What is the WHO Package of Essential NCD

As low and middle income countries (LMIC) begin to make gains in combating infectious disease and malnutrition and gather the benefits of economic development, they have become increasingly vulnerable to the impact of Noncommunicable Diseases (NCDs). NCDs such as cardiovascular disease, cancer, respiratory disease and diabetes are already the leading causes of death in most the of LMIC. Projected data indicate that there will be a rapid increase in NCDs in the next seven years. 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 will involve a mixture of population-wide and individual interventions including prevention, treatment and health education. Such cost-effective interventions are already available and include inexpensive medications for prevention and treatment of heart attacks and strokes, diabetes and asthma and counseling for smoking cessation, diet and physical activity. These low technology interventions if effectively delivered can reap future savings in terms of reduced medical costs, improved quality of life and productivity.

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 equitable health care to address NCDs. People with NCDs 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. Further, the health care workforce also has to be supported and strengthened to better respond to the legitimate needs of people with NCDs.

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, which is currently being piloted in the Badulla District. It is a prioritized set of cost-effective interventions, tools and aids that make it possible to deliver acceptable-quality of care even in resource-poor settings. It will help to make limited resources go farther and also empower physicians as well as allied health workers to contribute to NCD care. It can be used to strengthen National Capacity to integrate and scale-up care of heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma and chronic obstructive pulmonary disease. Most importantly, it provides a minimum set of core NCD interventions that can be used to initiate a process of Universal Coverage reforms to ensure that health systems contribute to health equity, social justice, community solidarity and human rights...
Primary Level Service Delivery Structure—What Our System Provides

The Primary Level service delivery structure is divided into the preventive care and the curative care.

In the preventive care there are 300 MOH areas in Sri Lanka, with one MOH area serving a population of approximately 50,000—100,000 population.

The availability of curative care institutions are approximately 1: 22,000 population, however the population is not defined specifically for each institution

PEN Project Area—Badulla District

NCD Unit, MoH → Badulla RDHS ← SLMA

Ella MOH Area
- MOH Office Ella
- CD Namunukula
- CD Ballakotewa
- CD Halpe
- RH Demodara

Haldumulla MOH Area
- MOH Office Haldumulla
- DH Haldumulla
- DH Koslanda

Uva Paranagama MOH Area
- MOH Office Uva Paranagama
- CD Lunuwatte
- RH Wewagama
- DH Uva Paranagama
PEN: Facility Assessment

In order to conduct a situation analysis and identify gaps in Primary Care in a defined area an assessment of capacity using the facility assessment form need to be done. The assessment form which analyses the parameters as described in the diagram is filled by the manager at each of the primary care facility institution. For the pilot area in Badulla, a facility survey has been conducted for the 12 selected institutions in Ella, Haldumulla & Uva Parana-gama MOH areas and a corresponding facility assessment was conducted for the institutions in the control areas from Welimada, Passara, & Ridimaliyadda MoH areas.

PEN: Essential Equipment

"The vision by introducing the PEN is to provide effective and equitable prevention and care for all with NCDs or who are at risk of developing NCDs"

Most of the essential equipment recommended in the PEN is already available in our primary care setup. The most notable deficiency lies in the availability of Blood Glucometers, Urine Protein Test strips & Peak flow meters.

On various consultations and expert group meetings we had it, was also recommended to add an ECG to the List of Essential Equipment.

All the essential equipments (Excluding the ECG Machines) have been procured for distribution amongst the selected 12 institutions in the pilot area of Badulla District.
PEN: Essential Medicines

The essential list of medicines that were proposed for the PEN was reviewed by expert groups who are also concurrently reviewing the treatment protocols.

In Sri Lanka institutions have been classified into three levels by the MSD:

- **Level 1**: Central Dispensaries & Central Dispensaries with Maternity Homes that are manned medical officers.
- **Level 2**: Institutions with inpatient facilities manned by AMO, RMRO or MO
- **Level 3**: Provincial & Base Hospitals and specialized hospitals.

When reviewing the recommended list for the PEN, a notable feature is the non-availability of Statins, ACE Inhibitors, Insulin & Beclamethasone Inhalers at Level 1 institutions where PEN is to be implemented.

In addition to the listed medicines advocacy has commenced to include morphine, codeine & heparin in level 1 institutions.

