



Prevention and Control of Selected Non-Communicable Diseases in Sri Lanka:

Policy Options and Action

Health, Nutrition and Population Discussion Paper

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Non-Communicable Diseases in Sri Lanka:
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Introduction

Sri Lanka, now a middle income country, is already at the advanced stages of aging and disease transitions. This is evident from the fact that the life expectancy of the population has increased along with an increase of the Non Communicable Diseases burden over the last decades. Strategic approaches adopted to improve the quality of health services for Non communicable disease affected persons will enable healthier aging and reduce loss of productivity among the working age group population in Sri Lanka. This report aims to stimulate policy dialogue for control and prevention of NCDs and to provide an evidence base for selected Non Communicable diseases to facilitate decisions required to improve the quality of NCD services to the people of Sri Lanka. While the definition of NCDs include a group of diseases related to cardiovascular disease, diabetes mellitus, cancer, asthma and other chronic obstructive pulmonary diseases, mental health and injuries and violence; this report has selected heart diseases, diabetes mellitus, asthma and some information on cancer for this analysis.



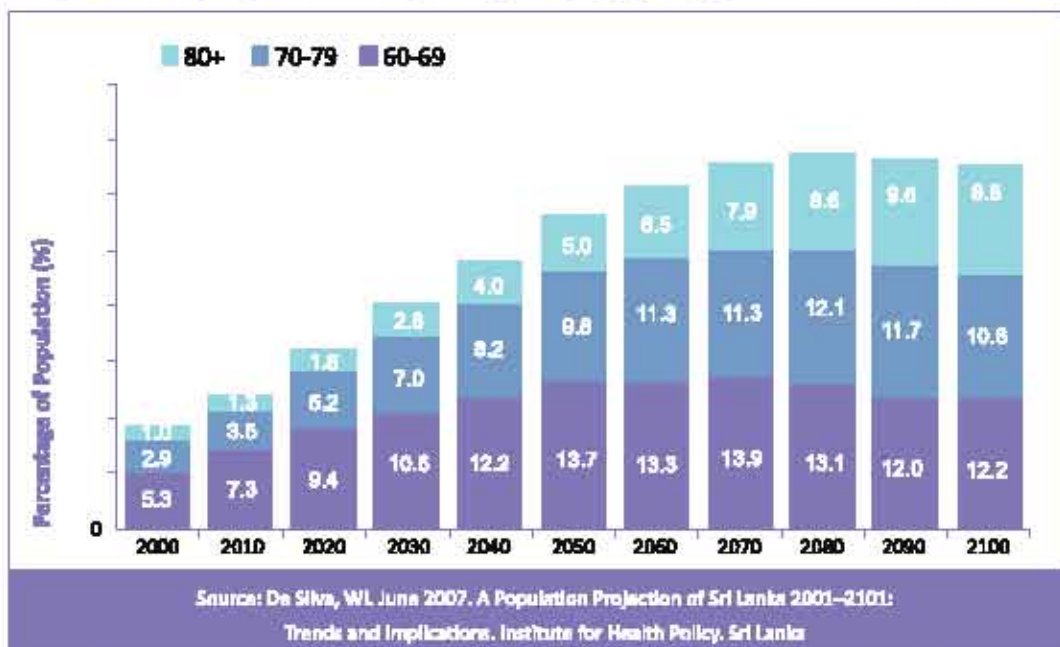
**Non-communicable Diseases (NCDs)
The Emerging Disease Burden**



