

Reorganising Primary Health Care in Sri Lanka

PRESERVING OUR PROGRESS, PREPARING OUR FUTURE

Ministry of Health, Nutrition and Indigenous Medicine
Sri Lanka

DECEMBER, 2017

The main purpose of this report is to guide efforts to improve the people-centred health services while addressing the challenging needs of primary health care delivery in Sri Lanka.

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Abbreviations

AMO	Assistant Medical Officer	MoHNIM	Ministry of Health, Nutrition and Indigenous Medicine
AMP	Assistant Medical Practitioner		
BH	Base Hospital	MOH	Medical Officer of Health
CPD	Continuous Professional Development	MSD	Medical Supplies Division
		NCD	Non-Communicable Diseases
CVD	Cardiovascular disease	NIROGI	National Initiative to Reinforce and Organise General Diabetes Care in Sri Lanka
DALY	Disability-adjusted life-year		
DDHS	Divisional Director of Health Services	NO	Nursing Officer
DGHS	Director General of Health Services	OOP	Out-of-pocket
		OPD	Outpatient Department
DH	Division Hospital	OS	Out-of-stock
DHC	Divisional Health Centre	PHC	Primary Health Care
DMO	Divisional Medical Officer	PHI	Public Health Inspector
DS	Divisional Secretary	PHM	Primary Health Midwife
ECG	Echocardiogram	PHN	Primary Health Nurse
EHR	Electronic health record	PDHS	Provincial Director of Health Services
FHW	Family Health Worker		
GMP	Good manufacturing practice	PMCU	Primary Medical Care Unit
GP	General Practitioner	PMoH	Provincial Ministry of Health
HIU	Health Information Unit	PO	Public Officers
HLC	Healthy Lifestyle Centre	QA	Quality Assurance
HRH	Human resources for health	RDHS	Regional Director of Health Services
HSDP	Health Systems Development Project	RMSD	Regional Medical Supplies Division
ICT	Information and communication technology	RTC	Regional Training Centre
IHP	Institute for Health Policy	SC	Sub-committee
IPS	Institute for Policy Studies	SLMA	Sri Lanka Medical Association
IT	Information technology	TEC	Technical Expert Committee
MCH	Maternal and child health	THE	Total Health Expenditure
MIS	Management Information System	UHC	Universal Health Coverage
		WHO	World Health Organization
MLT	Medical Laboratory Technician		
MO	Medical Officer		

A message from
The Honourable Minister of Health, Nutrition and Indigenous Medicine



Sri Lanka's health system has a record of strong performance and has been recognised internationally as a highly successful low-cost model. The country has consistently recorded the highest health achievements in the region. These achievements are built on the foundations of a health care system that has been free at the point of delivery since 1951; a sound primary health care approach in place since the mid-1920s; and the establishment of close-to-client primary health care services because of the universal adult franchise since 1931.

Having achieved better outcomes in maternal and child health (MCH) and communicable disease control, the health sector's capacity must increase to meet higher demands from the fast-growing burden of non-communicable diseases (NCDs), which increased from 48% prevalence in 1990 to 75% in 2015, and the needs of the rapidly aging population. This growing NCD burden has also led to the increased use of private outpatient care, even though the public sector still provides 90% of inpatient care and nearly 100% of preventive care.

Over the last few years, we have focused on minimising district and geographical disparities in achieving universal health coverage. Now it is time to critically analyse the cost-efficiency, coverage and quality of care in hospitals. We need new evidence on how best we to adopt an efficient financing system and to improve hospital care through proper referrals from primary health care to high-end treatment options at super-centres.

Ensuring effective quality health coverage universally through strengthening our primary health care approach is one of the ways forward in my Ministry. This initiative to reorganise primary health care to provide people-centred primary care services delivery requires all those who are committed to the health of the nation to help overcome challenges.

This report offers a wide range of suggestions on strategies to reorganise primary medical care services and to more effectively integrate these with the preventive primary care services provided through the Medical Officer of Health (MOH) system. With better coordination, Sri Lanka can meet the challenges faced now and by future generations. I wish to reiterate here that, under my guidance, continued attention will be paid to this significant health initiative and steps will be taken to keep this process as a high priority on the national agenda.

Dr. Rajitha Senaratne
Hon. Minister of Health, Nutrition and Indigenous Medicine

A message from
The Secretary to the Ministry of Health, Nutrition and Indigenous Medicine



It is important to preserve our health gains from the past and to prepare to meet the health challenges of the future.

The Ministry of Health, Nutrition and Indigenous Medicine is responsible for safeguarding the health status of all citizens of Sri Lanka. To achieve said objective, a considerable amount of funds from the national budget is allocated by the Government of Sri Lanka to the Ministry.

Sri Lanka's population now faces new challenges to our health and well-being. Therefore, we must turn our attention to combating chronic and non-communicable diseases (NCDs) and to addressing the emerging health challenges with the increasing aged population. Global and national trends indicate that NCDs in an ageing population can impede development progress and even reverse gains made in the past several decades. Therefore, reorganisation of primary health care is of utmost importance to address these challenges at the grassroots level.

Thus, a stakeholders' consultative process was conducted under the guidance of the Honourable Minister of Health, Nutrition and Indigenous Medicine, Dr. Rajitha Senaratne. This process addressed the reorganisation of primary health care, with a special emphasis on improving primary curative care service delivery while strengthening primary preventive care services. This reorganisation will facilitate better service delivery to cater to the emerging diseases burden.

In this context, it is our duty to utilise public funds effectively, efficiently and economically to provide a better standard of health care throughout the country. As such, it is essential to have a comprehensive primary health care plan, complete with monitoring tools, to make the best use of the state and donor funds.

I am much pleased that the professionals of the health sector have made a collective and collaborative effort to produce this comprehensive report on the reorganisation of primary health care. I wish to place on record our deep appreciation and gratitude to all the Technical Expert Committee experts, sub-committee chairs and their expert teams for their valuable contributions to different chapters that helped make the exercise a reality.

I also offer special thank yous to Dr. Jayasundara Bandara, former Director General of Health Services, for coordination of this activity, to Dr. Deepika Attygalle, Senior Health Specialist, and to the rest of the World Bank team for their contributions to facilitating this important national initiative.

Mr. Janaka Sugathadasa
Secretary, Ministry of Health, Nutrition and Indigenous Medicine

A message from
The Director General of Health Services



Sri Lanka has provided universal and free access to government-led health care services for several decades at relatively low cost. However, the present health system has not yet evolved to meet the changing disease burden. Addressing chronic non-communicable diseases (NCDs) is a complex task, and will require systemic reforms and new approaches to service delivery.

There is a noticeable absence of a strong primary care-level system for chronic care, including a dearth of general practitioners with relevant expertise. Ideally, 70-80% of all care should, in fact, be delivered at the primary care level, with 10-15% of care provided at the secondary level and only the most advanced cases treated at the tertiary level. Sri Lanka is a long way off from this ideal. Instead, patients tend to bypass lower levels of care and go directly to specialists at secondary and tertiary hospitals, despite long waiting times. Bypassing leads to under-utilisation of small institutions and overcrowding in the bigger institutions. It is essential, therefore, to revisit Sri Lanka's achievements and challenges in attaining universal health coverage and the Sustainable Development Goals for health.

This report presents the ideas of many Sri Lankan experts, professionals, and citizens. These ideas centre on strengthening the primary health care system, synergising community-based prevention and primary medical care. These proposals represent a new vision for a reorganised primary health care sector in Sri Lanka, preserving our health gains from the past, and preparing the nation to meet the health challenges of the future.

I wish to place on record our deep appreciation and gratitude to all the Technical Expert Committee experts, sub-committee chairs and their expert teams for the valuable contributions to different chapters making the exercise a reality.

And special thanks to former Director General of Health Services Dr. Jayasundara Bandara for coordinating this activity, and to Dr. Deepika Attygalle, Senior Health Specialist at the World Bank country office and the World Bank team for their contributions in facilitating this important national initiative.

Dr. Anil Jasinghe
Director General of Health Services
Ministry of Health, Nutrition and Indigenous Medicine

Acknowledgments

This report is based on the stakeholders' consultative process conducted between May and December 2017 under the guidance of the Honourable Minister of Health, Nutrition, and Indigenous Medicine, Dr. Rajitha Senarathne. The process addressed the reorganisation of primary health care, with a special emphasis on curative care service delivery.

The Ministry of Health wishes to acknowledge the expert guidance and leadership given throughout the process by the Technical Committee Members: Dr. Palitha Abeykoon, Dr. Susantha de Silva, Dr. Nihal Abeysinghe, Dr. Wimal Karadagoda and Dr. H. Thennakoon. We offer very special acknowledgements to the chairpersons of the technical sub-committees: Prof. Narada Warnasooriya, Prof. Rajitha Wickramasinghe, Prof. Amala De Silva, Dr. Dileep De Siva, Dr. Sunil Rathnapriya and Dr. Vinya Ariyaratne, as well as to all the other expert members of the teams. They provided commendable contributions to the technical position papers under the key thematic areas of the reorganisation of primary medical care services.

The Ministry of Health also gives special appreciation to all the Deputy Director Generals of Health Services for their expertise and guidance: Dr. B.V.S.H. Beneragama, Dr. D.L.C. Somatunga, Dr. Amal Harsha De Silva, Dr. A.K.S. De Alwis, Dr. S. Sridharan, Dr. S.C. Wickramasinghe, Dr. L.T. Gamlath, and Dr. Sarath Amunugama, Dr. Anil Jasinghe and Mr. S.S.L. Herath. Valuable expertise was also provided by Dr. U. Ranasinghe, Director of Primary Care Services, and Dr. Susi Perera, Director of Organisation and Development, and all other Health Services Directorates, Consultant Community Physicians, Provincial and Regional directors of Health Services and their staff representing the preventive and curative care services. Special appreciation is extended to Officers from the Department of External Resources, the Ministry of Provincial Councils and Local Government, the Ministry of Finance and Planning, Department of Project Management and Monitoring and the Ministry of Policy and Economic Review's provincial and district health teams for their valuable inputs.

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SUMMARY REPORT

Reorganising Primary Health Care in Sri Lanka: Preserving Our Progress, Preparing Our Future

Introduction: Progress Achieved and Challenges Ahead

Sri Lanka is a country on the rise, and the health of the population is the foundation of our development. Thanks to steady improvements over many years, Sri Lanka has achieved good health outcomes, such as rising life expectancy due to low levels of mortality among mothers, infants, and children, and the recent elimination of malaria from the island, among other indicators. These gains in health, achieved at a relatively low cost, have resulted primarily from the public health system's intense focus on the prevention, treatment, and elimination of infectious diseases and the promotion of maternal and child health. Sustaining these interventions is vital to protecting the gains that we have achieved.

However, Sri Lanka's population now faces new challenges to our health and well-being. Of particular importance, Sri Lanka must turn its attention to combating chronic and non-communicable diseases (NCDs), which now account for an estimated 75% of deaths in the country. The category of NCDs includes cardiovascular diseases (CVD) such as ischemic heart disease and stroke, cancers, diabetes, and respiratory conditions such as asthma.

Prevalence of these conditions in the Sri Lankan population has been steadily increasing in recent years. These changes are attributed to various intricately linked causes. The ageing of the population – a positive result of ensuring that many more people survive to adulthood by reducing infectious diseases and maternal and childhood diseases – has another implication: more of the population is at risk of NCDs. The top risk factors for disease in Sri Lanka are also linked to lifestyle changes: dietary risks, high blood pressure, and household air pollution. National prosperity has increased sedentary employment, access to high-fat foods, and salt and sugar intake, while indoor air pollution from solid fuels remains a problem. Tobacco and alcohol use are also key contributors to the risk for NCDs.

As access to quality health care continues to expand, we are also better able to screen for, and detect, NCDs that might otherwise have been considered the natural result of ageing. Global and national trends indicate that NCDs in an ageing population can impede new progress and even reverse the gains made in the past several decades.

We have the opportunity, now, to pre-empt that possibility. Sri Lanka's primary health care system aims "to provide citizen-centric integrated health care that is affordable, sustainable, and ensures a continuum of care for every patient." We are undergoing momentous changes in the national burden of disease and demography. To preserve our progress and prepare our

future, it is imperative that we reorganise primary health care in Sri Lanka to enable it to better respond to the changes. This report explains how we can address this major challenge.

Policy Development Process: Stakeholder Consultations and Expert Advice

Improving primary health care for Sri Lanka's citizens requires focus, consensus, and sustained commitment to defined priorities. This summary document presents a set of policies recommended to guide Sri Lanka in the ongoing development of primary health care (PHC) services to effectively respond to emerging public health challenges, especially those related to NCDs. A wide array of stakeholders and experts have been involved in the collaborative process to envisage the scope of an updated and people-centred primary health care system and begin to choreograph a plan to achieve it.

Contributors to the policy development process include: the Ministry of Health, Nutrition and Indigenous Medicine (MOHNIM) a Technical Expert Committee (TEC) appointed by the Honourable Minister of Health, thematic sub-committees of the TEC, other relevant local, national and international stakeholders, and the World Bank.

This wide array of stakeholders was engaged through an extensive consultative process involving over 200 Sri Lankan citizens and health experts. Stakeholders participated in five days of dialogues on the current health system's strengths and weaknesses and future priorities. Their extensive professional and personal experiences have been fundamentally important in the development of these proposals. Participants in the consultations included primary health care providers from across the country, as well as general practitioners and hospital staff working in the public and private sectors, academics, civil society advocates, development partners, and international technical advisors. Despite the many challenges discussed, the general message from the participants was: "*we can do it.*" Lists of participants in the consultative process are included in Appendixes 1 and 2; Appendix 3 is the report on the consultations which details the results of the process. Seven TEC Sub-Committees, comprised of subject-area experts, worked on detailed reports on specific topics and recommendations, which are presented in Appendixes 4 to 11.

Throughout the process, the importance of preserving and protecting the current strengths of the existing health care system was emphasised by all. In particular, the positive results achieved in mother and child health (MCH) through community primary care and preventive services demonstrate the success of these models. Sri Lanka also has experience providing specialised care in remote areas, as shown in the high quality maternal and neonatal care available nationwide. We must build on these models to address the new challenges of ageing and chronic diseases while continuing to strengthen the performance of MCH and communicable diseases programmes.

Policy Proposals: Reorganising Primary Health Care and Reinforce Integration of Prevention and Care

This summary presents three general areas for action: 1) Reorganising Primary Health Care to Meet Sri Lanka's future Needs, 2) Using Data and Information to Improve Health Care, and 3) Strengthening the Health Sector. Each of the three action areas encompasses several themes identified during the stakeholder consultations and elaborated by the TEC. Table 1 shows how the thematic areas from the consultations and TEC sub-committees have been compiled into the action areas.

Table 1: How Thematic Areas identified during consultations are linked with the work of the TEC Sub-Committees and the Action Areas presented in the report

Action Area	Consultation Thematic Areas Included	Work of TEC Sub-Committees (SC) Included
#1: Restructuring Primary Health Care to Meet Sri Lanka's Needs	Reorientation of Primary Health Care (including MOH and PMCU integration, human resources, specific measures to tackle NCDs, referral and transportation system, and Health Life Centres)	Reorganisation of Primary Health Care (SC 1)
		Referrals and Patient Information Systems (SC 2)
		HRH Considerations (SC 3)
#2: Using Information and Data to Improve Health Care	Reorientation of Primary Health Care (especially: Monitoring and Evaluation)	Referrals and Patient Information Systems (SC 2)
	Health Information and IT Systems	
#3: Strengthening the Health Sector	Procurement Systems	Beneficiary engagement, gender and citizens' voice (SC 4) Health Financing (SC 5) Engaging the Private Sector (SC 6) Supply Chain and Laboratory Services (SC 7)
	Health Financing	
	The Private Sector	
	Beneficiary Engagement and Citizen Voice	

Action Area #1: Reorganising Primary Health Care to Meet Sri Lanka's Needs

The new policies and reforms grouped in this Action Area focus on organisational, structural, and logistical updates designed to restructure primary health care so that it streamlines access to quality, people-centred health services, increases the efficiency of these services, and ensures a continuum of primary care for people throughout their life cycles.

The policy proposals in this Action Area are drawn from the consultations and the TEC Sub-Committees on Reorganisation of Primary Health Care, HRH Considerations, and Referrals and Patient Information Systems. However, since all the sub-committees addressed adaptations of PHC to respond to the challenges of NCDs, some elements are also included in the section on targeted responses to NCDs. These proposals align with and expand on the strategies and plans

that MOHNIM has initiated to strengthen primary medical care services and to more effectively integrate these with the preventive primary care services provided through the Medical Officer of Health (MOH) system.

