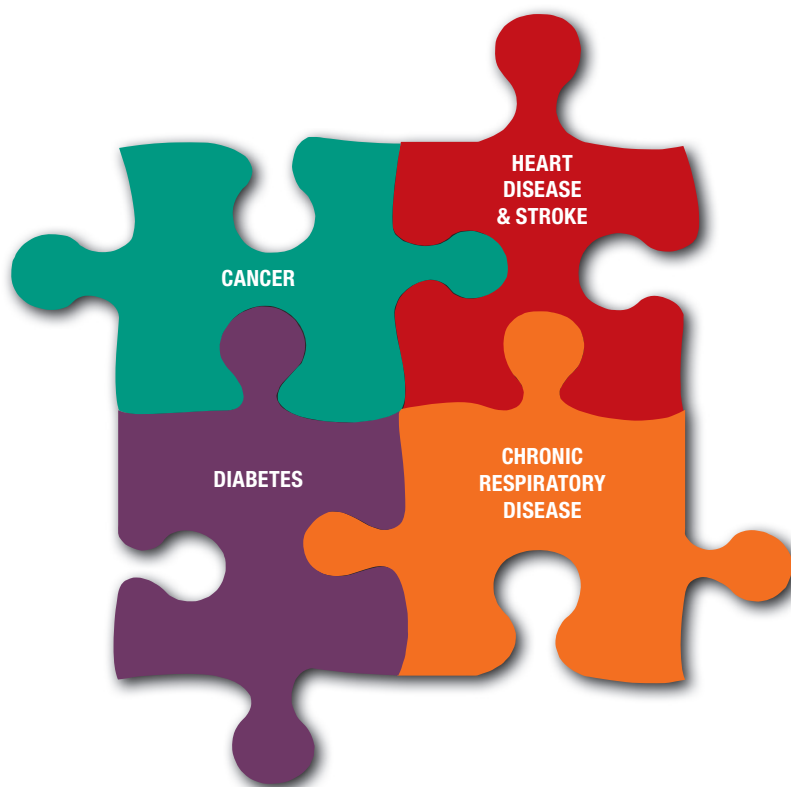


**Package of Essential
Noncommunicable (PEN) Disease
Interventions for
Primary Health Care
in Low-Resource Settings**



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Contents

	Executive Summary	9
1	Conceptual framework: Essential NCD Interventions for strengthening equity and efficiency of health systems in low-resource settings	13
1.1	Prevention and control of noncommunicable diseases (NCDs)	13
1.2	Strengthening health system equity and efficiency through integration of NCDs into primary health care	21
1.3	WHO Package of Essential NCD Interventions (WHO PEN) for primary care in low-resource settings: essential technologies and medicines; risk prediction tools	35
2	Technical and operational outline: Integration of Essential NCD Interventions into primary care in low-resource settings	43
2.1	Planning and implementation at district and national levels	43
2.2	Prevention and management of major NCDs in primary care	55
2.3	Measurement of quality, equity, performance and impact	56
	References	62
	Annex A Cost-effectiveness of interventions	64
	Compact disc (attached to back cover)	
	International Society of Hypertension/World Health Organization (WHO/ISH) risk prediction charts for integrating cardiovascular risk factors and predicting strokes and heart attacks (http://www.who.int/cardiovascular_diseases)	
	List of participants	

The World Health Organization meeting on Package of essential noncommunicable disease interventions for primary health care in low resource settings, was held Geneva, on 1–2 December 2008. A preparatory meeting was held in the previous year at WHO headquarters in Geneva on 22–24 August 2007. The meetings were organized by the Chronic Disease Prevention and Management unit of the department of Chronic Diseases and Health Promotion, Non-communicable Disease and Mental Health cluster, in collaboration with WHO regional offices.

The implementation plan of the Global Strategy for Prevention and Control of NCDs was endorsed by the World Health Assembly in May 2008. The objective 2 of the NCD Action Plan highlights the need to establish national policies and plans for NCD prevention and control. As one of the key components of this objective, WHO is called upon to “provide technical guidance to countries in integrating cost-effective interventions against major NCDs into their health systems”. Furthermore, the Action Plan proposes that Member States “implement and monitor cost-effective approaches for the early detection of cancers, diabetes, hypertension and other cardiovascular risk factors” and “establish standards of health care for common conditions like CVD, cancers, diabetes and chronic respiratory diseases integrating when ever feasible their management into PHC”.

Hence, the objectives of the meeting were to:

- Develop a conceptual framework for a Package of Essential NCD Interventions for strengthening equity and efficiency of primary health care in low-resource settings;
- Identify core technologies, medicines and risk prediction tools;
- Discuss protocols required for implementation of a set of essential NCD interventions;
- Develop a technical and operational outline for integration of essential NCD interventions into primary care and for evaluation of impact.