Population aging is well under way

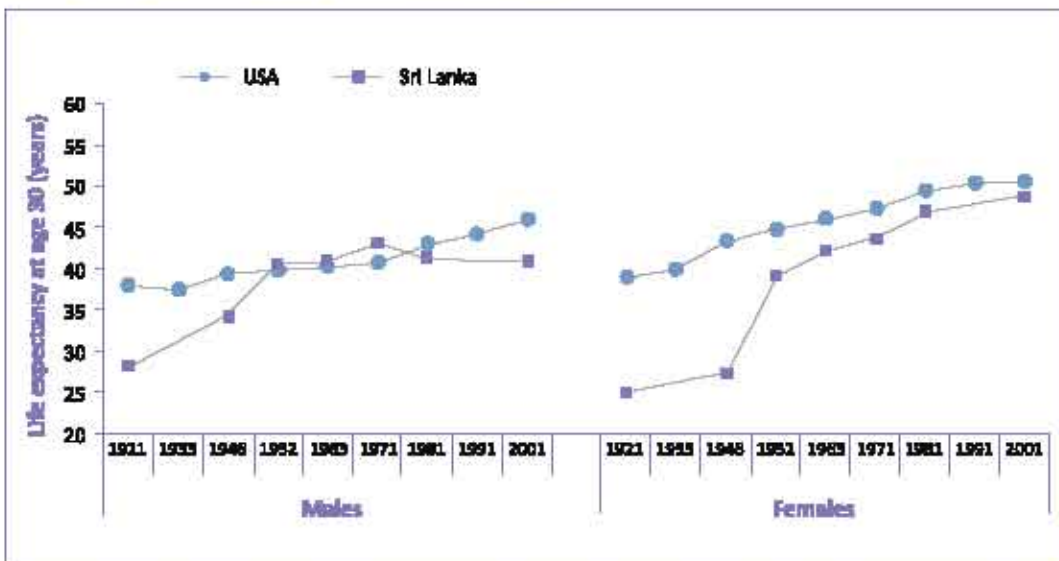
The Population aging (demographic transition) is now well under way with life expectancy at 74 years and the proportion of people 60 years and older is expected to double from 12.1% in 2010 to 24.4% in 2040.

Proportion of people in older (> 60 years) age groups, Sri Lanka 2001–2100



Life expectancy gains for men are far less than for women. Females have made steady gains since 1920 while gains among males have stalled since 1980.

Changes in life expectancy at 30 years of age, Sri Lanka and the United States, 1921-2001



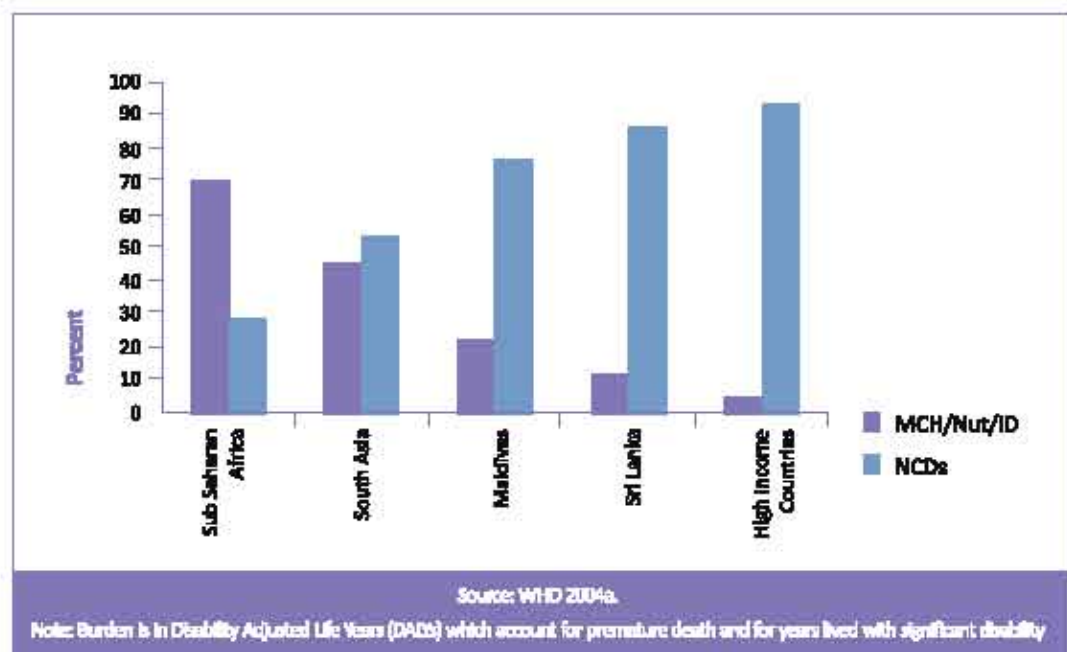
Source: Sri Lanka from Sarkar (1951), Department of Census and Statistics (1970); De Silva (2007); and Institute for Health Policy's computations from the same sources; the United States from Bell and Miller (2005)



A shift in disease burden is also under way

NCDs now account for approximately 85% of the disease burden epidemiologic transition. The disease burden is shifting from maternal and child health and Infectious diseases towards NCDs (acute and chronic NCDs).