Specific proposals are:

- Offer quality primary medical care services to a defined catchment population through establishment of Primary Medical Care Units (PMcus) and Division Hospitals (DHs) as Primary Medical Care Institutions (PMcIs)
 - Assign each household to a given PMCU/DH where they receive primary medical care
 - Link each PMCU/DH with defined MOH areas to integrate and better coordinate primary prevention and health promotion, primary medical services, referrals, and community-based follow-up services
 - Establish a package of primary medical services, including services for prevalent NCDs, and communicable diseases based on the emerging needs of the population that will be made available through the PMCU/DH and MOH
 - Establish standards for service delivery that meet the needs of the people they serve, including extended hours and services, onsite laboratory and pharmacy services, and clinical management protocols
- Innovate and integrate prevention and treatment service delivery for NCDs, including developing Healthy Life Centres
 - Link and locate community-based NCD screening within the PMCU; offer NCD screening throughout regular service hours as well as during screening campaigns
 - Establish a Healthy Lifestyle Centre (HLC) for each PMCU. Healthy Lifestyle Centres are staffed by councillors, public health nurses, health promoters, nutritionists and other key staff trained to conduct screening for NCDs, referral to health and community services, NCD patient follow-up, and lifestyle modification guidance. Depending on the service package and quality standards established for NCDs, HLCs may have facilities to collect samples for, or provide onsite, basic tests such as blood cholesterol tests or ECGs.
 - Create a personal health card system, in parallel to health records, that empowers patients to track their health status and access to services and facilitate communication with providers
- Streamline referrals and transportation among primary health services and from primary to secondary and tertiary health care institutions
 - Standardise protocols, pathways, and communication formats for providers making referrals to other health services in both the public and private sectors
 - Standardise the format of health records across the health system to ensure accurate documentation of care provided, to allow follow-up care after referrals, and to ensure continuity of care, especially for people with chronic NCDs
 - Establish a country-wide ambulance network to enable patient transportation for urgent referrals

- Expand the capacity of human resources for health, ensuring all providers have the skills, time and supplies necessary to provide quality, people-centred primary health care to Sri Lankans throughout their lives
 - Align staff mix at the PMCUs and DHs with the size and needs of their client populations. This will include creating one or more new cadres of staff including a public health nursing officer dedicated to specialised primary medical care for people with NCDs and chronic diseases and older people
 - Rationalise the workloads of public health midwives and streamline the deployment of other preventive primary health cadres to more effectively join in preventive and curative primary care services
 - Establish a service delivery coordination mechanism linking PMCUs and private General Practitioners and Family Physicians
 - Expand pre-service training to generate enough new health workers in existing and new cadres to meet projected needs
 - Build the capacity in family medicine of all practising health workers at primary health care settings (PMCUs, DHs and MOHs), through in-service training, postgraduate training and continuing professional development opportunities, to provide people-centred primary care throughout the life-cycle, including for NCDs
 - Establish systems to enable the use of telemedicine to facilitate specialised care at primary care level
 - Redeploy staff among facilities to ensure equitable access to health care in rural, poor or otherwise underserved areas
 - Collaborate with community-based organisations and other sectors to engage them in supporting patients to access and adhere to treatment for NCDs
 - Upgrade remuneration for health workers at government institutions to incentivise retention, particularly in underserved sites, and to limit the need for health workers to supplement their incomes via private sector work

Action Area #2: Information Management to Improve Health Services in Real Time

To understand whether the proposed improvements to primary care have the desired effects requires upgrading the collection, analysis and use of data for decision-making in health services. Tracking information on individual patients over time is also critically important to ensuring appropriate and consistent health service delivery to that person. Aggregating and analysing patient data at the population level enables improved planning, monitoring and evaluation of health services, as well as surveillance to identify outbreaks and other emerging trends in health status.

While Sri Lanka has in place a strong Health Management Information Systems (HMIS) for MCH service delivery, disease surveillance and notification, the information systems tracking curative care are not comprehensive. Further, the various systems are not sufficiently integrated. The second Action Area encompasses proposals that were prepared by the TEC

sub-committees on Reorganisation of Primary Health Care (SC 1) and Referrals and Patient Information Systems (SC 2). They are presented here in two sections. *Monitoring and Evaluation* focuses on establishing standards of quality and the mechanisms used to measure and reward performance by primary health care services. *Health Information and Information Technology (IT) Systems* focuses on technological upgrades and the data management systems needed to track data for individual patients and health service performance alike.

Specific proposals are:

- Strengthen monitoring and evaluation of the performance of primary health care services on effectively meeting the needs of the Sri Lankan population
 - Establish standards of quality for key NCD services and ensure that all staff are trained to understand and meet them
 - Create an appraisal system to measure performance against standards on a regular basis
 - Assign rewards for meeting defined quality standards
 - Introduce clinical audits, as well as morbidity and mortality reviews
- Strengthen and integrate health information and IT systems
 - Establish a Health Information Unit (HIU) at each district and at secondary and tertiary care hospitals to manage data collection, analysis and communication in line with national guidelines
 - Establish a unique identifying health services number for each citizen to enable streamlined information sharing among providers at all levels
 - Expand electronic health records (EHR) to all facilities through the country
 - Harmonise other health information systems in use (such as hospital management, disease surveillance and notification, medical supplies management information system and inventory management) so that data can be cross-referenced
 - Integrate the use of a Geographical Information System (GIS) into health information systems

Action Area #3: Strengthening the Health Sector through Key System Improvements

Spending on health care services, medicines, diagnostic testing and other health interventions forms a significant part of the national economy. Spending includes both the government's expenditures (from tax revenues) and out-of-pocket expenditures by patients in the private health care sector. The functioning of the public and private sectors can be strengthened individually, and improving coordination between the public and private sectors could further strengthen health care in Sri Lanka.

The proposed changes in the primary health care system will require increased health expenditure by the government. While government spending on health will increase, it is not the whole story. Increased expenditures could be partially offset by improving efficiency in

supply chain management, administration, and other sector systems. Improving primary health care should, over the long-term, result in reduced spending on secondary and tertiary care through primary prevention and reduced inappropriate use of higher levels of health care.

Further, the proposed changes seek to reduce individuals' private out-of-pocket expenditures, freeing up resources for additional tax revenue. Strengthening and expanding collaboration and integration of the public and private health sectors will also contribute to this, offsetting the losses the private sector might otherwise experience by facilitating government contracting with high-quality private service providers.

Finally, the premise underlying all these proposals is that the primary health care system is provided by the Sri Lankan people, through their government, to serve and benefit the Sri Lankan people. Thus, it is critical to ensure that citizens are meaningfully involved in defining the goals, strategies, and accountability of integrated people-centred primary health care. Citizen involvement requires empowering people to participate in preserving and improving their health. To do this, patients need both information and the resources to act on information.

In this Action Area, the proposed policies were generated by the TEC Sub-committees on Health Financing, Engaging the Private Sector, and Beneficiary Engagement and Citizens' Voice. Additional elements have also been drawn from all the other sub-committees.

Specific proposals are:

- Align the health financing system with the structure of the health system
 - Expand the allocation of public financing for primary health care services (rather than shifting funds from within health services)
 - Disburse more funding directly to provinces for allocation and distribution according to local priorities and needs
 - Increase financial incentives for performance and to limit waste to promote increased utilisation of public sector facilities
- Utilise and collaborate with the private health care sector
 - Require private sector practitioners and institutions to register and meet quality standards
 - Enable government to pay for health care services provided by registered private sector practitioners and institutions when patients are referred to them for services the public sector does not offer or in areas where the private sector is addressing unmet needs
 - Standardise and link private and public sector patient information systems to allow health workers to share patient information and to facilitate referrals among public and private services

- Strengthen supply chain management to meet increasing demand from the primary health care sector
 - Expand medical supplies management information system (MSMIS) and dashboard monitoring systems
 - Expand formulary and specifications to incorporate materials for NCD services
 - Strengthen cold vehicle capacity and other infrastructure at regional level
 - Maintain 3-month buffer stock of critically important pharmaceuticals, supplies and emergency reserves
 - Improve procurement to accommodate volatile demand
 - Delegate purchasing of low-value, low-quantity, or machine-specific items to facilities
 - Expand routine quality assurance (QA)
 - Upgrade human resource capacity to meet technological and service demands

- Expand laboratory service capacity to meet increasing demand from the primary health care sector
 - Revise and update standards for laboratory capacity at each level of health care delivery
 - Ensure that PMCUs have basic diagnostic capabilities and transportation capacity to convey samples to cluster laboratories
 - Strengthen cluster laboratories at district hospitals for use by PMCUs
 - Furnish mobile laboratories
 - Establish a Laboratory Information Management System (LIMS) to network and share information
 - Upgrade human resource capacity to meet technological and service demands

- Engage “the people” in people-centred primary health care and ensure meaningful citizen participation in oversight of primary health care system
 - Build health staff capacity to understand the importance of and provide respectful and effective communication and care for patients
 - Develop, adopt, and promote the use of a Patients’ Rights Charter at all primary health care facilities
 - Foster patients’ engagement in managing their health through health cards, health awareness training and health education
 - Solicit input from community and clients through suggestion boxes at all government health facilities, conducting regular patient satisfaction surveys, strengthening community advisory and oversight committees for health services, and facilitating citizen participation in monitoring and evaluation assessments of health services
 - Create mechanisms for submission and independent investigation of grievances against public and private sector health services
 - Enable representatives from health centres to participate in other community processes

The Way Forward

A bold vision for health has served the people of Sri Lanka well over the past decades. Sri Lanka has made remarkable progress in improving citizens' health through providing quality primary health care for communicable diseases and maternal and child health. We need to preserve these gains and build on them for our collective future.

Sri Lanka is now also facing major new challenges resulting from the ageing of the population and the proliferation of chronic non-communicable diseases. New technologies offer both opportunities for improving care, but also create additional costs. We need to begin to address these emerging obstacles immediately.

This report offers a wide range of suggestions for restructuring the primary health care system so that Sri Lanka can meet the challenges faced now and by future generations. The report presents the ideas of many Sri Lankan experts, professionals, and citizens. The ideas centre on strengthening the primary health care system and integrating community-based prevention and person-centred primary medical care.

Taken together, these proposals represent a bold new vision for a reorganised Sri Lankan health care sector, preserving our health gains from the past, and preparing to meet the health challenges of the future.

We look forward to continuing our deliberations with relevant stakeholders as Sri Lanka identifies and adopts the primary health care policies that will help us deliver on our promise to promote national health and well-being.

Appendix 1: List of Teams Represented in the Stakeholder Consultation Days

1. Representation from national level:

Ministry of Health, Nutrition and Indigenous Medicine: Deputy Director Generals and Directorates at national level, representation from Directorates tertiary hospitals, Consultant Community Physicians, officials from Sri Lanka Administration Service and Accountancy Services, paramedical staff

Ministry of Finance and Policy Review: Officials from the Departments of Project Management and Monitoring, National Planning, National Budget, and External Resources

Ministry of Provincial Councils and Local Government

2. Representation from academia and development partners:

Sri Lanka Medical Association and representation from Professional Colleges

Representation from medical faculties

Representation from research institutes: IPS, IHP

Experts representing public health, clinical medicine, health economics, social sciences and research

Development partners

3. Representation from provincial level:

Provincial Directors of Health Services, Regional Directors of Health Services, Provincial Consultant Community Physicians (CCPs), Medical officers of Maternal and Child Health (MOMCHs), Regional Epidemiologists(Res), Medical Officer of Noncommunicable Diseases (MONCDs), Medical Officer of Mental Health(MOMH), Medicals Officers In Charge of Primary Medical care Institutions (PMCIIs), Medical Superintendents(MS) at secondary care hospitals, preventive health staff at field level

4. Representation from public and private sectors:

Representation from NGOs, civil societies, patients' rights groups, trade unions, media, private sector hospitals, and general practitioners

Appendix 2: Technical Expert Committee Members and Sub-Committee Members

Principal Coordinator

Dr. J.M.W. Jayasundara Bandara, DGHS

Coordinator to Ministry of Health

Dr. H. Tennakoon

Assisted by: Ms. Harshi Bhagya Karawita, M&E Officer SHSDP

Technical Committee Members

Dr. Palitha Abeykoon (Chair)

Dr. Dinesh Jeyakumaran (Rapporteur)

Dr. Nihal Abeysinghe

Dr. Susantha de Silva

Prof. Amala de Silva

Dr. Wimal Karadagoda

Sub-committee 1: Reorganisation of Primary Health Care

Prof. Narada Warnasuriya (Chair)

Dr. Shamini Prathapan (Rapporteur)

Dr. Shreenika Weliange (Rapporteur)

Prof. Saroj Jayasinghe

Dr. Palitha Bandara

Dr. Ruvaiz Haniffa

Dr. Kapila Kannangara

Dr. Sarada Kannangara

Dr. Palitha Karunaprema

Dr. C.A.V. Pathirana

Dr. Sankha Randenikumara

Sub-committee 2: Referrals and Patient Information Systems

Prof. Rajitha Wickremasinghe (Chair)

Prof. Kumara Mendis

Dr. Jagath Amarasekara

Dr. Chandana Dharmaratne

Dr. Praveen De Silva

Dr. Samitha Ginige

Dr. Kaushalya Kasturiarachchi

Dr. Neranga Liyanaarachchi (Rapporteur)

Sub-committee 3: Human Resources for Health (HRH) considerations

Dr. Dileep De Silva (Chair)

Dr. Ruwan Ferdinando

Prof. Indika Karunatilake

Dr. Asela Olupeliyawa

Dr. Anurudha Padeniya

Prof. A. Perera

Dr. Shankha Randenikumara

Dr. Shymalee Samaranyake

Dr. Sameera Senanayaka

Dr. Umanga Sooriyaarachchi

Sub-committee 4: Beneficiary Engagement, Gender and Citizens' Voice

Dr. Vinya Ariyaratne (Chair)

Dr. Carukshi Arambepola (Convener)

Prof. Diyanath Samarasinghe

Prof. Chandrika Wijeratne

Prof. Chrishantha Abeysena

Dr. H. Yakandawela

Ms. Vishaka Thilakaratne

Ms Kumidini Hettiarachchi

Ms. Christine Perera

Sub-committee 5: Health Financing

Prof. Amala de Silva (Chair)

Dr. Prabhath Werawatte (Rapporteur)

Prof. Anuradhani Kasthurirathne

Dr. Ravi Rannan-Eliya

Dr. Neil Thalagala

Ms. Samantha Bandara

Dr. Dileep de Silva

Dr. Sumudu Karunarathne

Dr Anuji Gamage

Sub-committee 6: Engaging the Private Sector

Dr. S. Ratnapreya (Chair)

Dr. Chamila Ariyananda

Dr. Wasantha Disanayaka

Ms. Indrani Fernando

Dr. Joel Fernando

Dr. Kapila Jayarathne

Dr. Lakith Peris

Mr. Wijaya Ransi

Sub-Committee 7: Supply Chain and Laboratory Services

Dr. Hemantha Beneragama (Chair)

Dr. Lal Panapitiya (Rapporteur)

Dr. Kamal Jayasinghe

Mr. S.S Herath

Mr. Y. L. M. Navavi

Dr. Gayani de Alvis

Dr. Nayana Fernando

Appendix 3: Report on the Stakeholder Consultations

Introduction

This report provides MOHNIM with stakeholders' recommendations for addressing the changing burden of diseases and demography in Sri Lanka. The recommendations focus on strengthening primary health care to provide citizen-centric integrated health care that is affordable, sustainable, and ensures a continuum of care for every patient. The report aims to inform decisions and policy changes made by the MoHNIM following the consultation and how the stakeholders have influenced the outcome of the consultation through their lines of questioning, their suggestions and their participation.

Background

The Honourable Health Minister appointed a Technical Expert Committee (TEC) to provide recommendations for improving primary health care and to explore the feasibility of providing integrated health care to all citizens. The TEC worked closely with the MoHNIM, relevant local, national, and international stakeholders, and the World Bank to define the scope of the envisaged primary health care and a roadmap to providing citizen-centric integrated health care that is affordable, sustainable, and ensures a continuum of care for every patient.

The TEC organised stakeholder consultations to learn from a range of experiences and pilot projects. An initial consultation was held on July 24, 2017, focused on learning from NCD pilots implemented or conceptualised, including relevant global experiences. The TEC then continued the engagement with a three-week consultation process with all Sri Lanka's health stakeholders. This document is the outcome of that consultation.

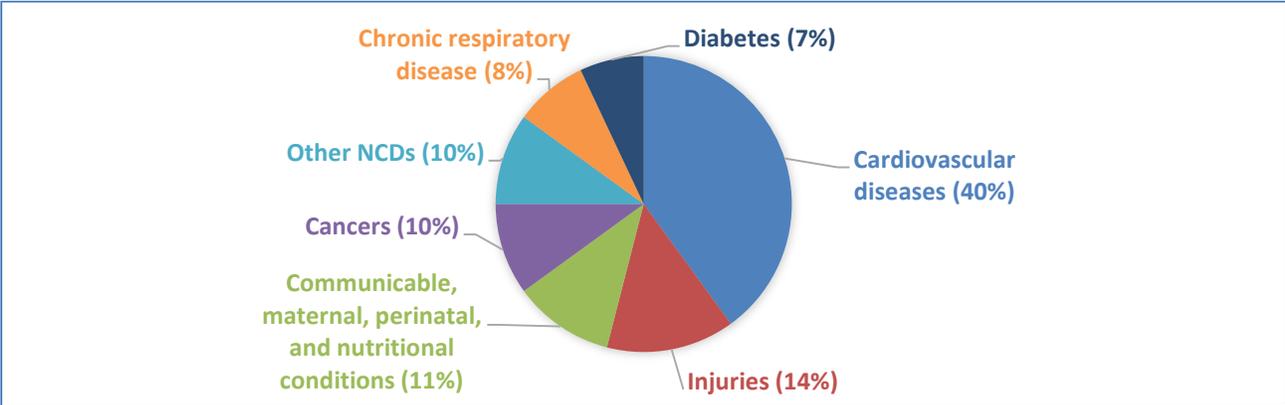
Overview of the Health Status of the Population in Sri Lanka

Sri Lanka has better health indicators than most developing countries and many lower-middle-income countries. In 2013, the country's under-5 mortality stood at 10 per 1,000 live births while maternal mortality ratio was 29 per 100,000 live births. Recently WHO certified Sri Lanka free of malaria. And the country is also close to eliminating other communicable diseases such as polio, tetanus, and measles. The remarkable success in reducing maternal and infant mortality to very low levels is partially the result of the extended availability of effective and integrated maternal and child health (MCH) services for the last sixty years. Services for the prevention and control of communicable diseases are widely accessible, with key interventions such as childhood immunisations, antenatal care and institutional deliveries, at nearly one hundred percent coverage.

Sri Lanka's health system, akin to similar middle-income countries, now faces the challenge of addressing non-communicable diseases (NCDs). According to WHO, NCDs account for 75 percent of total deaths in Sri Lanka. These include cardiovascular diseases, cancers, chronic respiratory

diseases, diabetes and other NCDs. As shown in Figure 1: Causes of Premature Mortality in Sri Lanka, cardiovascular diseases (CVDs) alone (including ischemic heart disease and stroke) account for 40 percent of the country’s premature deaths. The three risk factors that account for the most disease burden in Sri Lanka are dietary risks, high blood pressure, and household air pollution from solid fuels. In addition, according to the Global Burden of Disease 2010, Sri Lanka’s top three causes of disability-adjusted life-years (DALYs) are ischemic heart disease, self-harm, and diabetes mellitus (this information was drawn from a report under preparation by the World Bank).