The second revision of the manual on management of drugs is being currently being done and much effort is being done to include the above said items to level 1 care institutions as Provision of Essential Drugs is one of the elements in the Primary Health Care package.

“Ensuring an adequate supply of safe and effective drugs of acceptable quality is an integral part of the health policy in Sri Lanka”

PEN: Essential Recording Tools / Medical Information System

Lack of a medical information system and referral / back referral system has been an identified gap at the primary care level. There have been many formats developed at the central level—through the Director / Information, Ministry of Health, SLMA and also by partners doing other NCD prevention projects with the MOH e.g. JICA.

In order to formulate a uniform system for health information various consultations were conducted to develop essential recording tools based on the ones already available. After such consultations draft versions have been developed and we are awaiting final approval from the College of GPs prior to using it for the pilot project in Badulla.
Some of the Forms developed...

Family Health Card

Individual Health Card

Referral / Back referral form

Improving Quality of Care of Major NCDs in primary care is a specific objective and expected outcome from the implementation of WHO PEN

PEN: WHO-ISH Risk Prediction Charts

The WHO/ISH risk prediction charts indicate 10-year risk of a fatal or nonfatal major cardiovascular event (myocardial infarction or stroke), according to age, sex, blood pressure, smoking status, total blood cholesterol and presence or absence of diabetes mellitus. The charts provide approximate estimates of CVD risk in people who do not have established coronary heart disease, stroke or other atherosclerotic disease. They are useful as tools to help identify those at high cardiovascular risk, and to motivate patients, particularly to change behaviour and, when appropriate, to take anti-hypertensive, lipid-lowering drugs and aspirin. By using the risk prediction charts, an individual can be classified into a category of high risk (maroon & red), medium risk (orange & yellow), or low risk (green) for heart attack and stroke in the following 10 years.

If an individual has a high cardiovascular risk the guidelines recommend more intensive treatment, often including drugs - this is because the individual's risk has to be lowered urgently to prevent a heart attack or stroke. However if the risk is low, the interventions may be more conservative ones like counseling for change of behaviour eg: smoking cessation or increased physical activity.

We have done a training on the use of the risk prediction charts in the pilot area of Badulla for all the Medical officers in charge of the health facilities. In addition many other dissemination sessions have occurred to the various colleges, physicians and academics on the use of the risk prediction charts. We have also re done the risk prediction charts so its more user friendly.

Advocacy for the use of Risk Prediction Charts continues with different stakeholders.
Pocket Guidelines for assessment & management of Cardiovascular Disease

"Guidelines focusing on single risk factors such as Hypertension & dyslipidaemia are not cost effective and they do not take into account the fact that multiple risk factors are responsible for cardiovascular diseases."

PEN: Protocols for primary Care

Essential protocols needed to implement

Protocol 1: Screening Assessment of Cardiovacular Risk
Protocol 2: Early Detection of Cancer
Protocol 3: Health Education & Counselling
Protocol 4: Counseling on Cessation of Tobacco Use
Protocol 5: Chest Pain
Protocol 6: Breathlessness / Cough
Protocol 12: Unstable Angina / AMI
Protocol 13: Stable Angina/Past or Present MI
Protocol 14: Follow up of Asthma / COPD
Protocol 16: Management of Asthma / COPD
Protocol 19: Prevention of recurrence of RP & RHD

Evidence Based

Training of Workforce on implementation of the protocols

Protocols for Primary Care

Cost Effective

Patient Oriented

Integrated Multifactorial Risk Approach

Symptom Based

WHOISH Risk Prediction Charts—Sri Lanka

The protocols for primary care includes flowcharts that cater to the delivery of a minimum set of essential interventions addressing the four major NCDs. These flow charts take cognizance of the fact that most major NCDs are not symptomatic until late in the development of the disease. A syndromic approach alone, therefore, is not appropriate for NCDs because such an approach will not detect NCDs early in the course of disease to avoid complications symptoms that have more discriminatory ability for diagnoses of major NCDs have been selected for symptom-based flow charts. Although there were two sets of protocols originally for physicians and non-physicians, in Sri Lanka we will be only using the protocols for physicians.