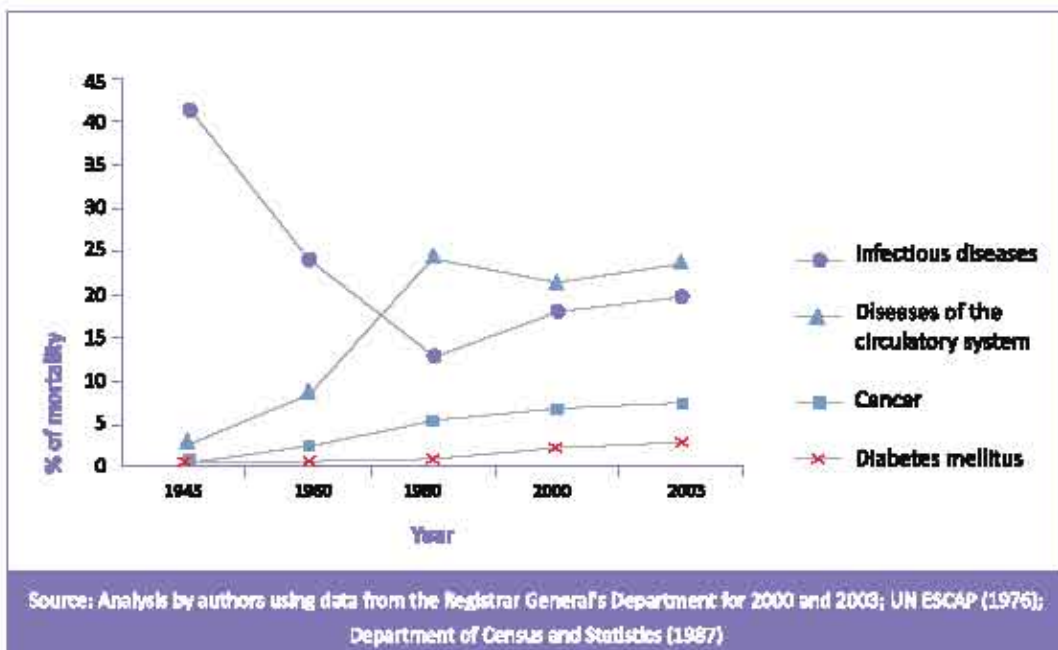
Disease burden in selected regions and countries, 2004



- During the past half century the proportion of deaths due to circulatory disease (for example, heart disease, stroke) increased from 3% to 24% while that due to infectious diseases decreased from 24 % to 12%. Diabetes and cancer are also increasing.



Proportion of deaths due to major causes, Sri Lanka 1945-2003



- The NCD burden increases the need for long-term care. This care is especially needed for the elderly as they suffer more from NCDs, Similarly, NCDs also affect labor-force participation especially by older working-age adults. Both these effects have a significant impact, the former through higher costs of health care and the latter through productivity losses.