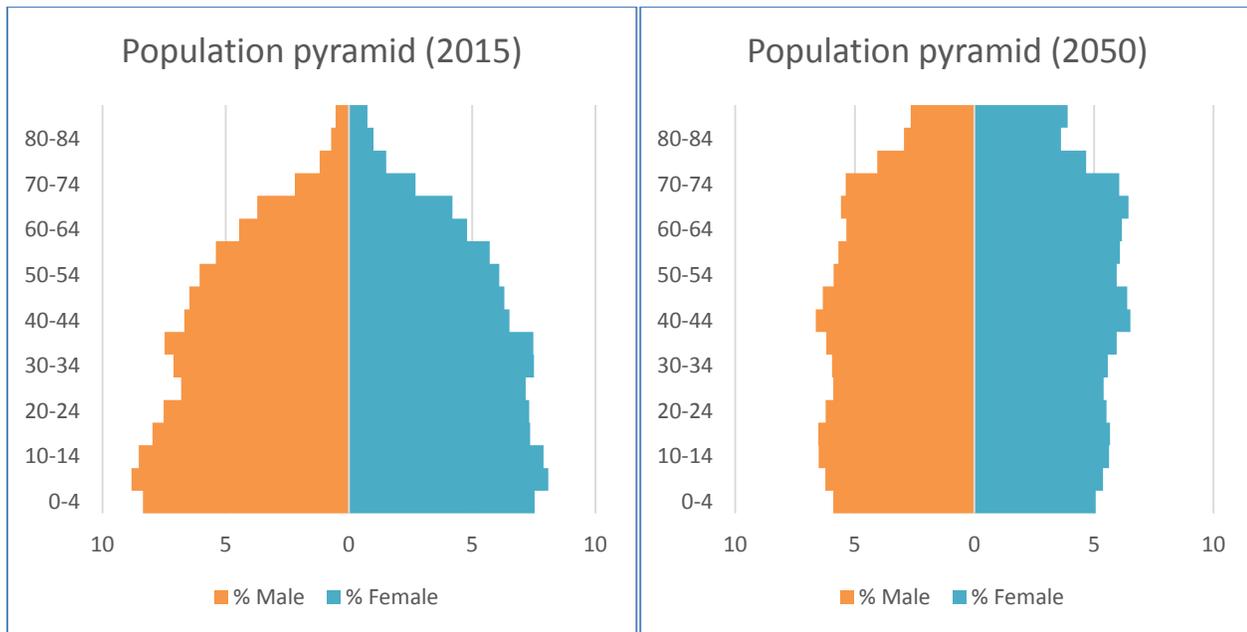
Figure 1: Causes of Premature Mortality in Sri Lanka



Source: WHO (2016)

According to projections made in 2015 by the UN Population Division, Sri Lanka’s age composition will be dramatically different in 2050 as shown in Figure 2. An ageing population will increase NCDs in Sri Lanka and consequently increase the cost for the health system. As Sri Lanka’s population structure changes, the need to address NCDs and related risk-factors must be addressed.

Figure 2: Projected Age Composition of the Population of Sri Lanka in 2015 and 2050



Source: Data from UN World Population Prospectus (medium fertility variant)

In Sri Lanka, the MoHNIM is responsible for stewardship functions such as policymaking, development of guidelines, programme monitoring, technical oversight, the purchase and distribution of medicines and consumables, human resource training and deployment, and the operation of tertiary health care.

Preventive, primary, and secondary health care services are overseen by the nine Provincial Ministries of Health (PMoH), each headed by a Provincial Director of Health Services (PDHS), and twenty-six health districts, each led by a Regional Director of Health Services (RDHS).

The Stakeholder Consultations: Objective, Participants, and Methods

The objective of the consultation process requested by the MoHNIM was to collect stakeholders' views and opinions about strengthening Sri Lanka's health care system to address the changing burden of diseases and demography to guide and inform policy decisions.

The TEC invited a great number of stakeholders to represent all sectors involved in Sri Lanka's health system and from all geographical regions. There were more than 200 participants in total (provided in Appendix 1: List of Teams Represented in the Stakeholder Consultation Days). Participants included PHC directors, hospital directors, Regional Health Services Directors, primary health care staff, directors of private sector hospitals, part-time general practitioners (GPs), representatives from academia and civil society, and others. There was also good participation among high-level public officials.

We welcomed the participation of all stakeholders. It demonstrated the esteem in which the Sri Lankan health system is held in the local community and the excellent care our staff deliver to patients.

The consultation process was designed to provide a large number of stakeholders with the opportunity to meet and express their views. Therefore, the consultation process was held over five days. Each participant was invited to participate on one of the five days; certain groups were concentrated on different days:

- Day 1: Mostly high-level public officials
- Day 2: Mostly high-level public officials
- Day 3: Mostly primary health care staff and academics
- Day 4: Mostly private sector representatives and academics
- Day 5: Mostly international and civil society organisations

While the participants varied, each day was divided into three segments:

1. Introductory Plenary
 - Welcoming of the participants by the MoHNIM, TEC, and World Bank
 - Explanation of the objective of the meeting: to collect your expert opinions and ideas for strengthening Sri Lanka health care delivery to address the changing burden of diseases and demography
 - The role of the TEC and the World Bank
 - Twin goals: eliminating extreme poverty and boosting shared prosperity and the fundamental role of Universal Health Coverage
 - A presentation on Sri Lanka's current health situation and challenges
2. Work in Groups: Participants were divided into small groups of between 10 and 15 people to discuss Sri Lanka's health system situation and policy options for improving it. Each group selected a chair to conduct the discussion, a note taker, and a presenter. Each group was accompanied by a member of the TEC or World Bank team.
3. Feedback Plenary: Each group presented the results of its discussion, with time for clarifications and comments from the participants.

All sessions were recorded and all group presentations and comments collected. The World Bank team subsequently reviewed all the material to extract and summarise the main suggestions, which are detailed below.

Outcomes of Stakeholder Consultation

In all the meetings, participants emphasised the current strengths of the Sri Lankan health system and the positive results achieved in MCH by the preventive services. Sri Lanka today has around 200 to 300 health institutions widely distributed in its territory, all of which are staffed by qualified

professionals (doctors and nurses). Sri Lanka also has experience providing specialised care in remote areas, for instance, neonatal care. Therefore, participants engaged in lively and productive discussions to improve the system to deliver quality health services, in particular for PHC. Despite the challenges they recognised, they concluded that “*we can do it.*”

In all discussions, participants frequently highlighted certain areas that needed attention, and that should be considered for policy changes. We denominated these the “Key Thematic Areas”:

1. Reorientation of Primary Health Care
 - a) MOH and PMCU
 - b) Human Resources
 - c) Specific measures to tackle NCDs
 - d) Referral and transportation system
 - e) Healthy Lifestyle Centres
 - f) Monitoring and Evaluation
2. Health Information and IT systems
3. The Private Sector
4. Procurement Systems
5. Health Financing
6. Beneficiary Engagement and Citizens’ Voice

Further details on the stakeholders’ comments on each key thematic area are provided below.

1) Reorientation of Primary Health Care: “Make Primary Health Care Attractive”

There was a consensus among the participants that there is underutilisation of primary care facilities. In participants’ opinion, there is lack of confidence in PHC services among the population, due to poor infrastructure, unsuitable hours of service, lack of basic medicines and lab tests, non-availability of transport to the facilities, and negative attitudes of staff. This situation generates overcrowding at secondary and tertiary health care levels, including teaching hospitals.

In short, “PHC is not attractive, and we should make it attractive”. This idea was repeated several times by the participants. Participants highlighted that “it is time to upgrade the level of PHC.” All groups came up with the idea that the PMCU system should be upgraded and tailored to population needs, that staff and services should be redesigned, that medical records using a unique patient’s identification number introduced, to remain open for longer hours, and that consultants should provide support.

The participants made many specific suggestions to improve PHC.

- a) At the organisational and institutional levels, participants suggested reorganisation:

- *Redefine coverage areas.* Most participants suggested that the areas covered by PHC services should be redefined. This potentially involves establishing new PHC facilities based on demographic and geographic information.
- *Population registry.* Almost all participants suggested that the population should be assigned to a medical doctor or health care institution, similar to what currently occurs in the preventive health sector. For instance, a family or individuals should be registered to the PMCU or District Hospital.

A few participants suggested that people should decide on which institution they want to get registered. This may result in over or under utilisation of some institutions, but utilisation would be based on the quality of the service they provide, and payment to each institution could be based on capitation or families registered.

- *Delegate power.* Participants recommended delegating administrative and financial powers from the district level to a lower level, such as the sub-district level to cover several divisional areas. This would link the PMCU, MOH and GPs, as well as the tertiary care hospitals, and it would connect the preventive work at community level and the curative sector.
- *Standardise facilities and services.* A patient should receive the same standard of care and treatment at each PHC facility. This involves defining the services provided at PHC level (tailored to current population needs), the equipment required, and the number and kind of human resources needed. MoHNIM has already developed some standards which should be implemented.

Several participants suggested establishing a system for the certification or accreditation of health care facilities.

- *Protocols for health care:* Most participants requested the development of protocols for health care, including treatment guidelines, as well as the management of referrals from PHC to higher levels of care.

Proper equipment: PHC requires basic laboratory tests and transportation. The redesign and standardisation of facilities will require proper equipment. As a participant mentioned: "Today, PHC is more than a stethoscope. We need to have scans at facilities." Some participants also suggested updating staff uniforms to make the services, as well as careers in the health sector, more attractive.

- b) At Medical Officer of Health (MOH) level, participants recommended strengthening the focus on identifying and addressing risk factors:
- *Focus on behavioural and risk factors.* Working at the community level, MOH should focus on lifestyle changes.
 - *Increase strength and coordination.* MOH need increased numbers of staff and more

multidisciplinary team coordination. The ownership of each programme should be designated to MOH staff, similar to other programmes.

- *Co-locate key services.* PHC should include the following services: general out-patient with ETU, oral health/dental clinic, antenatal care, family planning services, immunisation, etc. There is a need to implement health services for the elderly at each MOH.
- *Reach out to clients.* Once services are improved, there should be a campaign to inform citizens about the services provided at PHC.

c) At Primary Medical Care Unit (PMCU) level, significant strengthening is required to enable the facilities to do both preventive and curative care effectively:

- *Procedures and protocols* should be clearly defined and implemented: “Without clear procedures, we can’t take proper care of patients.”
- *The population covered by PMCU should be redefined.* All the groups suggested that a relationship should be established between the population and a health facility responsible for screening, prevention, treatment and follow up of the assigned population. One group suggested that medical personnel should cover around 5,000 caretakers, while another group suggested having 100,000 people assigned to each physician.
- *Identify coordinators.* Several groups suggested the introduction of an officer (nursing officer, community nurse, health promotion officer, or public health inspector) to be the nexus between the community and the hospital curative system.

In addition, a few groups suggested the introduction of School Medical Officers. Their role would be the prevention and introduction of healthy lifestyles at preschool and school levels.

- *Offer specialist care at PMCUs.* Most participants suggested that consultants should visit PMCUs regularly (for instance, weekly or monthly) to review cases and health care plans, to train staff, and to provide specialist clinics. One option to consider is establishing a cluster or senior system that brings consultants to smaller hospitals. This also requires mobilising the specialist’s equipment, e.g. a gynaecologist who brings the ultrasound to assess high-risk cases. This would increase the quality of care and the population’s confidence in the PMCU system.
- *Expand service hours.* Similarly, most participants suggested extending the opening hours of the PMCUs to match the population’s needs better. Opening hours should include public holidays and Sundays.
- *Expand services offered.* NCD screening and counselling services should be provided at all

PMcus. Medical officers and staff should be trained in family medicine and exposed to preventive care knowledge. A few participants suggested implementing basic emergency facilities in each PMCU.

- Some participants suggested that PMcus should collect information and perform data analysis as part of their functions.

d) Human resources are key to delivering better health care, in particular, to expand health care for NCDs.

- *Training:* To deliver NCD screening and care at the PHC level, all PHC units need trained human resources to staff respiratory clinics, mobile clinics, and cancer screening. The participants recommend: offering training on new guidelines developed for NCD services developed; ensuring that guidelines are distributed and made widely available; providing in-service training on family medicine and preventive care. A few participants suggested making such training mandatory. Undergraduate training also needs to put emphasis on NCDs management and prevention in addition to MCH.
- *Establish training centres.* It was suggested to have training centres at hospitals and that hospitals, operating within a cluster framework, should be responsible for providing the training to PHC staff.
- *Re-distribute human resources* to provide specialist medical care in remote areas. The annual transfers should include medical officers appointed to PMcus in addition to hospitals.
- “We always start with training for doctors, why we don’t start with midwives and health promoters? Teaching them about prevention”.

e) Specific measures for tackling NCDs suggested by the participants included:

- Establish a package for NCDs similar to the MCH package system. In addition, there should be different packages for different age groups.
- Currently, the MO-NCD is housed in the RDHS office or the MOH office. The MO-NCD should sit in the PMCU or DH. MO-NCD has many tasks; the main one is to do the screenings. Today, if a patient is screened and detected with a chronic condition in one place, then he or she is referred to a different place for treatment on a different day. This seriously reduces the chances of getting treatment. If we move the MO-NCD to the hospital, then people could be screened and treated in the same place on the same day. This avoids the “patients detected but not treated” situation.
- We also need supportive care, exercise centres, dietary advice guidance: “We currently detect, but we don’t have anywhere to send them.”

- Most participants suggested the introduction of an officer, for instance, a Public Health Inspector, with the specific function of NCD prevention and monitoring.
 - For NCDs, there should be a PMCU for every 3 Grama Niladari (GN) divisions.
 - Make NCD screening available daily, not only on specific days. We should develop a system to identify the risk factors in the community and provide active screening in the community. We should also programme mobile screenings to more effectively reach farmers, mothers, and other people who do not visit the facilities. A few participants suggested that NCD screening should be made compulsory by some means of law. For instance, for government officials or insurance claims. Tests should be free, and a certificate could be required.
 - Introduce a compulsory health care system based on PHM or PHI areas. There should be registration and a screening card for people over 35 years old. They should get basic screening and referrals as in the MCH system.
 - Health insurance (public and private) should cover preventive tests such as mammographies. Currently, these tests are paid out-of-pocket despite patients paying for (public or private) health insurance.
 - Explore options and develop home-based care.
- f) Referral and transportation systems: All participants highlighted that the referral chain and transportation system should be strengthened to support the PHC level and to ensure a continuum of health care. Suggestions include:
- *Define protocols and pathways for referrals.* This should be done for both directions: referral going up to secondary and tertiary levels and for back referrals to the PHC level – back referrals should be shared with the primary level and include a management care plan. Empower the PMCU to serve as a gatekeeper towards the secondary and tertiary levels.
 - *Use one standard referral form* across levels and sectors.
 - *Communication:* A few participants suggested to improve the communication system.
 - *Strengthen ambulance and transport system.* Due to Sri Lanka's short distances, a reliable on-call ambulance system could be sufficient.
- g) Participants identified the need to strengthen Healthy Lifestyle Centres:
- Strengthen Healthy Life Centres with dedicated staff, including instructors, councillors, and officers for physical education, nutrition, and lifestyle modification.
 - Support Healthy Life Centres to provide key services: active screening in the

community; follow-up with referred clients; blood sugar screening; blood pressure measurement; CVD risk and body-mass index (BMI) assessment; cholesterol tests; and ECG.

- Establish HLC as a collecting centre that refers to a laboratory in each division.

h) Monitoring and Evaluation of PHC:

- Once standards are defined, an appraisal system should be established to evaluate the facilities and procedures against the standards periodically. For instance, hospital performance and compliance could be evaluated quarterly. Data collected at each centre could be shared and compare with others every three months.
- Monitoring and evaluation should also be conducted at District level for PMCU activities.
- Some participants suggested having a reward mechanism in addition to a performance-based appraisal system.

2) Health Information and IT Systems

Participants explained that when a patient seeks health care, he or she is usually treated by different doctors at different health facilities that do have no access to the patient's health records, previous medications, exams, etc.

- All groups suggested that Sri Lanka's PHC health system should introduce cloud-based health records for all citizens nationwide. Similarly, all groups also suggested that patients should have a unique number for identification.

The goals of introducing medical records and a unique identification number should be to: enable access to a patient medical record anywhere in the country, and to share the patient's information among the different levels of health care: primary, secondary and tertiary. This will contribute to securing a proper continuum of care, and offer better treatment in an emergency.

The medical health record should contain a minimum of information for each stage in life, such as immunisation status of children.

- The patient management system should be integrated with the hospital management system, the disease surveillance and notification system, and a Geographic Information System (GIS). This will allow us to improve public health interventions and prevent diseases and outbreaks more efficiently.
- One group suggested that the country could start with manual (paper) records and then move to electronic records. Sri Lanka's preventive sector is paper-based and has proved to be enormously successful.

Another suggestion was to start with the most complicated patients, such as people who have more than one chronic disease or several risk factors. Diabetic and hypertensive patients consume several medicines, require close follow up and monitoring to prevent high-cost complications.

- Incorporate data entry officers into the staff at all levels.

3) The Private Sector

The quality of health care provided in the private sector is variable. In participants' views, synergies could be strengthened between the private and public sector.

- All participants suggested that there should be sharing of patients' information between the private (GPs) and public sectors. A few suggested that GPs should use the same registration system as the public sector and emphasised the information belongs to the patient, not a sector. A few suggested that GPs could be incorporated by a capitation fee (per patient).
- All participants agreed that GPs and all private sector providers should be registered and standardised, follow government rules and regulations, and observe protocols and guidelines of care, including the notification of diseases.
- A few participants suggested that the private sector should be incorporated into the CPD system for quality improvement. There was a consensus about the need to coordinate referrals with the private health institutions.
- The participants were in favour of public-private partnerships. For instance, the public sector could contract private services in special circumstances, for instance in remote areas. Also, as part of their social responsibility, the private sector could provide services in specialised areas, or at reduced or free prices.
- The Government could support the development of a not-for-profit private sector.

4) Procurement Systems

All participants agreed that to make PHC more attractive; medicines should be easily available. For that purpose, Sri Lanka needs to update and have a well-functioning supply chain management system for pharmaceuticals and medical supplies. In addition, participants emphasised the need to have medicines at the PHC level otherwise patients will move to higher levels of care.

