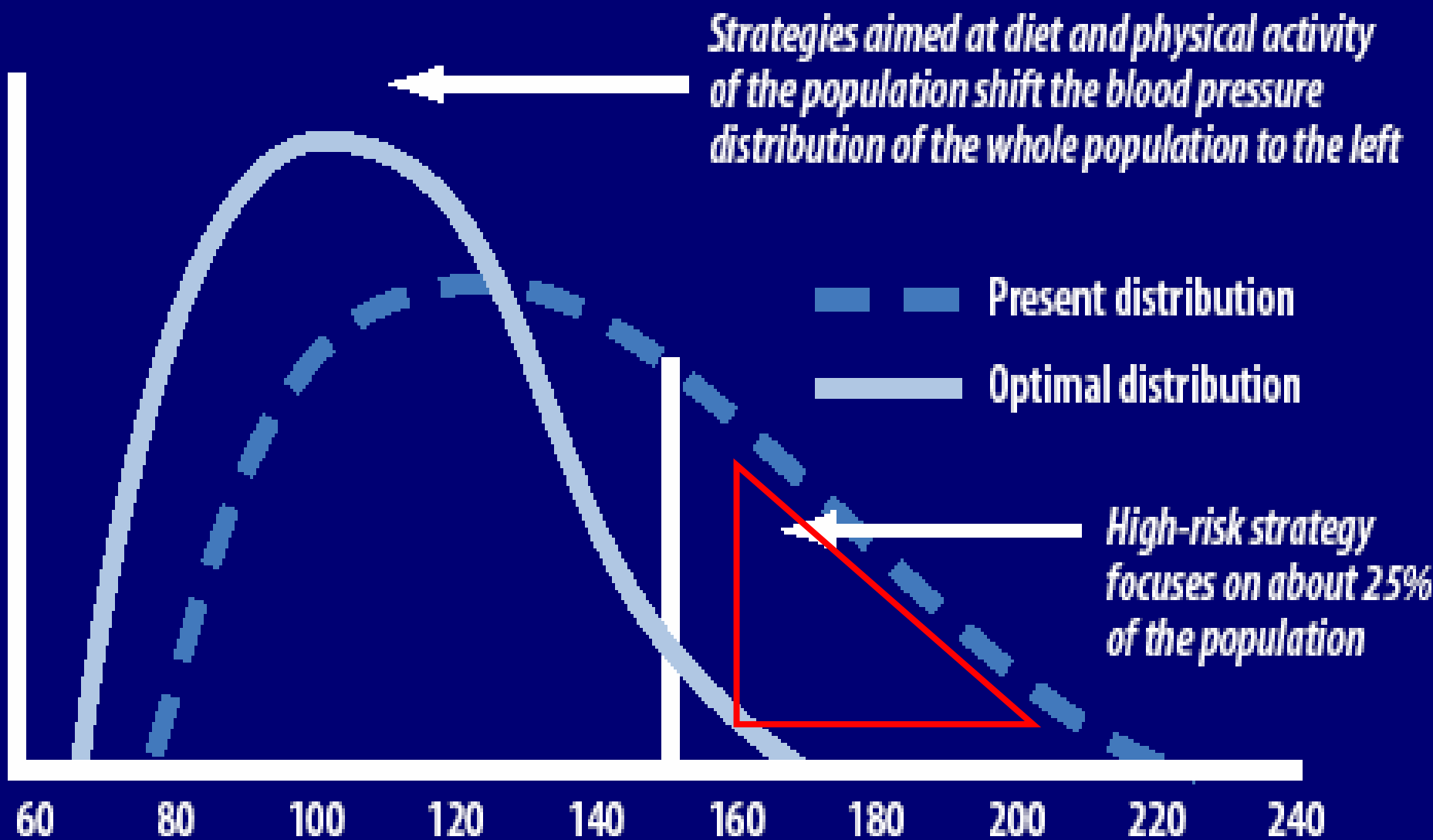
Source:Integrated management of cardiovascular risk, WHO

Conclusions & Recommendations

--combination with population approach and high-risk approach

--emphasize policy and environmental change, community organization

--life course perspectives

Scope for NCD Prevention a Life Course Approach

Fetal Life

SES maternal nutritional status & obesity, fetal growth

Infancy and Childhood

SES nutrition diseases linear growth obesity

Adolescence

obesity lack of PA diet, alcohol, smoking SE potential

Adult Life

established adult risk factors (behavioral/biological)

Accumulated Risk

Range of Individual Risk

Development of NCD

Age

Source: WHO, Ageing and Life Course, NMH/NPH

Thank you