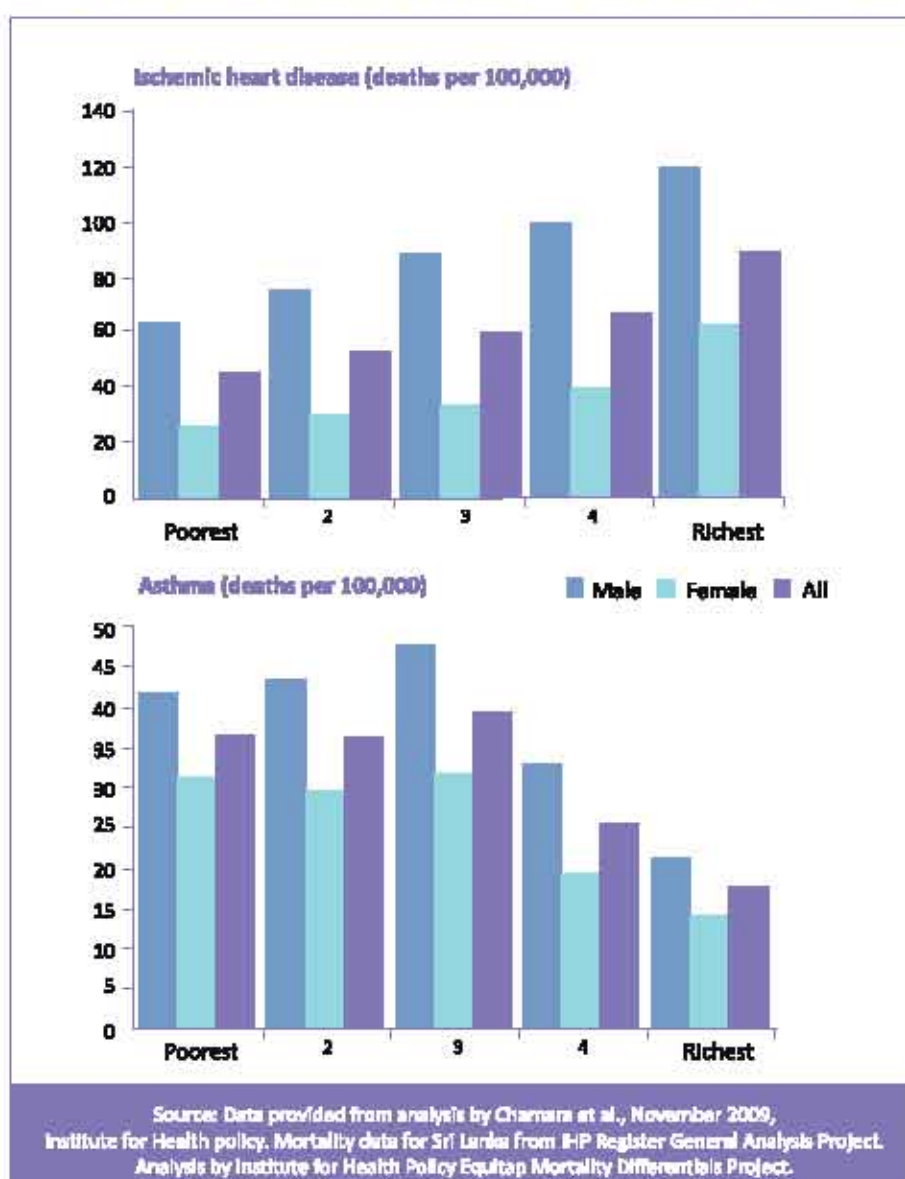
**NCD burden is shifting
to the poor**





- In developed countries, NCDs disproportionately affect the poor. Current evidence suggests that in Sri Lanka the rich suffer more from some NCDs than the poor, but this pattern is changing and shifting towards the poor.
- In Sri Lanka, heart disease deaths have tended to be higher among the rich while asthma deaths are highest among the poorer population groups. These high asthma death rates may, in part, be due to poor access to treatment.

Mortality from IHD and asthma by SES quintiles, Sri Lanka, 1999–2003



Prevalence of major NCD risk factors is expected to increase

- Obesity, which is more common in women and in urban areas and has been increasing for the past 20 years, increases the risk of heart disease.
- Tobacco use is almost exclusively found among men (32% for men and 2% for women) and is higher among the poor. Tobacco use increases the risk of heart disease, chronic respiratory illness and lung cancer.