5) Health Financing

There was wide consensus that out-of-pocket expenditures should be controlled and that PHC services should remain free of charge. Participants also agreed the tax-based model should be maintained. Participants highlighted the fact that if PHC became more attractive and tailored to

populations' needs, for instance by increasing hours of attention, all these changes will reduce out-of-pocket expenditures. Finally, a few participants suggested that the development of health insurance should be explored.

6) Beneficiary Engagement and Citizen Voice

Participants expressed that the health system must increase patient empowerment and engagement in their health. They offered the following suggestions:

- Develop an accountability system
- Involve citizens in the planning process
- Create local health development committees
- Strengthen hospital committees
- Involve community groups and meet them regularly
- Engage patients or the community in monitoring and evaluation assessments
- Perform surveys on patient satisfaction
- Develop health awareness programmes
- Explore the use of technology to increase community awareness and to keep contact with patients
- Include health education in the school curriculum and have Health Education Units in all PHC institutions
- Give recognition for having a personal health record
- Implement home visits and communication system for people who either do not seek screening or drop out of NCD management

Appendix 4: Technical Report on Reorganisation of Primary Health Care

The Status of Primary Health Care in Sri Lanka

Sri Lanka's model of primary health care (PHC), available free through a government health system with island-wide availability, forms a sound basis for providing universal health coverage. The public sector continues to provide the bulk of inpatient care but has ceded most outpatient provision to the private sector. Even then, it continues to be the predominant source of such care for the very poor, who cannot afford private care.

However, this system is increasingly under pressure from the change in demography and disease patterns, and the growing out-of-pocket expenditure for chronic diseases. The increasing consumer expectations for better quality and improved responsiveness in health care facilities is leading more Sri Lankans to opt for the private sector.

The PHC system has two main delivery arms.

1. **Primary community health services** – The country is divided into Medical Officer of Health (MOH) areas which is managed by a MOH and public health field staff consisting of public health midwives (PHM), public health nursing sisters, and public health inspectors is responsible for prevention and promotion of health. They have mainly focused on maternal and child health and communicable disease prevention, but are increasingly being delegated new responsibilities.
2. **Primary medical/curative health services** – Through a network of Primary Medical Care Units (PMCU) formerly central dispensary/ maternity home and Divisional Hospitals (DH) [formerly peripheral units and rural and district hospitals] the former offering outpatient services and the latter both outpatient and inpatient services for diagnosis and treatment. These are manned by non-specialist medical doctors and other staff including Registered Medical Officers, nurses, dispensers, few dental surgeons and Medical Laboratory Technicians.

The primary medical/curative services are also provided by a variety of service providers which include medical officers in Out Patient Departments of secondary and tertiary care hospitals including the private sector, full and part-time private general practitioners (mostly doctors employed in state service working after hours), general practitioners of alternative systems of medicine and a large number of unqualified practitioners (quacks).

Thus it is clear that unlike the primary community health services which are well organised and accountable to a defined population and geographic area, the primary curative care provided by the state is disorganised and unappealing. In spite of being available to all within 5km of their home and being completely free, more people are opting for the private sector or bypassing the primary care institutions to outpatient services in secondary and tertiary hospitals.

The task assigned to our technical group is to recommend key improvements, restructuring, and reforms, which need to be introduced in the provision of primary health care within the above

context, making the best use of the existing system and its infrastructure and resources.

The National Health Strategic Master Plan 2016 – 2025 (Ministry of Health) has highlighted the importance of a family medicine approach through primary level curative care institutions accountable for a defined population. The economic policy document of the government Vision 2025 emphasises the need to strengthen curative and preventive primary health care delivery system.

Our task has been greatly simplified by the work of the planning unit of the Ministry of Health (MoHNIM). It has developed a rational health care delivery policy based on a shared care cluster system in which the PMCU and DH are the important constituents at primary care level. We feel that this model addresses to a great extent the issues and problems which are highlighted below.

Issues and Problems in Primary Health Care

Primary community health services (MOH service)

There are no major issues related to the organisational structure of these services. In spite of a relatively low investment by the state, they have been remarkably efficient and have been primarily responsible for the comparatively excellent health indicators achieved by Sri Lanka. However, a perusal of the national health accounts indicates that the MOH services have received a progressively lesser proportion of the health investments over time. Capital investments at a national scale on the MOH service have been relatively low. It is essential to recognise this fact when investing in primary health care.

The life cycle approach to health necessitates the PHM as the frontline primary health care provider bears additional responsibilities in the primary prevention of Non-Communicable Diseases (NCDs) by monitoring healthy lifestyles in the home setting and promotion of mental health, without undermining her primary role in Maternal and Child Health. This has necessitated a downward revision of the population: PHM ratio to 1500:1. However, even the existing cadre for PHMs is not filled in some districts. Recruitment of midwives has been difficult especially in urban areas.

With the emergence of NCDs as the major cause of the disease burden, novel and innovative approaches to health promotion with greater community participation have been tried out in special projects such as the NIROGI Lanka project of the Sri Lanka Medical Association (SLMA). They have utilised a new cadre of graduate health promoters. The results have been promising and warrant further study in a national context.

The majority of the MOHs as well as Medical Officers (MOs) of the PMCUs function as part-time general practitioners outside working hours. Except for a minority neither category have had specific training in Family Medicine.

There is a danger that investment in the development of the primary curative services may be perceived as an overemphasis on curative care at the expense of preventive care. This should not happen, deficiencies in both services need to be rectified, and the two services need to be delivered in an integrated manner.

Primary medical health services

Non-availability of reliable nationwide data on preferences for primary medical care by the people and the relative lack of data on the pattern of morbidity encountered in primary medical care is a major drawback for planning.

There is a confusing array of service providers, which has rendered the patient unable to decide on who is best for him in a given situation. Except for a small number of trained full-time family practitioners, none provide continuity of care and are not accountable to the patient in the long term. The quality of care provided is highly variable between providers and even by the same provider on different occasions. The patient is vulnerable and often unable to recognise deficiencies in the quality of care except in instances of gross negligence.

Primary curative care services in the state sector have been under-invested during the last two decades when the emphasis was on developing the specialist services at secondary and tertiary level. The infrastructure and facilities available, like medicines, laboratory investigations and support services, are poor. The medical officers are relatively inexperienced, and only a minority has had any training in family practice. The access to the service is limited to about six hours during the day between 8 am and 4 pm. This has adversely affected its utilisation by the male working population. They are ill-equipped and inadequately staffed to tackle the problems of patients with chronic NCDs, the ageing population, the disabled and the mentally ill. They are incapable of providing any domiciliary care. Their ability to manage a medical emergency is also somewhat limited.

The situation is further aggravated due to the lack of a planned referral system. There is no designated referral centre, and patients need to go through many formalities and find the process to be cumbersome. Even acute referrals are sometimes limited due to non-availability of an ambulance. Co-ordinated back referrals are uncommon as facilities for rehabilitation and palliation are not available in the periphery. Lack of a patient based record keeping system in primary care hampers continuity of care and makes shared care less feasible.

Majority of the medical officers in PMCUs and MOHs do private practice after hours, usually in the vicinity of their institution. This has some implications for the equity of care provision.

Due to all the negative aspects listed above many patients bypass the PMCUs and DHs and seek primary medical care from a private practitioner or the outpatients department of a secondary or tertiary care facility. Those who can afford it seek specialist medical care in the private sector. Only the patients from the lower economic quintiles seek primary medical care from the state sector. This has led to an underutilisation of facilities in the state sector and a significant rise in out-of-pocket expenses for health care among the lower and middle-class citizens.

In spite of the majority of the part-time general practitioners (GP) being medical officers from the state sector, there is very little interaction between the state sector and the private sector. Even longstanding full-time general practitioners in the area have no access to any facility in the state sector. Even the use of whatever available state sector medical records by private GPs is not encouraged. Their participation in health promotion activities too is variable and is not facilitated

as a policy. Though they work in proximity they are confined to their silos.

Priority Problems to be addressed in Primary Health Care

- The absence of a patient centred primary curative care service of adequate quality which is accountable to a defined population.
- Relative underinvestment in the MoHNIM system over time which has compromised its capacity to serve vulnerable populations adequately.
- Relative powerlessness of the patient/public, compromising their health-seeking behaviour and utilisation of services.
- Lack of accountability at all levels of care by all categories of health care providers.
- Poor referral system resulting in inefficient sharing of care between primary and secondary level institutions.
- High out-of-pocket expenditure on health care by the poor segments of society.
- Lack of recognition of the private general practitioners by the state sector and lack of collaboration between the two sectors.

Justification for and Desired Outcomes of the Changes

The objective of the suggested policy change is to ensure universal health coverage to all citizens relevant to the disease burden in the country through an efficient health service and to make primary medical care services available to the whole population without any financial hardship to households. It will also ensure active and informed utilisation by the public of these services and establish accountability mechanisms at all levels of care.

The suggested changes are likely to improve access, availability and equity of provision of both primary preventive and primary curative care through the state and private sector. It is also likely to enhance its quality and relevance. Through optimal use of the available infrastructure and human resources, it is likely to improve the cost benefit. It is likely to achieve some harmonisation between private and public sectors as well as between curative and preventive services. The shared care cluster system should ensure successful referral and back referral between primary and secondary care services.

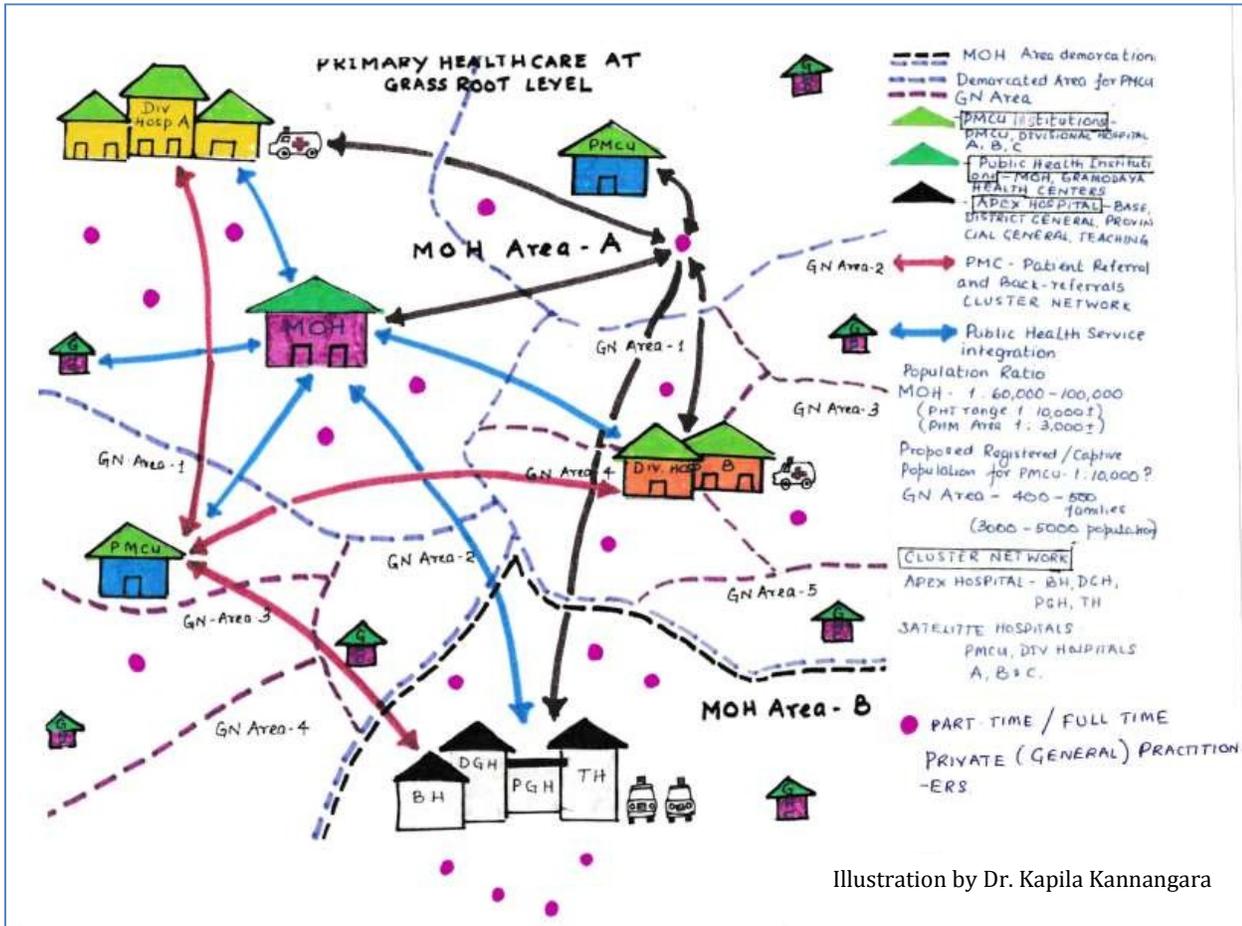
The Proposed Model for Delivery of PHC

Figure 3 presents a network of PMCU/DH and MOH divisions clustered with a Base Hospital each serving a defined population and a specific geographical area. Key elements are:

- MOH services to be retained, with further strengthening of human resources and infrastructure.
- PMCU/DH to be reorganised and strengthened to provide comprehensive care through a family practice approach.
- PHC to be delivered in an integrated manner by the MOH & PMCU working in cohesion with each other.
- Private GPs to be recognised as primary care providers for a fee and to have access to some

of the services in the state sector including the right of direct referral to secondary care.

Figure 3: Schematic representing the proposed model for delivery of PHC

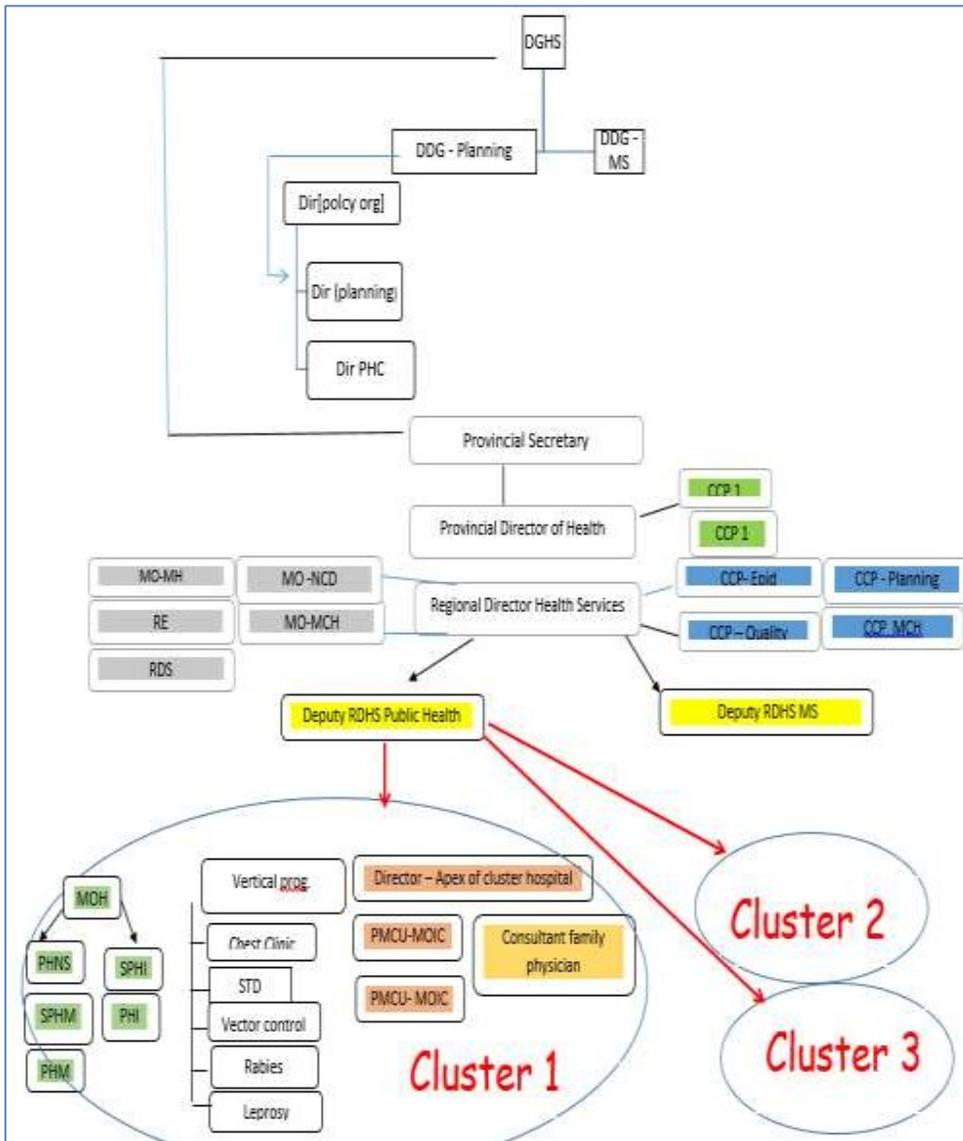


Features of the proposed model include:

- PHC to be delivered in an integrated manner by the MOH & PMCU working in cohesion with each other
- The proposed PCU's are defined as PCU's with beds (will include DH) and without beds (will include CD's)
- MOH system to be further strengthened in accordance with the relevant recommendations of the College of Community Physicians of Sri Lanka
- More accessible, people-centred public health service with state of the art MOH offices with better transport facilities for all categories of public health staff
- A network of PMCU and MOH divisions clustered with a Base Hospital each serving a defined population and a specific geographical area (per Figure 3)
- PMCU to cater to a population of roughly 10,000-15,000 people and have two to three MO's
- PMCU reorganised to provide comprehensive care through a family practice approach: namely, providing holistic care through family clinics where all services are provided daily