An early consultative meeting was conducted with all stakeholders including the physicians and the medical officers of the project area, Ministry of Health, SLMA & Various Colleges inclusive of the college of physicians, College of GPs & College of Cardiologists. The original flow charts were revised to suit the local settings and a further expert group was formed to complete the flow charts according to country settings. This group is still editing the protocols and we hope to finalize these before the end of December.
Preliminary workshop for preparation of draft country specific protocols for WHO PEN

Inauguration

Group work on the different protocols

What are the expected outcomes of Integrating the WHO Package of Essential NCD Interventions in PHC?

- Reduce costs due to hospital admissions and complications e.g. strokes, heart attacks, cardiac surgery, renal dialysis, amputation, blindness
- Improve health outcomes and health equity in relation to cardiovascular disease, diabetes, chronic respiratory disease and cancer
- Strengthen the health system and gatekeeper function of primary care
- Assist Ministries of Health to use available resources efficiently
- Drive the agenda towards universal coverage

How can we work towards achieving these expected outcomes?

- Conduct situation analysis and identify gaps in primary care in a defined area
- Train workforce in PHC
- Address gaps with a modest increase in investment in health
- Integrate the WHO package of essential NCD interventions in a defined area
- Monitor and evaluate impact and adapt approach based on learning experience
- Extend integration nationally as resources permit
- Ensure coherence of action across all health care levels and sectors.

WHO is providing guidance and technical support to strengthen capacity for integration of NCDs into PHC using the WHO Package of Essential NCD Interventions. Development of complementary tools e.g. for community engagement, for scaling up district hospital NCD care, affordable technologies is ongoing at WHO headquarters.

"Investment in Health Systems & services is investment in human Capital. Healthy human capital is the foundation for productivity & prosperity"
PEN: Method of Implementation

After various consultations with different stakeholders the following model has been proposed for implementation once all the components of the PEN are finalized. Initial consultations occurred with the medical officers and the regional heads of the chosen pilot institutions in Badulla district. This was closely followed by expert group meetings with the Ministry of Health, Sri Lanka Medical Association representing the various colleges and also other developmental partners involved in NCD work including JICA & World Bank. Initially Electoral/GN lists of all householders were obtained from the selected MoH areas in Badulla.

All households in the pilot area will be visited by Graminiladharis (GN) of the area and also the public health midwives (PHM).

This will create an atmosphere of collaboration where two ministries (Ministry of Public administration & Home Affairs & Ministry of Health) will work together. Each household will be given a leaflet informing all persons over the age of 40 years to visit their nearest health facility to undergo a medical checkup inclusive of assessment of cardiovascular risk by checking Blood Pressure & Blood Sugar. These facilities are open 5 days of the week and patients are advised to come fasting for 12 hours. There is a concurrent health message also in the leaflet which highlights the importance of screening.

There are three categories of patients that access the primary care facility as highlighted (step 3) and all these patients will be managed at the health facility with appropriate health Guidance, medication, Acute Care and follow up. With the use of the protocols of the PEN it will be very clear with regard to management and referral/follow up criteria which will assist in maintaining quality of care.
Leaflet with Instructions on screening & health

Step 3

Arrival to Primary Care Facility in response to leaflet distributed (Screening)

Already diagnosed patients (Clinic – Diabetes, Hypertension)

Acute Admission Eg: Chest Pain, SoB

Primary Health Care Facility – CD, RH & DH
**PEN : What the Future Holds**

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 equitable care for prevention and control of NCDs. Such care can be delivered equitably only through health systems based on primary health care. The health care workforce also has to be supported and strengthened to better respond to the legitimate needs of people with NCDs. Further high out of pocket expenditure is not affordable for the majority of people in low and middle income countries and for two billion of the world population that live below the poverty line. 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.

Countries need to transform and regulate health systems for universal access and social protection. This transformation will take several years and the Ministry of Health in Sri Lanka as well as the professional colleges of Sri Lanka have expressed a great enthusiasm in piloting the PEN to improve the health outcomes and to reduce the rising health care costs due to NCDs and their preventable complications.

WHO Country Office in Sri Lanka with technical expertise from SEARO & WHO HQ work very closely with Ministry of Health and various other ministries, professional bodies & other developmental partners in search of a comprehensive primary level health care model.
PEN: Collaborative effort with other developmental Partners

NCD Prevention Project—Project on Health promotion and preventive care measures of Chronic NCD

Clinical Practice Guidelines

Policy Options for curative care services delivery and Non-Communicable diseases in Sri Lanka: preparing for the future: Burden, Utilization and projections

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