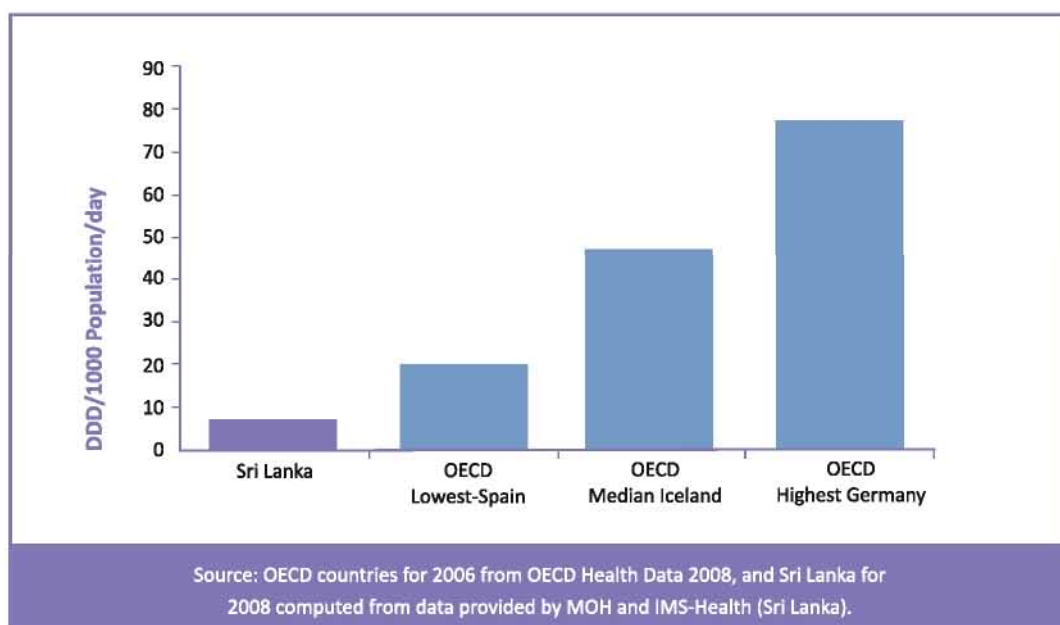


Health services for NCDs

Health services for NCDs are mostly delivered at higher-level public facilities, and need significant improvements

- The public sector provides 50% of outpatient care and 90% of inpatient care.
- Bed occupancy rates are 56–83% in higher-level facilities and 47% in lower-level facilities.
- Approximately 66% of clinic-based services (mainly for chronic NCDs) are provided through higher level facilities, though most of it could be handled at lower level facilities at less cost, if the latter could be equipped for it.
- Primary health care facilities are not managing the complete spectrum of chronic NCDs.
- Essential clinical investigation and medical equipment necessary to diagnose and manage NCDs are often not available at primary and secondary care levels.

Consumption of Beta blockers (as an NCD medicine) in defined daily dose units (DDD), Sri Lanka and OECD countries



- Low availability of essential NCD medications is a problem at all levels but most severe at lower levels. The short supply of key medication and its impact is confirmed by the overall rates of essential NCD medicine use in Sri Lanka being at the lower end of the range among countries with comparable NCD burden patterns. One explanation for this is the low volume of essential NCD medicines available in the public sector. An example can be seen in the graph below, comparing Sri Lanka's consumption of Beta blockers (drugs used in heart disease) with that of other developed countries (instead of OECD).