- to make it easier for the client/patient
- Every patient will be assigned to a specific PMCU which serves a geographically defined area
 - Every patient will have unique identification number and patient-based health record in both paper-based and electronic format which will facilitate continuity of care and smooth referrals/ back referrals
 - All PMCUs will provide a domiciliary service for rehabilitation, care of the elderly, mental health and palliation
 - All PMCUs will have an emergency room capable of stabilisation prior to transfer to a secondary care facility
 - At least one ambulance with trained staff will be available for each Divisional Secretary division
 - All PMCUs will have facilities for minor surgery and daycare
 - PMCU will work on a shift basis, providing uninterrupted 12-hour access during weekdays and 6-hour access during weekends (staff will need to be remunerated for extra duties)
 - All PMCUs will be standardised in terms of facilities and human resource availability
 - A set of standard treatment guidelines will be available for all common conditions encountered
 - An essential care service package has already been developed by the Planning and NCD units of the MoHNIM – this will be further developed
 - A list of essential medicines and laboratory investigations will also be available.
 - The retention of MOs in the PMCUs and MOHs will be ensured by enabling:
 - Extra duty allowances as applicable
 - Improved working conditions
 - Continued privilege of private practice after hours
 - Provision of residential facilities
 - Capacity building through training and Continuous Professional Development
 - Consultant Family Physicians based at the apex hospital of the cluster will have a role in training and monitoring of medical officers in the PMCU
 - PMCUs will be subject to performance-based appraisal. A mechanism (through a special unit in the MoHNIM, see Figure 4) will be in place to monitor the quality of services provided by the PMCU
 - MOH services will continue to be monitored in the present manner
 - Public /patient participation in the monitoring will be a feature
 - Referral system will be streamlined (back-referral for palliation and rehabilitation will be facilitated)
 - Private General Practitioners (GPs) both full-time and part-time will complement the state service, with access to some of the services at the PMCU including the right of direct referral to secondary care

Figure 4: Institutional structure of the PHC network for effective supervision and monitoring of services



Implementation

Plans for implementation need to be developed by the relevant directorate of the MoHNIM. The technical committee will provide guidance as required. The following is a list of the priority actions needed:

Short-term (two year) plans

- Essential service packages to be delivered through PMCU and MOH unit to be identified with clear delineation of the respective roles
- The terminology for all Primary Medical Care Units to be PMCU. Divisional hospitals to be renamed PMCU with inpatient facilities

- Job descriptions of the MO/PCMU and other categories of staff to be developed after identifying the skill gaps)
- Standardized lists of human resources, physical infrastructure, equipment and consumables, including medicines, to be identified
- Minimum training modules for all categories of staff to be developed
- A set of treatment guidelines for common conditions encountered to be prepared
- Geographical mapping of all component units (MOH, PHM, PCMU, DH, GP and Base Hospital) of each cluster
- Identify districts representative of urban, rural and estate sectors to initiate the first phase of the project
- Develop a roadmap for implementation in the long-term
- Identify the expected outcomes and measurable indicators
- Establish central and provincial implementing/monitoring units in the MoHNIM

Long-term (five year) goals

- Weaning off OPDs at secondary/tertiary hospitals
- Accident & Emergency departments strengthened
- Family practice register established in the Sri Lanka Medical Council
- Undergraduate training in family medicine as a clinical discipline established in all Medical Faculties
- Career progression pathway for MOs in primary care created
- Population norms for all categories of staff in PHC revised
- New cadres of health promotion officers, community nurses and community mental health workers created
- Compulsory Continuous Professional Development (CPD) linked to promotions
- Performance-based appraisal with patient participation
- Role of alternative medicine practitioners in PHC defined

Strategy for Implementation of the Proposal

Further development and implementation of this proposal requires close collaboration among the directorates of planning, NCD and primary health care of the MoHNIM. The support of the human resources for health unit and the health information division would also be essential. The organisational development unit of the Monitoring and DPU of the MoHNIM has already done some of the spadework required for implementation of the shared cluster system for delivery of primary medical care. These plans should be further refined in line with the current proposal. Essential quality guidelines for these units have also been developed by the planning division of the MoHNIM and could be utilised with further refinement.

Advice and guidance should be sought from the College of Community Physicians of Sri Lanka and the College of General Practitioners of Sri Lanka. The latter could provide valuable support in developing the training in Family practice for medical officers, and both would be able to contribute

to continuing professional development. The experience of the SLMA through the NIROGI Lanka Project would be helpful in developing community-based models for health promotion.

It is imperative to discuss this proposal with the trade unions of all categories of health professionals concerned, namely medical officers (MOs), nurses, public health midwives (PHMs), public health inspectors (PHIs) and other professions supplementary to medicine.

Support of the University Grants Commission and the Faculties of Medicine and Allied Health Sciences in all universities and relevant training institutions within the MoHNIM will be needed in planning and developing the health human resources requirements implicit in this proposal. The identification of skill gaps, and their rectification could be coordinated by the human resources for health (HRH) unit of the MoHNIM under the supervision of the Directorate for education and training.

The creation of a Family Practice Register will be the responsibility of the Sri Lanka Medical Council. The co-operation of the College of General Practitioners and the Independent Medical Practitioners Association and the Private Health Regulatory Agency of the MoHNIM will be required for this purpose.

None of the above will be feasible without political will and public support for these reforms. A major advocacy campaign for prioritizing and funding PHC development during the next decade has to be carried out, with the support of professional organisations and patient/public groups.

The technical and financial support of other international development partners other than the World Bank (i.e. the Asian Development Bank, WHO, or UNICEF) would also be necessary as the proposal is developed and implemented. It is suggested that this proposal is implemented in a phased manner in a few selected districts from urban-rural and estate sectors of the country. The creation of a special unit for implementation and monitoring is necessary. Public participation in the monitoring process has to be incorporated. The technical committee would be glad to provide guidance and assistance at every stage of development and implementation.

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Appendix 5: Technical Report on Referrals and Patient Information Systems

Introduction

The Ministry of Health, with support from the World Bank, is developing the next phase of the Health Systems Development Project (HSDPII) with the overall aim of improving the effectiveness of an integrated health service delivery system to respond to the changing demographics and disease burden in Sri Lanka.

The Ministry has already conducted a series of stakeholder consultations that involved the Ministry officials, officials from other ministries, community and civil society representatives, academic groups and International Organisations. Many valuable ideas and suggestions that would help to improve the health system to deliver Primary Health Care holistically were revealed.

Based on the stakeholder consultations and discussions and with inputs from a few technical experts, the following thematic areas were suggested:

- Reorganisation of Primary Health Care,
- Referral system and patient information system,
- Procurement systems – supply chain management,
- Human resources for health
- Health Financing and human resources,
- Beneficiary engagement, gender and citizens' voice

The appointed sub-committees are expected to develop position papers to address key dimensions of the current health care delivery system and to identify its main issues. The sub-committees are also expected to make recommendations and advise on the way forward.

Methodology

The sub-committee met on three occasions for discussions. The discussions included representatives from the Epidemiological Unit and the Family Health Bureau. In addition, the committee was represented in the larger working group meetings and interacted with other committees and officials of the Ministry of Health. The sub-committee also met the Deputy Director General of Health Services (Planning) and the Director/Information of the Ministry of Health and discussed proposed plans and the harmonised the activities currently conducted by the Ministry of Health with the proposed plans.

The sub-committee decided to address the referral and patient information systems separately. Additional comments touch on Health Information Systems more broadly.

Referral Systems

An analysis of the strengths, weaknesses, opportunities and threats in the existing referral system was conducted. A fairly functional referral system exists in the government sector which ensures that the neediest receive care. However, the efficiency with which this system works is questionable. Some patients when referred consult specialists in the private sector directly. Lack of a referral and a back referral system results in bypassing of smaller hospitals and overcrowding of larger hospitals. Lack of facilities at peripheral institutions compounds this problem as patients seek treatment where facilities for laboratory investigations and medicines are available.

In the private sector, lack of an organised referral system and channelled practice are major weaknesses of the system. In addition, part-time private practice by government doctors, some of whom have not been formally trained in primary care, complicates the issue. Poor documentation and lack of longitudinal information on patients' results in a repetition of investigations and duplication of treatment.

In contrast to the above, the preventive sector has well-organised referral systems which function effectively and efficiently, linking MCH, school health, immunisation and other programmes).

Actions recommended to improve the referral system

While reiterating the fact that the health system should be patient-centric, the following actions are recommended for improving the referral system:

- Have a record of patients' consultations and investigations. Ideally, this should be in electronic formats – Electronic Health Record (EHR) – in the long term. In the short term develop and implement paper-based records to document the sequence of consultations. This will provide feedback on continuity of care.
- Give preference for clinic consultations, routine surgeries, investigations and other procedures for referred patients – clinics should have dedicated numbers for referrals. However, referrals from the private sector to state sector hospitals need to be carefully assessed to prevent abuse of privileges.
- Conduct specialised clinics at Primary Care/Divisional level hospitals on a need basis (need to make treatment/diagnostics available at primary care/divisional level hospitals). In some specialties (psychiatry, TB) this is currently taking place.
- Ensure essential medicines and investigations available at divisional level hospitals.
- Bypass MO-OPD for referrals (direct access to specialised clinics that have dedicated preferential slots for referrals - requires regulation change)

Patient information system

Patient information is important to both the patient, for his wellbeing, and the provider, to ensure services are provided based on needs. In Sri Lanka, it is estimated that there are 100 million visits to public and private OPD settings. However no reliable data regarding outpatient morbidity is available. A pilot study conducted at the Colombo North Teaching Hospital OPD in March 2017 revealed that respiratory infections accounted for almost 25% of patient encounters. Eighteen percent of patients were referred to clinics, and 2.3% of patients were admitted to hospital. Prescriptions were issued to 80% of patients and investigations were requested for 12% of patients.

In the U.S. and the U.K., statistics from different sources have been collated to indicate the prevalence of illness in the community and where they seek medical care on a monthly basis. Among 1000 people, 80% will have symptoms, but less than 30% of these will seek care from any source. Sri Lanka does not have this kind of information on the large number of OPD visits (estimated at over 100 million in 2015 and projected to be more than 200 million in 2017).

The sub-committee conducted a situation analysis of the patient information system. Despite having a well-structured, island-wide accessible health care system which is provided free of charge at the point of care in both the curative and preventive health sectors, we do not have reliable patient information. The existing system is not patient-centric, and there is a lack of longitudinal data. Most clinics maintain paper-based records where longitudinal data are captured; however, the information is not shared with other practitioners.

One of the important functions of primary care medical record systems is to capture data on a consultation that take a maximum of 15 minutes. The data capture and entry time should not exceed a maximum of five minutes. While an Electronic Health Record (EHR) is the ideal solution in the long term, a longitudinal paper-based record that could be easily obtained by modifying existing records should be considered in the short to medium term.

The EHR should not be considered in isolation; but as a part of the entire health information system. Information from EHRs should feed into pre-existing and proposed online systems. A proposed Health Information System is given in Figure 5. The main information systems/subsystems should include patient information and management information that include curative services, public health services and hospital/institutional management in both the public and private sectors. There is a lack of digital architecture, governance structure and a regulatory mechanism. Embarking on such system requires sustained commitment to major investments in infrastructure, equipment and trained human resources.

A number of patient information systems are currently in use in the public and private sectors; however, there is little or no integration or sharing of information between

institutions. MoHNIM has already developed an EHR form and has initiated implementing the project in Divisional Hospitals Type A and above. MoHNIM plans to implement the system in 47 hospitals in 2017, 100 hospitals in 2018, and 150 hospitals in 2019.

A unique patient number based on the point of care would be generated for each patient. However, there is no sharing of information between institutions. DDGHS (Planning) and Director (Information) have agreed to explore sharing core information between institutions. This will require a policy level decision.

Health Information Systems

Digital health can help save and improve lives while management information systems provide necessary data, information and intelligence to manage the health system effectively and efficiently. Health information systems should be able to cater to the current needs and future requirements. Keeping up with the technological advancements, deciding on what is the most appropriate and change management are the key challenges one has to face when developing and implementing information systems. In this era of disruptive innovations, traditional SWOT analysis will not help to get the required answers.

The current requirements of information systems for the Ministry of Health are as follows:

Electronic Health Record System: These will help to keep a lifelong longitudinal individual health record. This is the starting point of various data banks, registries etc. The EHR also includes laboratory information system as well as diagnostic imaging information. EHR will provide most of the information necessary for preventive and curative sectors as well as statutory requirements.

Human Resource Information System/Knowledge Management System: These provide necessary data for management of health workforce & creation of knowledge.

Learning Management System: These facilitate CME & online learning.

Environmental and Occupational Health Information System: These are used to address information requirements of PHI's.

Enterprise Resource Planning (ERP) System: This will address the needs of supply chain (with upstream and downstream integration), inventory management, invoice management, assets tracking etc.

Medical Data Exchange: Establishment of an MDE will facilitate safe, secure and seamless data exchange among various stakeholders.

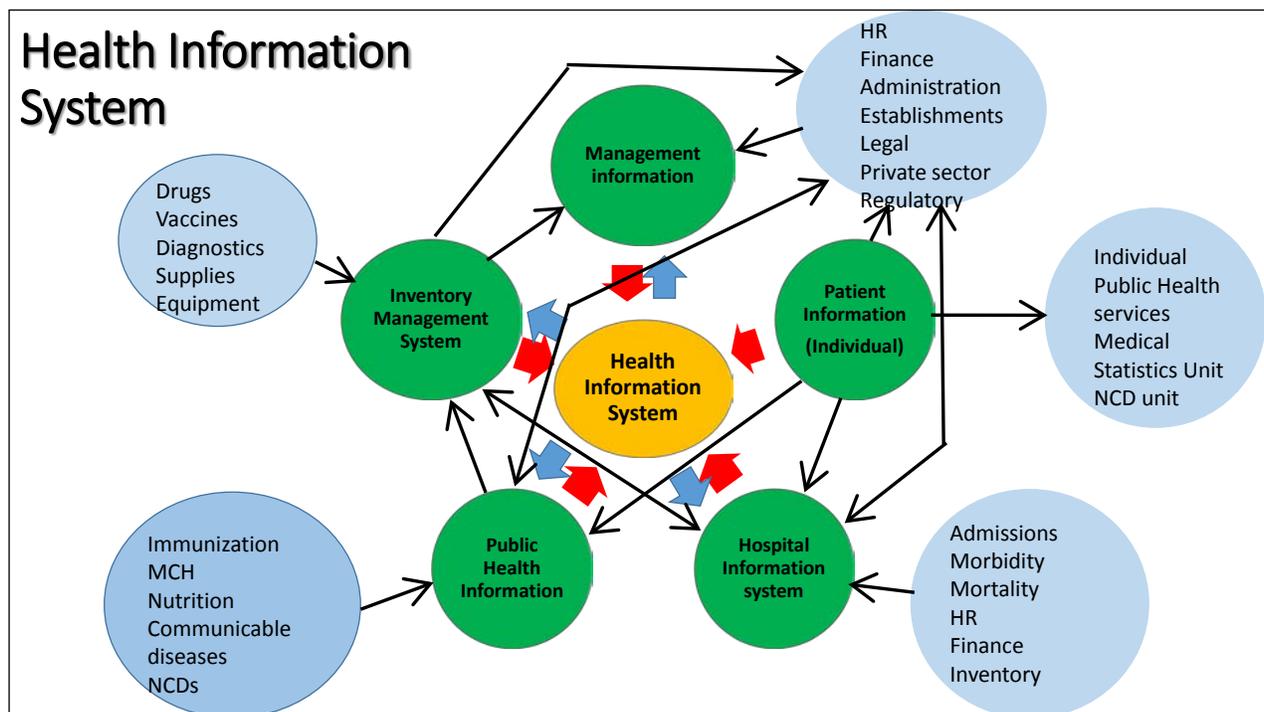
Data Mining and Big Data Analytics: This facilitates generation of intelligence and paves the way for predictive and prescriptive analytics.

Geographical Information System (GIS): This will provide location-based analysis.

Some of the above information systems have already being implemented; some others are in various stages of development while some need to be introduced. The necessary legal and policy frameworks are provided by the Electronic Transactions Act, Computer Crimes Act, E-Government policy and Health Information policy of Sri Lanka. Connectivity is to be established by LGN 2.0 network and high-speed internet connectivity.

The MoHNIM has already taken other steps to digitize the health information system. It has distributed 2000 tablet computers to PHMs and PHIs in 2017; the Ministry expects to provide the rest of the PHMs and PHIs with tablet computers in 2018. Other initiatives include the development of a master patient index and launching of the ambulance tracking system.

Figure 5: Proposed Health Information System for Ministry of Health



Actions for improving the information system in the health sector

- Establish a national coordinating body, headed by the Secretary of Health. The functions of this coordinating body will include appointing sub-committees to address various issues, to review existing systems, and to develop an architecture for electronic systems development.
- Scale implementation of already developed EHR with the ability to share information.
- Integrate existing curative and public health information systems.
- Build capacity in infrastructure, equipment, and human resources

- Develop or modify a paper-based health record for the interim period until the EHR is available countrywide (e.g. an NCD unit developed book for patients)
- Streamline appointments of trained staff (BMIs, ICT staff)
- Establish Information System standards (including system certification, data standards, and security standards)
- Develop regulations and legislature
- Patient engagement

Issues Related to Electronic Health Record (EHR)

Many issues are likely to be encountered in implementing an EHR that is used by all health care practitioners, including:

- A one-system-for-all model may not be acceptable to all providers; flexibility may be required as core data required for primary care consultations is identified
- Need to identify the connections in terms of data sharing
- Integration of existing systems in the private sector
- Commitment of all sectors and all practitioners to adhere to the system
- Reluctance of medical practitioners to comply with the system
- Taxation
- Litigation – medical audit
- Tracking patient-doctor engagements
- Possibility of erasing/ stealing data – but the system should be foolproof
- Limited IT literacy
- Monthly rentals for internet/ equipment maintenance

Needs for the Information system

Some of the needs for the information system are listed below:

- Health Information Unit at district level headed by a Health Informatician, with at least one person well trained in IT in each district
- Hospitals above Base Hospital level should have a Health Information Unit headed by a Health Informatician (cadre for staff with specific training, server facilities, IT equipment, office space, air conditioning, furniture, etc.)
- Improvement of IT facilities for Public Health Institutions (ensure minimum IT requirements in all public health offices: at least two computers for a MOH office, internet facilities for all MOHs; develop software and information systems for facility management)
- In-service training on ICT for relevant staff
- Establish a mechanism for sustaining information systems
- Maintenance of equipment and facilities, update software, policy for replacing and upgrading equipment

Proposed Timeline

The sub-committee proposes a five-year timeline to improve the health information system, shown in Table 2.