A multidisciplinary group of international experts in the field of noncommunicable diseases (NCDs), with specific expertise in cardiovascular disease, diabetes, chronic respiratory disease and cancer contributed to them and for the peer review of this report. Collectively, the expertise of the group covered general medicine, cardiology, neurology, diabetes, oncology, respiratory medicine, nephrology, general practice, palliative care, public health and epidemiology. The composition of the group included specialists, primary care physicians, generalists, health-care managers and nurse practitioners. They were from Algeria, Argentina, Australia, Bangladesh, Botswana, Cameroon, China, Denmark, Eritrea, France, India, Ireland, Kenya, Mexico, Mozambique, Nepal, Netherlands, Nigeria, Pakistan, Russian Federation, Saudi Arabia, South Africa, Sri Lanka, Sweden, Switzerland, Syrian Arab Republic, Turkey, Uganda, United Kingdom of Great Britain and Northern Ireland, and United States of America.

This work was coordinated by Dr Shanthi Mendis under the overall supervision of Dr Ala Alwan and Dr Benedetto Saraceno. The full list of participants and affiliations are included in the compact disc attached to the back cover.

Conflicts of interest

All participants were asked to provide conflict of interest statements using the Declaration of Interests for WHO Experts. None have declared one that was considered significant. Only WHO funds were used for the meetings.

Acronyms and abbreviations	
AIDS	acquired immunodeficiency syndrome
BP	blood pressure
BPMD	blood pressure measuring device
COPD	chronic obstructive pulmonary disease
CVD	cardiovascular disease
DALY	disability adjusted life years
DM	diabetes mellitus
HIV	human immunodeficiency virus
ISH	International Society of Hypertension
LMIC	low- and middle-income countries
MoH	Ministry of Health
NCD	noncommunicable disease
NGO	nongovernmental organization
PHC	primary health care
QALY	quality adjusted life years
SBP	systolic blood pressure
TB	tuberculosis
TIA	transient ischaemic attack
WHO	World Health Organization
WHO PEN	WHO Package of Essential NCD Interventions



Executive Summary

As low- and middle-income countries (LMIC) begin to make gains in combating infectious disease and malnutrition and garner the benefits of economic development, they have become increasingly vulnerable to the impact of noncommunicable diseases (NCDs). NCDs such as cardiovascular disease (CVD), cancer, respiratory disease and diabetes are already the leading causes of death in all LMIC except those in sub-Saharan Africa. Projected data indicate that there will be a rapid increase in NCDs over the next seven years, including in sub-Saharan Africa. The economic impact of this increase will be substantial because working-age adults account for a high proportion of the NCD burden.

Effective approaches to reduce the NCD burden in LMIC include a mixture of population-wide and individual interventions. Such cost-effective interventions are already available and include methods for early detection of NCDs and their diagnoses using inexpensive technologies, non pharmacological and pharmacological approaches for modification of NCD risk factors and affordable medications for prevention and treatment of heart attacks and strokes, diabetes, cancer and asthma. These low technology interventions, if effectively delivered, can reap future savings in terms of reduced medical costs, improved quality of life and productivity. However, due to weak health systems, there are substantive gaps in their implementation particularly in LMIC.

Efficient use of limited health care resources, sustainable health financing mechanisms, access to basic diagnostics and essential medicines and organized medical information and referral systems are imperative for provision of equitable care for people with and at risk of NCDs. They require long-term care that is proactive, patient centered, community based and sustainable. Such care can be delivered equitably only through health systems based on primary health care (PHC).

Further, two billion people in the world are living below the poverty line and poverty and NCDs are linked through many pathways. Although providing good quality care for the poor is an ethical imperative, due to weak health systems and inadequate health-care expenditure of many countries, the poor do not have access to services at all or receive substandard services. Furthermore, out-of-pocket expenditure is unacceptably high in many LMIC. Countries need to transform and regulate health systems for universal access and social protection. This transformation will take several years given the global financial status and wide disparities in domestic resources between countries. In the meantime, Ministries of Health (MoHs) need to take steps to improve health outcomes and to reduce rising health-care costs due to NCDs and their preventable complications.

The WHO Package of Essential Noncommunicable Disease Interventions (WHO PEN) for primary care in low-resource settings is an innovative and action-oriented response to the above challenges. It is a prioritized set of cost-effective interventions that can be delivered to an acceptable quality of care, even in resource-poor settings. It will reinforce health system strengthening by contributing to the building blocks of the health system. Cost effectiveness of the selected interventions will help to make limited resources go further and the user-friendly nature of the tools that have been developed, will empower primary care physicians as well as allied health workers to contribute to NCD care. It should not be considered as yet another package of basic services but, rather, an important first step for integration of NCD into PHC and for reforms that need to cut across the established boundaries of the building blocks of national health systems. WHO PEN is the minimum standard for NCDs to strengthen national capacity to integrate and scale up care of heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma and chronic

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