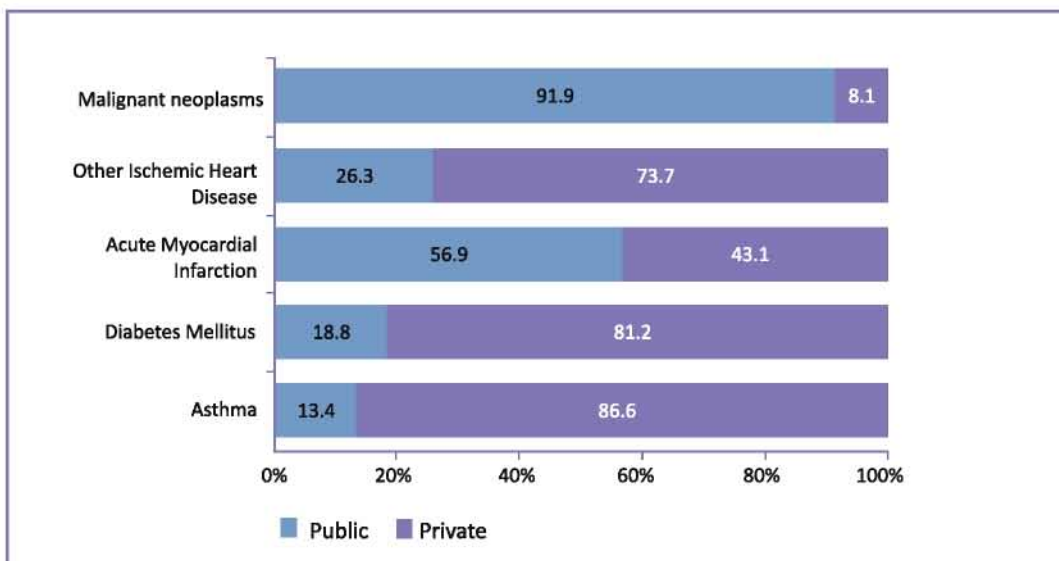
Health spending in Sri Lanka is low

- Total health expenditures increased from 3.5% of GDP in 1995 to 4.0% in 2008, of which the share of public spending declined from 47% to 43%. These overall expenditures are less than expected for the country's level of national income.

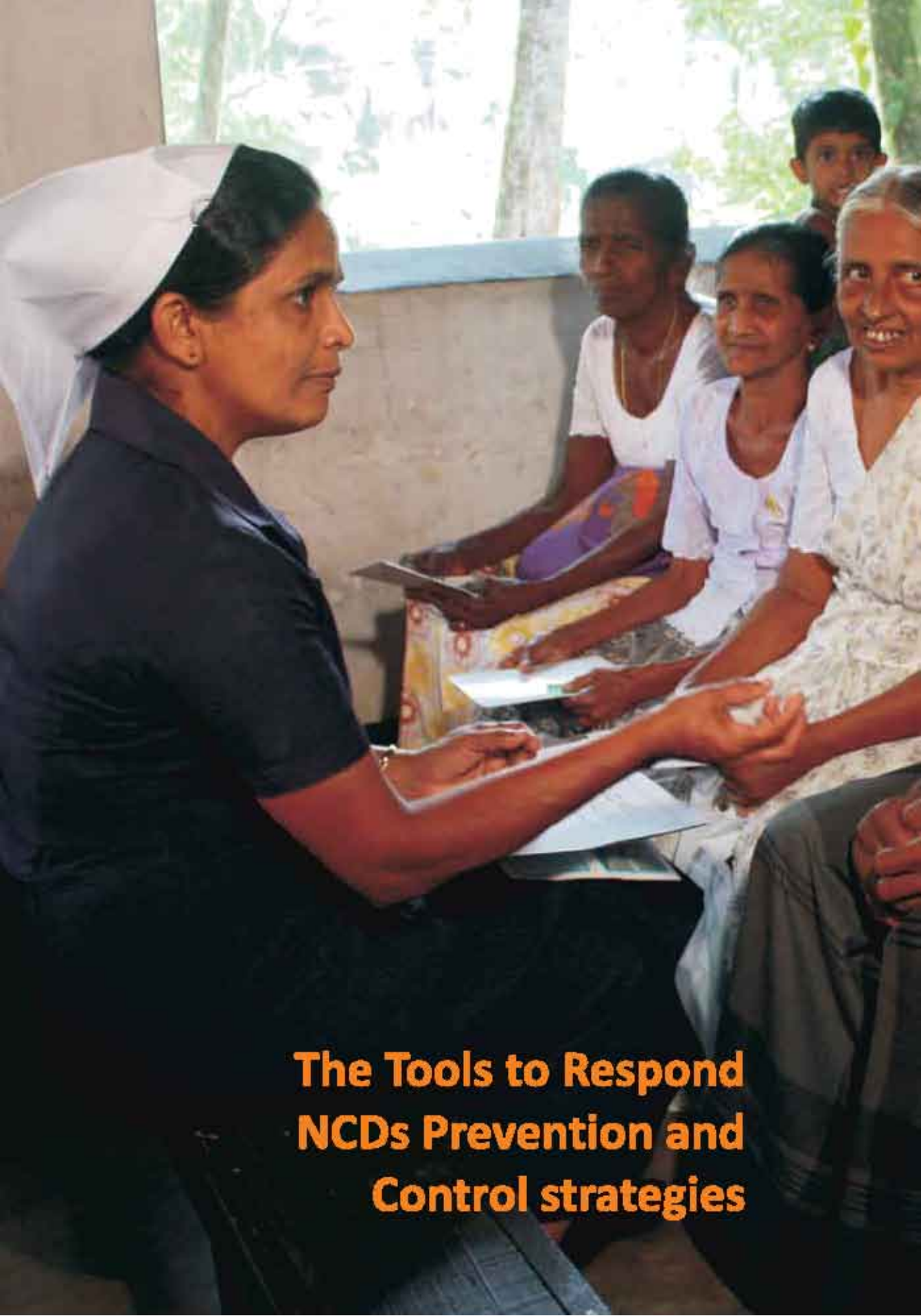
NCD care is increasingly financed by out-of-pocket spending