Table 2: Proposed timeline for developing information systems

Activity	Sub-activity	Year					Comments
		1	2	3	4	5	
Establish National coordinating body		X					
Developing the system level architecture		X					
Review existing systems		X					
Electronic HR	Patient engagement	X	X	X	X	X	
	Requirement analysis	X					Already initiated by MoH
	Procurement of hardware		X	X	X		Already initiated by MoHNIM
	Development of the software		X				Some software already developed MoHNIM
	Phased Implementation			X	X	X	Being carried out by MoHNIM
Integration of existing health information systems	Planning	X					Already initiated by MoHNIM
	System development/ modification		X	X	X		Some already done by MoHNIM
	Implementation		X	X	X	X	Being carried out by MoHNIM
Develop/ modify a paper-based health record		X	X				
Capacity building	infrastructure	X	X	X	X	X	In progress – needs scaling up
	Training human resources	X	X	X	X	X	In progress – needs scaling up
	Procurement of equipment	X	X	X	X	X	In progress – needs scaling up
Streamline the appointments of trained staff		X	X	X	X	X	
Information System standards	Establishment	X	X	X			
	Ongoing auditing (implementation)	X	X	X	X	X	
Develop regulations and legislature		X	X	X			
Patient engagement	Planning the engagement into EHR	X					Needs to be done although project is already implemented
	Implementation		X	X	X		

Appendix 6: Technical Report on Human Resources for Health (HRH) Considerations

Introduction

The proposed model for strengthening Primary Health Care (PHC) is likely to address the problems identified and lead to improvement of PHC services, particularly in the focus areas of NCDs, geriatric care and palliative care. It is important that the status quo of human resources for health (HRH) in the existing Medical Officer of Health (MOH) system is maintained, as it has resulted in the excellent health indicators particularly in Maternal and Child Health (MCH). Certain tasks may be reallocated, but these should be decided carefully due to workload issues – for example, PHIs can maintain registers on non-communicable diseases, but the current production of PHIs is only seven per 100,000 population.

We outline below how to improve the staff mix in alignment with this model, through increasing or redistributing the number of staff. We also discuss how to improve PHC-related competencies throughout the continuum of health professions education.

However, limitations in training and capacity development must be emphasised. Currently, only a limited number of hospital-based health professions (32% of medical officers and 17% of nurses) are engaged in PHC delivery. Only 5-8 specialist Family Physicians are produced annually. The production of nurses is approximately 3,000 per year, while 11,000 are required to fulfil the existing cadres. The annual production of doctors is 1,300, while the requirement is 5,600 – this is a better situation than nurses, but is obviously not optimal. The Ministry of Health-based schools of nursing are stretched to their limits. Only a limited number of the nursing and allied health trainees are trained in university-based degree programmes with structured emphasis on PHC. Even with the proposed expansion in higher education (e.g. at the Faculty of Nursing in Colombo), a rapid increase in numbers is difficult. A moderate increase can materialise only after the next five years. Therefore, the sub-committee's proposals focus on feasible and acceptable HRH solutions to support the proposed PHC model.

The Skill Mix, Numbers Required and Plans to Address these Needs

According to the proposed model – a PHC unit addressing a geographically defined population of 10,000 persons – 2,000 such units are required country-wide. We have based our proposals on PMCUs as the primary PHC unit.

Medical Officers (MOs) and Family Physicians

It has been proposed to have four MOs per unit, requiring 8,000 MOs. The current number of MOs in PMCUs and DHs combined is approximately 2,500. Therefore, a gap of 5,500 exists. The annual production, including appropriately qualified overseas graduates, is 1,300.

According to the projections for specialist production, 500 new hospital-based new specialist services are required, while the number to address attrition in existing specialist services and vertical programmes is 300. Therefore 500 new MOs can be allocated for PHC annually. It will take at least ten years to address the requirement. An initial strategy may be to redistribute the existing 2,500 MOs, and possibly the MOs in excess of requirements at OPDs/Primary Care Unit in secondary and tertiary care units so that all 2,000 units will have at least one MO.

A more feasible and acceptable option may be to allocate the new post-intern MOs to the new units with adequate clinical oversight by, for example, a distantly-located Family Physician. Thus all PHC units would have at least a single MO within two years. There are over 1,500 diplomates in family medicine currently, while annually 50 diplomates are produced by the PGIM, and 35 diplomates are produced by the College of General Practitioners. Around 60 diplomates in geriatric medicine are produced in another PGIM programme. All these diplomates may be mobilised as well. Family Physicians, preferably located at the apex centre, i.e. Base Hospital, should also provide regular training to all PHC staff as a primary function.

Nursing Officers (NOs)

It has been proposed to have five NOs per unit, a total requirement of 10,000 NOs. Current production is grossly inadequate even to support the hospital-based specialist services. We believe that NO critical services are needed only if there are in-ward facilities. Other services can be provided by up-skilling other staff. Even though it has been proposed to have a daycare/observation unit for all PHC units, currently only the (approximately 500) DHs have these facilities. We propose that NOs should be allocated to PHC units as and when they develop these daycare/observation units.

If the existing PMCUs develop such infrastructure immediately, the strategy would be to redistribute the existing NOs in DHs. We recognise the limitation in providing domiciliary nursing care with no NOs or even a single NO, but unless there are massive changes in the capacity of training these services can only be gradually provided. Meanwhile, existing NOs in DHs or BHs maybe retrained for limited domiciliary nursing care visits upon referral. A register of such nurses could be maintained to call on in case of necessity.

Dental Surgeons

The proposed requirement is one per unit, a total of 2,000. The production is exclusively by one university (around 80 annually) due to resource limitations. Around 400 school-based dental therapists are working throughout the country. These dental therapists could be utilised for screening and treatment of school children under 13 years of age. They also could do health promotion for adults. Dental Surgeons could be based in DHs.

Dispensers

The requirement of one per unit, a total of 2,000, can be provided by redistributing the newly produced dispensers, i.e. currently 1000 new dispensers in service, with the capacity to produce more.

Medical Laboratory Technicians (MLTs)

The proposed requirement is one per unit, a total of 2,000. Production is much less, and the allocation of an MLT to a facility that lacks even an auto-analyser is a waste of human resources. We propose that by up-skilling other staff to do some basic investigations (such as phlebotomy, urine analysis, FBG) that can be conducted onsite, others can be sent to a central location with an MLT (such as a DH). Staff in vertical programmes, such as microscopists attached to anti-TB campaigns, may be made use of for weekly visits, if available. Concurrently, plans can be made to increase production so that an MLT can be allocated if and when in-ward and auto-analyser facilities are provided.

Community Physiotherapists and Mental Health Social Workers

The roles of these allied health staff have not been well defined. We recommend that a systematic needs analysis is necessary before solidifying the requirement for one of each per PHC unit. For instance, we believe that they could be located in the DHs with domiciliary care visits upon referral.

Collaborating with the community and non-health sectors to improve universal access

Community volunteers organised by various groups (including Sarvodaya, Helpage Lanka, healthy elders, village committees with a health focus, and healthy retired senior citizens, e.g. retired doctors and nurses) can be mobilised. They can support access for patients needing primary care through encouraging screening and follow-up visits, maintaining records, or informing in the event a home visit is needed for palliative care. Domiciliary care referrals will be then made from PMCU as appropriate to health professionals in DH/BH. Development Officers from the Department of Social Services, based in the Divisional Secretariats, will help mobilise the community with support from the village committees and help coordinate services.

Training Needs and Plans to Address Them

Undergraduate education

PHC training should be strengthened in undergraduate health professions training and Ministry of Health pre-service training. A PHC competency framework has already been identified, which includes concepts such as a focus on NCDs and ageing. However, this needs to be integrated into the respective curricula. We strongly recommend first contact care

teaching (handling undifferentiated symptoms, identifying referral points, management of common issues, proper record keeping) for all medical undergraduates.

Postgraduate education

The training of specialists in Family Medicine, which takes over 11 years (including undergraduate education) with the present prospectus, needs to be revisited.

In-Service Training

In-service training and capacity building focusing on common areas of concern, such as diabetes, nutrition and palliative care, should be conducted in multidisciplinary teams with clear service roles. The unit of training is the PHC unit. DH staff, such as Family Physicians, are primarily responsible for the capacity development of PMCU staff through regular training and monitoring programmes. Specialized training on areas, such as shared decision-making with patients, are required. Clinical skills training in emergency management, for example, can be conducted at BH or Provincial General Hospital, while specialised classroom-based training on health promotion and disease prevention including screening can be conducted at Regional Training Centres (RTCs). Curricula should be developed by specialist professional colleges and NIHS in consultation with medical education specialists. In-service training can be non-financial incentive based. All MOs in PHC will undergo a mandatory 1-month RTC based training.

Continuous Professional Development

CPD opportunities should be made available to all categories, e.g. through m-learning. Performance management should include quality targets. There should be an emphasis on transformative education with a change in the person as a professional and preparation for transdisciplinary roles. Curricula should be developed by specialist professional colleges and NIHS in consultation with medical education specialists. ET&R unit will develop relevant policy. Feasible and acceptable blended learning approaches, such as using smartphones, may be tested after an assessment of ICT literacy and resources.

Planning and Implementation of the HRH Considerations for the Model

An initial needs assessment is to be conducted to find out how the community expects services to be delivered. Job descriptions and roles should be based at least in part upon these results. The roles of the present employees in the government hospitals may be analysed as well to explore the capacity to support the proposed model (including the capacity of the doctors and nurses to engage in shift work at PMCUs, which we believe is a progressive idea if acceptable, sustainable, and safeguarding patient safety).

Next, mapping of the geographical areas and existing facilities will identify units according to the proposed model and the HRH requirements for each unit, also considering that the

people in a defined area will seek services from different providers. HRH projections can be modelled on this information.

Finally, a pilot programme should be conducted in the medium term and its impact and feasibility evaluated. As patients start accessing services from the PMCU, extra staff could be allocated as needed. The HRH component of the evaluation can be conducted, among other parameters, on patient and health care worker satisfaction, learning and behaviour change of health care workers, and patient impact.

Appendix 7: Technical Report on Beneficiary Engagement and Citizens' Voice

Concepts

- The 'Patient' and the 'Public' (i.e. the citizen of Sri Lanka) is identified as the primary beneficiary
- The patient/public is deemed to play a significant role in shaping a pragmatic PHC system to suit today's priorities. The time appropriate need for PHC is a patient-centred pragmatic chronic care model
- The vulnerability of the patient/public seeking current state sector PHC services in Sri Lanka should be recognised

Focus Areas Identified During Stakeholder Meetings

- Incorporate patient feedback into PHC service delivery
- Strengthen local health/hospital committees
- Wide beneficiary engagement; including the notions of participation, communication in both directions and accountability at every stage of life ("from womb to tomb") as patients, family and the community, and as non-patients
- The focus should be broader than "engagement," dealing with issues of the relative powerlessness of the patient/public in dealings with primary care services
Patients/public must play a critical role in advocating and helping to make institutions and health systems to be more transparent, accountable and effective to ensure quality and safety

Current Status of Beneficiary Engagement in the Health System in Sri Lanka

- Poor accountability of the medical staff at all levels of care in both community and hospital settings resulting from:
 - Priority given to profit making
 - Lack of empathy
 - Lack of concern/caring
 - Lack of minimum standards in clinical competency/clinical skills
- Poor accountability also applies to care provided by nursing staff, public health staff, minor staff and allied health staff (pharmacists, technicians) in both community and hospital settings. It is driven by:
 - Priority being given to personal profit making
 - Lack of concern/caring / competence
- Patients are not able to judge the quality of clinical care services that they receive. Thus patients feel powerless from their inability to judge whether the caregiver is: competent and concerned about delivering good quality care, unconcerned about what patient gets, incompetent, or intent on maximising personal profit.
- Patient/public is not involved and not able to play a role in health care decision-making, patient management, service provision and management process
- Hospital committees are:
 - Minimally active, where they exist
 - No guidelines for committee mandate and functions

- Biased selection of persons to represent patients/public in the committee
- Have limited roles in relation to primary care service provision
- Limited engagement of patients/public with grassroots-level workers
 - Field services are easily accessible to patients/public and easier to engage with, but unequal power relationships are seen here too, not only in clinical services
 - Quality of health services are strongly determined by the field staff/grassroots level worker
 - One-sided, status-driven relationships
 - Roles and responsibilities of staff are restricted to record-keeping and crowd clearing in OPD/clinics/wards
 - E.g. Lack of an ethos for safe prescribing of medicines
- Lack of awareness of patient rights on health services and care and poor health literacy leads to “doctor shopping” and sub-optimal treatment-seeking behaviour
- No regulatory body exists to control media advertising of individual doctors and the encouragement of unnecessary treatment-seeking
- Undue prominence to “enforcement” approach now used in relation to dengue control led to the distancing of field health staff from the patient/public
- No mechanism exists to distinguish individual staff members who treat patients and the public with competence and care from those who do not (i.e. no incentives given for providing quality care and thereby no role models)
- There is no public access to data and information generated by the health system (such as metrics of quality)
- Poor emphasis on beneficiary engagement
- Doctors typically have high social status, and the health system is paternalistic
- Lack of humility under the guise of free education and free health (where the word ‘free’ is misused). On the side of the beneficiary, they have been “medicalised” and not considered the most important players in achieving good health
- Patients/public targeted by sensationalised medical news on mass media

Desired Outcomes

- Ensure active and informed (not token) participation of the public at every stage of the process of planning, implementation, monitoring and evaluation of health care services
- Establish accountability mechanisms at every level of care
- Immunise the public (e.g. to prevent public from being induced into unnecessary and service utilisation)

Methodology for Achieving the Desired Outcomes

Mechanisms and strategies should be incorporated into the proposed PHC model to ensure that everyone has an equal right to access and utilise quality PHC services within their given geographical location. This health equity can be achieved by:

- Establishing accountability at all levels of care provided by all medical staff, nursing staff, public health staff, minor staff and allied health staff (pharmacists, technicians), in both community and hospital settings

- Engaging the patient/public to play active roles in the assessment of the quality of health care services
- Minimizing patients' powerlessness by enabling them to judge the quality of care that they receive, including whether the caregiver is competent and concerned about delivering good quality care
- Ensuring that services, infrastructure, material and human resources at any given location are planned and provided by administrators/stakeholders based on need and without undue political, internal or external influences

Recommended Actions to Establish PHC institutions that Promote Health

- Develop and endorse a Patients' Charter
- Establish a mechanism for getting informed consent for surgeries and other procedures
- Formalise committees that link the patient/public with PHC institutions, including:
 - Ownership of the committee to be given to the residents of the area
 - Membership constituted to represent the main stakeholders and recipients in rational proportions (the majority to represent the public)
 - Selection criteria for the membership (to minimise political or pharma influence)
 - Convene meetings with PHC admin, hospital staff and the public of that area on a regular basis

Establish active community-based groups for advocating social equity in the delivery of PHC services in their given areas
- Establish a mechanism for independent investigation of complaints and provide feedback on findings and actions taken
- Initiate mechanisms to ensure that no external influence (imposed by the patient, administrator or caregiver) could be used when accessing PHC services
- Regulate appointments, laboratory services and medical treatment through an automated electronic medical record system, enforcing queues in clinics
- Implement a strong audit process that measures quality using a fool-proof electronic system, with results accessible to beneficiaries
- Assess patient/client satisfaction at the exit point
- Establish a complaint/suggestion box at each health institution
- Skill development of PHC staff to provide quality services for the recipients
- Reward systems and incentives (to be considered during salary increments or promotion) for providing quality services
 - 5S system
 - 360-degree assessments of PHC staff
 - Develop locally relevant indicators to assess the performance (electronic, less paperwork)
- Provide special training for health care worker/doctor-patient communication
- Empower patients on health literacy and health rights
 - Provide special training on health worker/patient communication
 - Initiate educational programmes on health rights at hospital & community level
 - Initiate school and workplace-based programmes on health education and health literacy in schools
 - Counteract unhealthy mass media and social media influence on patient care

- Create a forum to facilitate public queries/appeals through technology for patients/public to obtain impartial opinion on their care (E.g. SLMA to form such an electronic platform or forum with different colleges and specialties)
- Train community leaders to empower communities to take care of their health

Appendix 8: Technical Report on Health Financing

Introduction

The preparation of this situation analysis has been undertaken as part of the process of evaluating the proposed reorientation of the Primary Health Care system. This analysis is based on four premises:

1. Reorientation of the Primary Health Care (PHC) system must involve an expansion of health expenditure by the state.

PHC reorientation will involve greater expenditure in terms of current and capital expenditure at provincial PHC level. It should however also be noted that such a re-orientation of PHC will need additional funding for the health system as a whole. Money cannot be re-directed to PHC from expenditure on secondary and tertiary care, as these sectors will need to function effectively as part of the cluster system to which the PHC is linked. Moreover, the ongoing health transition demands that health expenditure on secondary and tertiary care will also have to expand. Likewise, reorienting PHC will involve additional staff cadres to be created, necessitating expansion of training. Some of these costs will have to be borne by the Ministry of Health, others by the Ministry of Higher Education.

Estimating the magnitude of the additional funding needed, and advocacy for increasing state funding are crucial issues in ensuring the effectiveness and also the feasibility of the planned PHC reorientation.

2. A major motivation for the proposed reorientation of PHC is to improve the management of Non-Communicable Diseases (NCDs).

This will require expanding coverage of effective interventions and improving integration and management of care. Increasing investment in NCD care is crucial given the demographic transition, the chronic nature of such illnesses and related long-term care needs, and heavier expenditure compared to communicable diseases, and the economic burden imposed on households through the cost of care and loss of earnings. The health problems of the ageing population, including the need for being cared for at home, and the need to safeguard the human capital of the working population could also be effectively addressed through this programme.

3. PHC reorientation should aim at ensuring continuous care for all at all times (Universal Health Care), through either the public or the private sector.

The reorientation of PHC should not aim at drawing patients away from the private sector. To do so would be going against current Sri Lankan health system policy and empirical trends, and would intensify the financial burden on the state. Instead, focus on ensuring that persons currently not accessing the health system are drawn in, those 'pushed' to private

sector utilisation at given alternatives in the state sector, that the state strengthens its role in facilitation, coordination and regulation to safeguard private sector users, and that the state acts to improve quality of care in both sectors.