- The expenditures for treatment of cancers and acute heart attacks in 2005 were predominantly publicly financed (92 percent and 57 percent from public sources, respectively) while those for diabetes, asthma, and heart disease were predominantly privately financed (19 percent, 13 percent, and 26 percent from public sources, respectively). Private expenditures are mainly out of pocket.
- For cardiovascular disease, diabetes, and asthma, about half the out-of-pocket expenditures are for outpatient care and drugs.

Expenditures on major NCDs, by public and private sources (%), Sri Lanka 2005



Source: Computed from estimates of Institute for Health Policy Sri Lanka Disease-specific Accounts Project (2005).



**The Tools to Respond
NCDs Prevention and
Control strategies**



NCD interventions are cost effective

- There are cost-effective population-level and clinic-level interventions to prevent and treat NCDs. Population-level interventions might be aimed at changing dietary behaviors.

Selected population-based interventions

Condition	Intervention	Intervention description	Target population	Cost-effectiveness (US\$/DALY)
Coronary artery disease	Legislation	Legislation replacing 2% of dietary trans fat from partial hydrogenation in manufactured foods with polyunsaturated fat, at a cost of US\$0.50 per adult, and assuming a 7% reduction in coronary artery disease	Adults	48
Diabetes, Ischemic heart disease, and stroke	Legislation	Legislated reduction in salt content of manufactured foods and an accompanying public education campaign	All ages	1,937
Tobacco addiction (CVD, chronic respiratory disease, cancer)	Taxation	A 33% price increase due to tobacco taxes to discourage tobacco use, prevent initiation (and subsequent addiction) among youths, increase the likelihood of cessation among current users, reduce relapse among former users and reduce consumption among continuing users	Adolescents and adults	22

Source: Loomisnaryan, Chow and Shahid-Salles, 2006.

Clinic-based actions focusing on individuals could include the control of diabetes, cholesterol, high blood pressure, and screening for cancer.

Selected clinic-based interventions

Condition	Intervention	Target population	Cost-effectiveness (US\$/DALY)
Ischemic heart disease	Aspirin, beta blocker	Adults	688
Heart attack	Aspirin, beta blocker	Adults	14
Heart attack and stroke	Polypill*	Adults	409
Stroke	Aspirin	Adults	149
Diabetes	Foot care in people with high risk ulcers	Adults	Cost saving
Cervical cancer	Cervical cytology screening	Adults	39-81

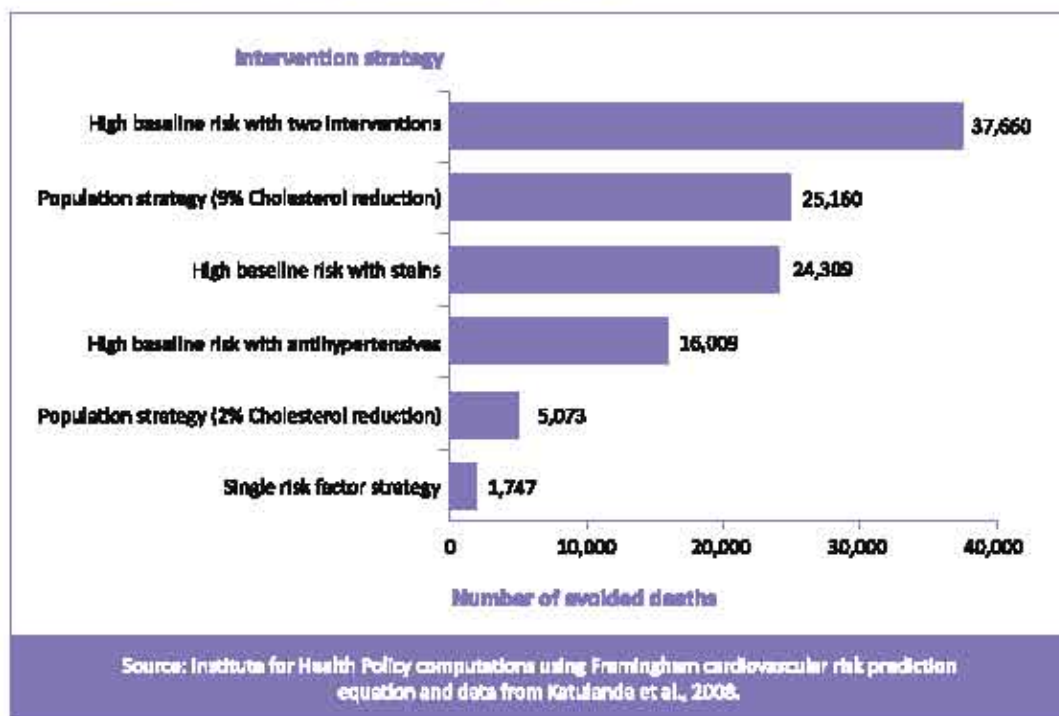
Source: Loomisnaryan, Chow and Shahid-Salles, 2006; Disease Control Priorities In Developing Countries – Second Edition (2006)

Note: Combination treatment with aspirin, beta-blocker, thiazide diuretic, ACE inhibitor and statin, based on 10-year risk of cardiovascular disease

Population and clinic level interventions can significantly reduce deaths caused by heart disease

- **Population-based risk factor reduction and clinic-based interventions (with drugs) can substantially reduce mortality, by up to 23 percent (38,000 deaths) of that otherwise expected.**

Deaths avoided at 10 years under different intervention strategies for heart disease among Sri Lankans, 18–74 years







**Policy Options for
Effective NCD Response**



Program

- Focus on selected diseases such as cardio-vascular disease (CVD), diabetes, asthma, and cancer, in view of their disease burden and availability of cost-effective interventions
- Create an intensified national NCD control program for developing, organizing, and implementing national prevention and control policy with sufficient resources and authority to make it effective, working through existing systems and structures.
- Create a national NCD surveillance system suitable for strategic planning and policy development.

Health Services

- Increase use of lower-level public health facilities for NCD care, by ensuring the availability of acceptable quality of care, especially in terms of NCD drugs and clinical investigation capacity.
- Coordinate preventive and curative care services and align them to provide the spectrum of services required to mount an appropriate response to NCDs.
- Increased access to NCD drugs, especially for the poor by increasing the drug supply through public financing and/or procurement.
- Decentralize health services with the aim to better coordinate care among different facility levels and allow the central ministry to focus on policy, governance, and regulation.



Financing

- Develop health financing strategies that mobilize greater resources for NCD prevention and control (from both public and private sources), mitigate the potentially impoverishing effects of out-of-pocket health expenditures, establish mechanisms for higher contributions to health services from richer population groups, increase efficiencies in the public sector, and raise public financing of NCD drugs targeted to the poorer segments of the population.

Human Resources

- Develop a well-trained and competent health work force to tackle NCDs in adequate numbers and appropriate categories, who are capable of treating, counselling, screening, and providing other preventive NCD services.

Public-Private Partnerships

- Engage the private sector in both financing and provision of NCD care. This could take the form of contracting, franchising, regulating, sharing information, etc. The first step would be to conduct a Private Health Sector Assessment, since it remains poorly understood and its outputs mostly uncharacterized, yet it makes a substantial contribution to service provision for NCDs.

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