4. A key goal of the reorientation of PHC is a reduction of out-of-pocket expenditures, particularly for poor households.

Currently, high out-of-pocket expenditure imposes a burden on households and is one of the major weaknesses of the health system that is necessitating this primary health care reform.

Any discussion of health financing in the context of reorienting PHC cannot be done in isolation. Hence this paper, while focusing on health financing, also considers provision (supply) and utilisation (demand) issues. These two factors determine costs and prices, and through these health care expenditures, ultimately determining what is feasible in terms of PHC re-orientation.

The discussion in this paper is limited, as all the six groups are working simultaneously on their areas of concern, and hence it is not possible at this point to address specifics, such as costing the proposed PHC provision model, proposed incentive payments for rural retention and evening OPD work or highlight the economic concerns related to closely integrating public and private sectors. The Health Financing group also wishes to emphasise that whatever reorientation activities are chosen, they do need to be consistent with what additional financing is available and that if proposed changes cannot be financed adequately, it would necessitate appropriate choices from the range of desired activities.

At present, while Sri Lanka has achieved unrivalled health outcomes at low cost, this process has been associated with the implicit right of patients to use any provider. Although making people use only one gatekeeper as a PHC provider might be desirable, this has not been possible as the government cannot afford to provide equal access to good quality PHC services to everyone. So it is politically necessary to allow people to choose and also to spend more by themselves if they want to.

This has resulted in bypassing of lower level government facilities, overcrowding at secondary and tertiary care facilities and substantial use of the private sector, particularly by the non-poor. A high share of out-of-pocket expenditure on health financing has been observed, despite a public sector system that is supposedly free at the point of delivery.

In this context, the integration of primary care is difficult when patients use a variety of both public and private providers. The situation is also made complex by both the poor and non-poor accessing the private sector; for the former, it can be a severe budgetary burden, while better-off patients, unhappy about private care costs, exert constant political pressure for measures to minimise the prices they face.

Increasing Public Funding

Reorienting PHC will require increased public funding. On the supply side, what is envisaged is the provision of a common “essential service package” across all lower level health facilities. This would encourage households to make use of close-to-client health care services. Such a service package would involve:

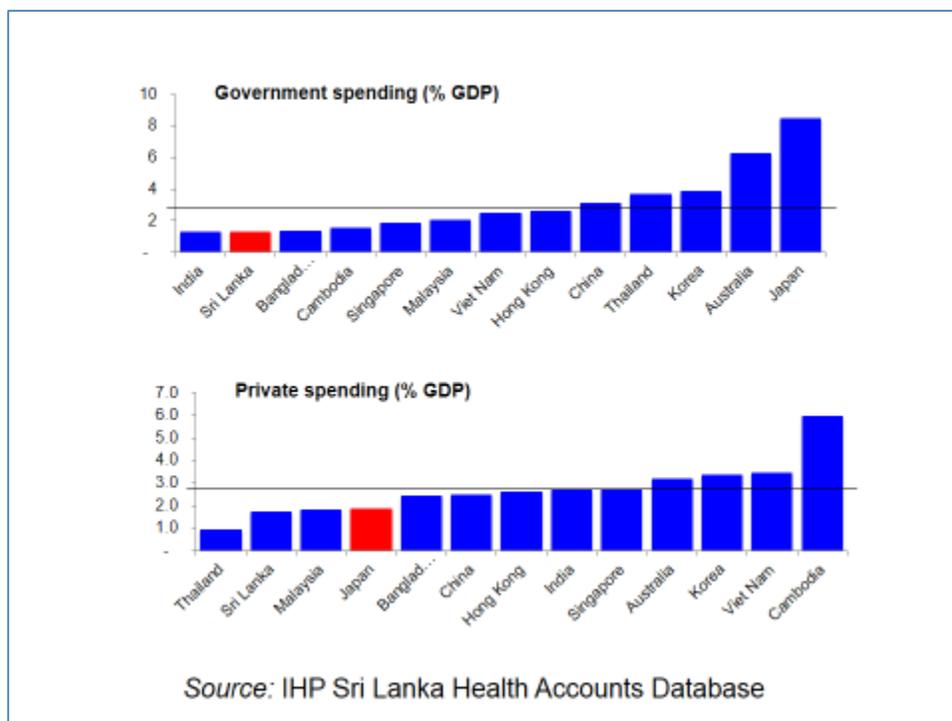
- spending more on human resources (to enhance access to patients in general, and particularly through evening services since higher remuneration would be needed in addition to rosters to get doctors to shift from private to public work)
- ensuring adequate availability of medicines
- providing diagnostic testing/imaging services

On the demand side, for the reoriented delivery network to attract more patients (and be a truly patient-centered model), the physical environment, times of service provision and quality of staff-patient interactions needs to be improved. If the public sector is to better coordinate on care with private providers, this almost certainly will also require interventions to improve clinical practices in the private sector, and if additional money is available public funds to flow to private providers to provide additional leverage. State financing of health care has to be substantially expanded to make the reorientation feasible.

Expanding the state allocation to health has to be combined with the greater disbursement of funds to the provinces, as the responsibility for the reorientation of PHC will fall mainly within their ambit. Because the reorientation of PHC relates to the reorganising of the existing service structure, more capital and recurrent expenditure will be needed at the institutional level if the reorganisation is to be effective. It will also be important to consider the additional financing needed, in terms of more and also higher salaries and (yet to be determined) additional allowances and incentive payments.

The health financing sub-committee stresses the need to expand the state health care budget in line with the demographic and epidemiological transition, to harness technological progress, to increase consumer satisfaction and counteract mediflation, and to improve PHC, whatever the overall consensus is on optimal PHC delivery model. International comparisons examined by the sub-committee showed that Sri Lanka currently has a low total health expenditure (THE) to gross domestic product (GDP) ratio (4%) (see Figure 6). The country also makes a very low contribution to health from the state budget, despite high levels of access to medical care, by international standards, and levels of use approaching those of a developed country. The average Sri Lankan visits a physician between five and seven times each year and is admitted to a hospital once in four years.

Figure 6: Government and Private Health Spending as a Percentage of GDP in Selected Countries



The strong and considered consensus of the financing sub-committee is that this increased state allocation for health care must come from expanding tax revenues, through more effective and deeper taxation. Alternative financing schemes, such as social health insurance, are not feasible or desirable in the current context.

It is important to emphasise that even if social health insurance were introduced, the state would have to bear the bulk of the cost of social health insurance premiums. Currently, there is low private insurance coverage (that has increased only from 1% to 5% since 1990) given limited formal sector employment and the low wage base. It should also be noted that to-date private health insurance and employer health insurance mostly covers inpatient care, and mainly does that by encouraging patients to utilise public sector care by providing a daily allowance to the patient (while not contributing to covering state health care expenditure). In addition, administration of a social health insurance scheme in Sri Lanka could be complex and expensive, and carries the risk of significant cost inflation, as the country lacks the expertise and governance capabilities to prevent cost-inflation that is a feature of most insurance systems. Such cost-inflation would ultimately have negative fiscal implications since the government would need to increase its budgetary spending, even more, to allow the poor to afford access to the more expensive providers. The health financing sub-committee is also deeply concerned by the involvement of ministries other than the Ministry of Health in the provision of *ad hoc* health insurance schemes to school children and university students, as announced in the two recent budgets.

Though low expenditure on health has nevertheless been able to achieve good mortality indicators and high female life expectancy, there are caveats. The male-female gap in life expectancy, the gap between life expectancy and healthy life expectancy, and DALY estimates highlight the fact that low state health sector funding is constraining health status improvements in the country. The primary health care reorientation, if it is to make a major health impact will necessitate the state committing to a higher budgetary allocation for health on an annual basis, in line with systematically meeting the expanded financial needs (both recurrent and capital).

Reducing Cost Burden on Households

The second major health financing issue to be considered is that improvements to primary health care delivery must have as a major objective the reduction of costs on health borne by households, particularly the poor. The primary reason why households have to spend out-of-pocket is that government spending on health is too low to pay for most services for everyone. So the system copes by *de facto* depending on many Sri Lankans paying for health care themselves.

The current health care utilisation patterns (HIES 2012/13) show that even the lowest two quintiles access a considerable amount of private sector services. The health expenditure burden for these two income categories results mainly from consultation fees, medicine costs, and cost of investigations. Household expenditure for medicines or diagnostic services often occurs as a result of shortages in the state sector or the non-provision of a particular service or commodity. These households also bear large travel costs and indirect costs (especially opportunity costs in terms of lost earnings) in accessing secondary and tertiary care. The epidemiological burden in the country is likely to increase with ageing, and NCDs are likely to have a major bearing on household medicine costs. Despite increases in the budget for medicines, MoHNIM still purchases a fraction of the medicines and supplies that would be required if all Sri Lankans accessed the public sector for their essential NCD care.

Integrating Support to the Private Sector

Sri Lanka has a large private health services sector, and the growth of the private sector has been encouraged by state policy, as it is a necessity to fill the gap created by the low level of government spending. In the context of health, the issue is not substantial private sector utilisation or the spending on health *per se*; these are unavoidable as long as Sri Lanka is not able to increase government spending on health to at least 5% of GDP.

The critical issues are: who ends up paying out-of-pocket; whether the utilisation of the private sector occurs due to pull or push factors; and whether utilisation of the private sector is voluntary or forced by the circumstances (particularly the availability, accessibility, timeliness and quality of state sector facilities). If the latter factors are causing the poorer segments of society to access private care at a cost, despite the prevailing free at the point of

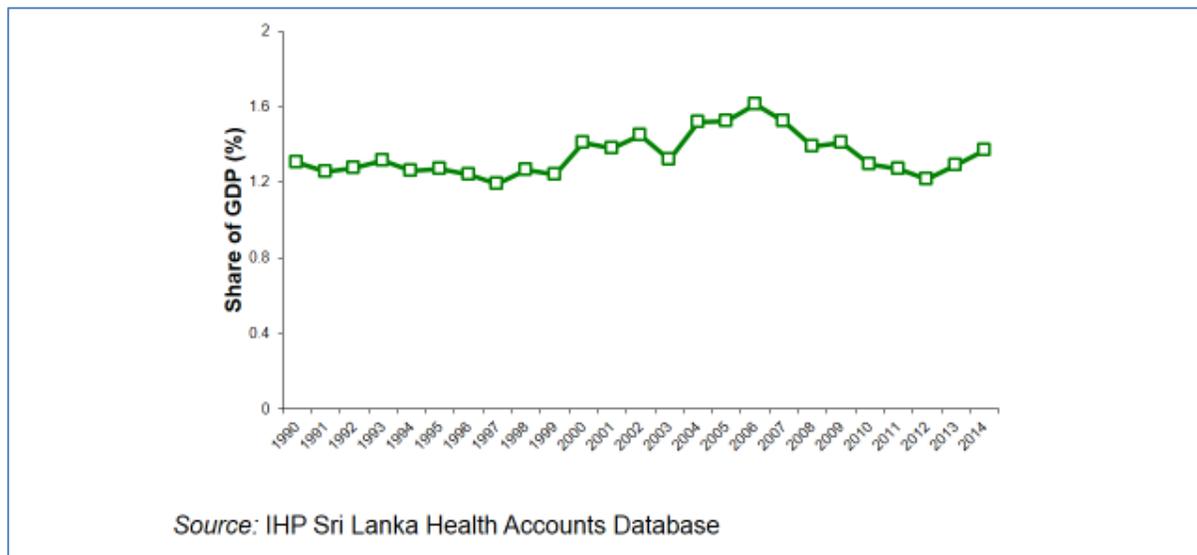
delivery health care system, then improvements in PHC provides a means to directly address this problem. This may occur throughimproving the supply of NCD medicines available through the public sector, for example.

Situation Analysis

Health Financing

Sri Lanka’s state health care system is predominantly financed by taxation, with the state contributing approximately half of the total health financing in the country. This share that has changed little in the past four decades (see Figure 7). In the case of private health expenditure, out-of-pocket payments are the major component, with private health insurance and employer payments on health only contributing marginally to health financing.

Figure 7: Public Expenditure on Health as a Share of GDP (%), 1990-2014



The government’s potential for increasing financing for state health care is adversely affected by decades of pursuing low tax policies as a result of political ideology, poor tax design and enforcement, and unsystematic state expenditure on the other which have contributed to a high debt burden and reduced fiscal flexibility. The tax-based, geographically widespread, free at the point-of-delivery public sector health care system, combined with the parallel private sector services and the focus on MCH, has resulted in low rates of infant mortality, under-five mortality, and maternal mortality, and high life expectancy. Sri Lankans use doctors as much as people in many developed countries. At the same time, the rising NCD burden, the gap between life expectancy and healthy life expectancy and between the life expectancies of males and females, all highlight the need for increased health financing to improve the functioning and coverage of the health system, alongside measures to enhance the efficiency of state health sector spending.

Financing Challenge 1: Ensuring sufficient funds are generated to implement PHC reorientation

At a macro level, the Ministry of Health must assess how much it will cost to improve the provision of both preventive and curative activities within the public sector in response to the emerging challenges. This needs to be carried out both for PHC care and for the aligned secondary and tertiary care health services that are part of the health care cluster. This will require that stakeholders in health, providers and consumers alike must unite to advocate for higher government allocations for health and higher taxes to raise overall government spending to the levels commensurate with the country's level of economic development.

Second, within that context of having additional resources, and having identified the main elements in the reorientation of PHC, an "essential care services package" can be rationally identified. Funding needs for capital investments in infrastructural development and the recurrent costs of training enlarged cadres too will need be calculated. Third, having identified the types and magnitude of costs that need to be borne in reorienting the PHC, the government will need to commit to mobilising funds in the future and on a permanent basis. The additional funds needed to ensure the sustainability of any newly reorganised structures must be planned for following initial investments made, for example, through a new World Bank loan. If the government is not able to do so, then any restructuring done with World Bank funds cannot be sustained. Assistance of other donor agencies such as the Bill & Melinda Gates Foundation, Asian Development Bank, Japan International Cooperation Agency, Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria, and the WHO) can also be sought to supplement the additional money generated by the state sector. However, donor support is likely to be modest given Sri Lanka's middle-income status.

Financing Challenge 2: Reducing the burden of health care costs on households, particularly the poor

Many households, particularly in the lower economic quintiles, are either spending a large portion of income in accessing health care or are not accessing optimal levels of care due to affordability and availability issues. Even though only half of all outpatient care is sought in the public sector, MoHNIM still does not purchase enough medicines and supplies to treat even this limited demand adequately. Poor patients frequently have to self-purchase essential NCD medicines and investigations; many go without because health care workers under-prescribe such care or because poor patients cannot afford to purchase services and medicines from the private sector.

Financing Requirements

The financing sub-committee was not in a position to fully determine how much more money is needed to improve PHC. What is needed by these primary care units and how the

reorientation process should be implemented given human resource needs is the remit of the other groups. However, it is useful to consider some preliminary numbers in this context.

Considering the staff cadres proposed by sub-committee #1 on PHC reorganisation, work by the Planning Unit suggests that the additional monthly financial allocation needed by one primary health care unit for salaries and allowances is over 1 million rupees, as shown in Figure 8. This assumes shifting from two Medical Officers and one Dispenser to four Medical Officers, one Dental Surgeon, five Nursing Officers, one MLT, one Dispenser, one Community Physiotherapist, a Mental Health Social Worker (note: salary not included in total) and five support staff). This represents a threefold cost increase.

Figure 8: Preliminary estimate of monthly cost to staff proposed PMCU

Back of the envelope calculation					
CATEGORY	Proposed	Current	Unit cost	Cost for proposed cadre	Cost for Old cadre
Medical Officer	4	2	93,194	372,776	186,388
Dental Surgeon	1		90,517	90,517	0
Nursing officer	5		55,192	275,960	0
MLT	1	0	40,928	40,928	0
Dispenser	1	1	38,896	38,896	38,896
Community Physiotherapist	1		36,600	36,600	0
Mental Health Social Worker	1		Include	Include	0
Support Staff	5	3	33,178	165,890	99,534
				1,021,567*	324,818

Note: Not inclusive of mental Health Social worker
Source: Planning Unit preliminary work

Another major expenditure category related to the reorientation of PHC will be training costs. Current cadres of staff are insufficient to carry out the comprehensive service provision envisaged under this programme. Nor is the problem as simple as expanding the number of persons to be trained. In the case of increasing cadres like Medical Officers and Physiotherapists, the expenditure will have to be borne by the Ministry of Higher Education. In the case of Nurses, the nursing schools are currently already over capacity; hence increasing the number of Nurses produced will necessarily involve setting up new training locations. This will involve high capital costs in addition to recurring costs. It will be very important to carefully project the numbers of staff necessary to carry out the PHC work envisaged. Then the training pipeline can be created, and implement the training of the additional staff can proceed (noting that the increases in cadre can only occur with a time lag).

While providing all adult Sri Lankans access to NCD screening and follow up medication and tests for high risk people using the most cost-effective protocols would have a substantial health impact and is needed, it would cost in the region of LKR 10 billion/year in new funding for new medicines and supplies (IHP estimates).

Simply employing more doctors in public sector PHCs will not be enough to address the problem of patients seeking care in both public and private sectors is to be reduced. Private sector utilisation exists not only because the government services are not adequate to satisfy all patients, but also because Sri Lanka pays its public sector doctors very low wages by international standards. For them to continue to work in the public sector, they need to compensate by providing private sector services for additional income outside of their public sector hours.

To incentivise doctors to expand public sector PHC delivery through evening OPD and clinic services—that is, to make it feasible for them to reduce their private sector efforts—will require offering additional money for both more staff and higher base wages. Rural retention allowances may also need to be considered, given that the family health approach is most effective if providers remain in the same location.

Increased tax financing is the only source of funding that could address these challenges. Expanded insurance coverage (either facilitated private insurance or employee insurance in the formal sector) will not help. Such insurance funding would only increase funding for the better-off quintiles earning money through formal employment. This, in turn, would incentivise doctors to stay in urban areas because of the increases in private practice revenue and would do nothing to provide additional funds for the poor who are inadequately resourced in the public sector. Nor is insurance funding likely to free up resources for the public sector. Making private services more affordable for some would undermine taxpayer support, which is desperately needed to advocate for increased public spending on health.

Provision

The desire to reorient PHC arises partly from the health challenges that are emerging, such as demographic and epidemiological transition, and the rise in social aspirations. The increasing dominance of NCDs in the disease burden raises new challenges in disease management that call for better integration of continuing care in patients with multiple, chronic conditions. In addition, when Sri Lanka scaled up its public delivery system in the past decades, resource constraints forced decision makers to make difficult trade-offs, including concentrating resources in higher-level facilities; maximizing access to clinical care at the expense of patient satisfaction; accepting part-time private practice in return for paying doctors below-market wages; and implicitly encouraging private sector use by the non-poor to allow the limited public funds to focus on the poor.

With regard to provision, outpatient services are distributed between the public and the private sectors (which is mostly staffed by state sector medical personnel working as general practitioners (GPs) in the private sector in their off-duty hours), while inpatient care is largely provided by the state sector. Coordination and regulation of the private sector is already the legal responsibility of the government, but inadequate state resources and capacity continue to constrain how that function is exercised. Ideally, public and private provision would be better coordinated, but close integration is unlikely to be possible unless the state takes a major role in financing private care.

The financing sub-committee argues that it is important to study the experiences of countries such as Australia, Hong Kong and Singapore before determining what measures could be recommended in the context of Sri Lanka. These countries spend less state funding on private providers and retain greater flexibility in care than other models, such as the United Kingdom.

For example, Australia has implemented two schemes that are relevant in this context: the PBS is a tax-financed scheme that helps pay for privately prescribed medicine, and Medicare is a tax-financed scheme that subsidises access to private GPs. Such options would be attractive to both providers and consumers in Sri Lanka. For private sector GPs, this would result in increased demand and incomes. It would encourage providing private practice in more remote and underserved areas. For the state sector, it would mean less over-crowding of secondary and tertiary OPD care. For consumers, it would provide more choice and less out-of-pocket costs. In the case of medicines, it would be of particular importance since medicines are important for ensuring continuous care, particularly with regard to NCDs, and for reducing the heavy financial burden imposed on households. However, interventions such as those in Australia require substantial increases in taxation to pay for a larger government health budget, and this may not be acceptable to all stakeholders in this country.

Limited development has been achieved in the curative medical care sector of PHC services, due to a prolonged period of insufficient attention and inadequate financial and human resources. The rapid development of secondary and tertiary level services, which patients are less able to self-finance, has consumed a large proportion of available resources. As a result, the system is faced with problems like overcrowding for primary curative care at higher institutions and underutilisation of lower level institutions.

Another bias in funding relates to preventive and curative services. In 2014, Total Health Expenditure (THE) was estimated at LKR 321 billion (LKR 289 billion Current Health Expenditure and LKR 32 billion for Capital Formation) (Amarasinghe et al. 2015). More than 54% of Current Health Expenditure is utilised for inpatient and outpatient care services, with only about 5.3% allocated for preventive health services (Amarasinghe et al. 2015). The reorientation of PHC is important in this context as well, since it will focus on both hospital-based and community-based care and preventive and curative care. The emphasis on NCD

prevention through the promotion of healthy lifestyles and screening is especially timely given the current NCD burden in the country.

The health financing sub-committee makes the following proposals with regard to the provision in the reorganisation of PHC. These presume that resource constraints are likely to continue in the near future, even if the allocation for health by the state can be increased gradually (and allocations by other international aid organisations sought as a transitional measure).

- **Begin with the short-run adoption of the reorientation programme in selected districts/locations.** Rather than attempting a nationwide programme with insufficient funding for each PHC unit, provide and maintain good services in selected locations to ensure demand for and demonstrate the impact of such services. Showing real results will be crucial to making the PHC reorientation effective in the long-term.
- **Identify an “essential care service package” where quality will be improved initially.** Going immediately for a comprehensive package of care, and attempting to improve quality across the board, will undermine the sustainability of the package of services over time; yet, sustainability is crucial. Determining what to include in the essential care service package, and where to target for quality and coverage improvements, will be challenging. Thus it must be handled in a systematic and evidence-based manner, involving both experts and stakeholders and taking into consideration issues such as cost-effectiveness and efficacy.

Utilisation

Three key points need to be highlighted with regard to utilisation.

1. Utilisation rates of government-run NCD screening clinics have traditionally been low

Where screening was carried out, such as under JAICA in Kurunegala or WHO-PEN in Badulla, the numbers screened was low, particularly among males. Screening for NCDs has been offered under the Healthy Lifestyle Centres, but again the results are poor in some areas. Population awareness of the screening services at HLCs is also very low. Likewise, regular follow-up care after diagnosis and tertiary prevention activities are poor as seen in small area studies (Alawwa, 2009).

2. Utilisation of smaller health care centres is low

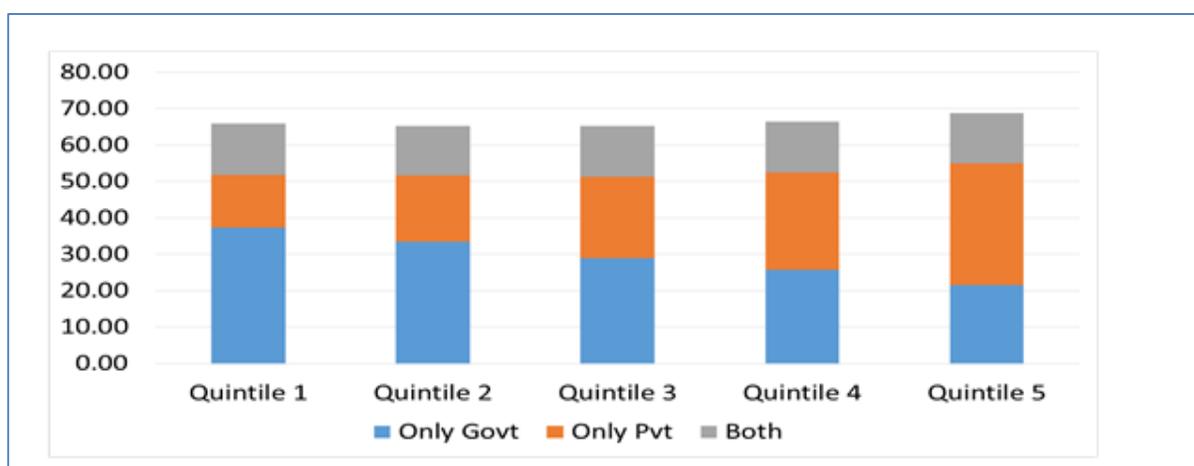
Smaller health centres frequently have low through-put of patients, while OPDs and clinics at secondary and tertiary health care centres have high numbers of patients, partly as a result of better medicines and test availability in the larger hospitals. While measures have been taken recently to widen the drug list available at the smaller health care centres, still they

are dispensed only for short periods, and small primary care units do not yet provide some NCD medicines.

3. Even the two poorest quintiles utilise the private sector health care quite significantly

As shown in Figure 9, the lower economic quintiles (1 and 2) use private sector health care less than the higher quintiles, but they still use it for a significant proportion of care. Private sector utilisation can result in heavy health expenditure burdens and health impoverishment among some households in these categories. (HIES 2012/2013) (However, it should be noted that Sri Lanka does very well compared to its peers in overall financial protection.)

Figure 9: Health Care Utilisation by Economic Quintile in Sri Lanka



Sources: Data from HIES 2012/2013, chart from de Silva, Ranasinghe and Abeykoon (2016)

Around half of all primary visits are made to private sector doctors, mostly government doctors doing private practice during off-duty hours. These doctors, as well as full-time private practitioners, pharmacies and laboratories are playing a major role in current NCD screening and management. The work done in caring for patients by these private sector providers has to be explicitly brought into the PHC reorientation model. If following the PHC reorientation, all their patients turn to the state sector for care, this will be a tremendous financial burden on the state. The reality is that continued substantial private use is both unavoidable and also ultimately desirable. Given that fiscal reality, the new PHC policy framework will need to include interventions that also act to improve quality of care and effectiveness in the private sector. To the extent that some demand might be shifted back into the public sector, this needs to be carefully targeted to maximise the benefits of the increased government spending that would be required.

One area for targeted increased public funding would be to provide evening services in the PMCUs, given that the lack of evening services has been identified to be a major reason for high private sector demand (de Silva 2009). Given current duty hours, administrative

reforms in the form of rosters would be needed to implement this change. It would also require higher health worker wages since evening OPD and clinic services would conflict with the doctors' private practice incomes.

Reorienting PHC – Goals in terms of Health Financing

“Make Primary Health Care services available to the whole population without any financial hardship to households” is the goal envisaged for reorienting PHC. This goal should be aligned with achieving Universal Health Coverage (UHC) for primary health care. Full coverage of all three dimensions of UHC should be focused on ensuring adoption of all essential interventions (promotion, prevention, cure and rehabilitation); for all citizens; and with reduced burden on households.

Table 3 shows the health financing sub-committees's proposals for the reorientation of PHC.

In this context, two issues need to be focused on in relation to health financing policy formulation:

1. Reorienting the PHC system will only be effective if sufficient funds are allocated to provide a comprehensive and desirable PHC system. This involves considering the reorientation of PHC from both consumer and provider perspectives. The need for greater state financing, the importance of lobbying for higher state funding on health and increasing taxation to enable this systematically, is a major issue and needs to be seriously addressed at this point. Sufficient finances should be directed to the provinces to implement the PHC reorientation effectively. Assistance should be sought from other international agencies, but this should be only to supplement the additional funds generated by the state and the World Bank loan funding.
2. The health financing problems faced by the poor (though comparatively less than that of most other low and middle-income countries) must be accorded importance in determining the elements that go into the reorientation of PHC. The fact that the poor can often face high health expenditure burdens (and the heavy opportunity cost this imposes) has to be factored into the reorientation in terms of elements in the essential service package, the timing of services, etc. Therefore identifying and resolving existing gaps in provision and financing to safeguard poor households from heavy health care burdens and health-related impoverishment is crucial.

Conclusions

The group working on health financing recommends that the costs of re-orienting PHC be clearly identified in line with the proposed changes in health service provision that in turn create additional recurrent expenditure in terms of staffing, provision of medicines and investigations and capital expenditure on upgrading of existing buildings (even assuming

that no new buildings need to be constructed). Given that resource constraints are likely to limit the adoption of the proposed reorientation programme in its totality, the groups suggests:

- Initially carrying out the Reorientation of PHC programme in selected districts or locations, rather than attempting a nationwide programme with insufficient funds to provide the desired services, as this, in turn, would affect acceptability by the population. This would also provide time for looking into best practices of service provision, as in the case of evening OPD services and providing diagnostic and imaging services (see points made under 4.2 and 4.) and the appropriateness and feasibility of alternative health care financing options (for example on medicines) if any.
- Identifying an 'essential health care package at PHC level' where coverage improvement can be targeted rather than attempting to provide better coverage across all the desired services, as the latter approach could result in shortages and poor service delivery in some locations. Such an outcome would be inefficient as it would discourage the utilisation of some PHCs and result in inequities across populations.

There was a consensus in the Health Financing group regarding the importance of continuing with tax-based funding and on the need to create awareness among policymakers about the disadvantages and significant dangers of alternative health financing mechanisms such as Social Health Insurance (SHI).

The Health Financing group also wish to highlight the fact that the demand for PHC services would rise with the PHC Reorientation programme increasing costs on medicine and investigations. The issue of affordability for the state may need to be considered alongside equity concerns, in evaluating proposals for alternative financing mechanisms in the context of medicines and alternative provision mechanisms in the context of diagnostic testing and imaging.

No proposals are made with regard to changing payment mechanisms to capitation or for incentives to medical staff such as for rural retention as the Health Financing group considered it premature to do so, without having access to the Human Resource group report and consensus its proposals.

The Health Financing group is strongly concerned about the high health expenditure cost currently being borne by poor households, involuntarily pushed into accessing the private sector. Evening OPD and clinic services, proper drug distribution processes and access to free diagnostic and imaging facilities at close-to-client locations must necessarily be kept as the central focus of this PHC reorientation programme.

Table 3: Summary of Proposals from the TEC's Health Financing Subcommittee

Proposal	Justification	Challenges	Related proposals
Health Financing			
1. Tax based funding to remain predominant form of health financing in Sri Lanka	Tax based funding involves pooling, is equitable and has resulted in achieving good mortality and life expectancy indicators	Government revenue is low due to weak stance on taxation, limited tax base and poor compliance.	<ul style="list-style-type: none"> - MoHNIM and provincial level advocacy for increasing tax revenue to increase health sector budgetary allocation - Liaising with Ministry of Finance, Central Bank on the need to enhance tax base to generate more tax funding - Pursuing advocacy to encourage earmarking of a small proportion of tax revenue from tobacco and alcohol specifically for NCD PHC care
2. Increase government expenditure as a percentage of GDP significantly	<p>-Current health allocation insufficient given health transition challenges, rising health care costs and the need to provide equitable high-quality services through the reorientation of PHC.</p> <p>The state contribution to health care is low in comparison to other countries, particularly middle-income countries</p>	<ul style="list-style-type: none"> - Lack of political will to enhance state health sector allocation - Political will may be further undermined if more middle-income patients switch to private services - Lack of proper accounting and budgeting at MoHNIM to provide evidence for advocacy on expanding health care budget 	<ul style="list-style-type: none"> - MoHNIM advocacy with politicians, bureaucrats and civil society on the need for increased state sector allocations for health - Planning unit of MoHNIM to undertake systematic costing of health care services, inpatient, outpatient and clinics to provide basis for rational budgeting - Support for research and systematic monitoring of the coverage gaps and OOPE burdens for public sector patients caused by inadequate budget. - Training for MoHNIM accountants on managerial accounting - Training for MoHNIM staff and provincial staff (including Medical personnel) on budgeting techniques to move towards systematic budgeting procedures

Proposal	Justification	Challenges	Related proposals
3. Creating awareness regarding the limitations of alternative health financing mechanisms such as SHI	The Health Financing committee deems that given the economic situation in the country schemes such as SHI are currently not appropriate.	Politicians and bureaucrats advocate alternative financing sources including social health insurance (i.e. recent experience with child and undergraduate PHC);	- More awareness among policymakers and civil society regarding the limitations and also dangers to health equity in alternative health financing mechanisms such as SHI. -Need to study the appropriateness of the recent budget decisions to provide health insurance to school children and university students
4. Increasing investment in Primary Health Care services with emphasis on curative care services	Re-orientation of PHC will involve growth in infrastructure and improvements in existing health facilities	Sufficient funding to carry out the necessary expansion and improvements in PHC units	- Systematic capital budgeting for the next five years in line with reorientation of PHC units proposal
5. Increasing the recurrent budget for the PHC units in line with reorientation proposal	The Reorientation of PHCs involves a wider scope of activities so more staff, medicines etc.	Sufficient funding to carry out the proposed activities ('Essential care service package) in PHC units	- Systematic budgeting including for maintenance -Developing systematic drug purchase and distribution plans
Provision			
2. Systematizing provision of medicine at PHC Units	-Poor utilisation of PHC and the high household burden of health expenditure are both attributed to lack of necessary medicines, particularly NCD medicines at PHC centres	-Better availability of medicines but will involve higher costs at PHC level as a result. Shifting of patients from secondary and tertiary care due to medicine now being available at PHC level In addition, the PHC reform will result in higher medicine costs as even those accessing the private sector may now seek care at PHC to gain free medicines.	-Necessary to improve the estimation of need, and purchase and distribution processes to prevent shortages In-depth analysis of strategies (a) Reducing state burden of providing medicines to all while ensuring equity and patient welfare (b) Examining systems like Malaysia where the government finances a more adequate MoHNIM medicines budget or the Australian BPS where state subsidises private sector patients' medicines to reduce OOPs burden

Proposal	Justification	Challenges	Related proposals
3. Expanding provision of investigations and Imaging services at PHC level	Currently, lack of investigations/imaging at PHC encourage bypassing and contribute to the household economic burden	Similar to points made about medicines above	- Studying cost-effectiveness of different strategies - laboratories in each PHC institute versus mobile clinics versus blood collection for central testing versus private sector outsourcing
4. Increasing 'responsiveness' of public services to better match the needs of the people	Social transition has resulted in higher expectations in terms of service provision: this involves physical infrastructure as well as quality of interpersonal interactions	Need to spend on improving physical facilities Need to spend on training of staff on issues such as Responsiveness (WHO, 2000)	-Conducting training and awareness creation programmes to improve the 'responsiveness' of PHC service provision Allowing innovative activities to be conducted at provincial and institutional level Providing small funds for PHC unit physical development including for maintenance activities Audits to ensure that the reorientation of PHC has led to a people-centred health care service in its implementation.
Utilisation			
1. Explicitly focusing on reducing out-of-pocket health expenditure burden on poor households, in preparing the PHC reorientation programme	Currently, some poor households are facing heavy health care burdens or are gaining sub-optimal levels of care due to lack of affordability	Needing to take pro-poor approach while keeping in mind financial and human resource constraints.	Need for studying current problems among poor in terms of health care access and economic burden of seeking health care
2. Implementing Evening services: different models with regard to service provision could be examined	Many small studies have provided evidence that patients are accessing the private sector due to unavailability of public sector services in the evening while refraining from accessing daytime care due to high opportunity cost	Figuring out the right model could be challenging. Need to alert to the views of health care providers as their support is crucial to the success of the entire Reorientation of PHC programme Trade Union views	Studying different models (a) Time wise (b) Roster versus incentive payment (c) Payment method – capitation, overtime (d) PHC unit services versus incentives to private sector (Australian model)

Proposal	Justification	Challenges	Related proposals
3. Provision of medicines in a systematic manner and largely through the state sector to prevent medicine costs becoming a burden on households	Availability of medicines, particularly NCD medicines is crucial, for patient management and for reducing the financial burden on households resulting from purchasing medicines from the private sector.	Complex process of estimating medicine needs and supply so necessitates good technical personnel to handle the issue Likewise, budgeting medicine costs is also complex given that prices of medicines and exchanges rates change.	Develop and strengthen -process for estimating medicines needed - supply chain management processes at central and provincial levels Studying feasibility of expanding the Osu Sala service to ensure that households can access medicines at low cost
4.Expanding availability of investigations linked to PHC level units	Availability of investigations linked to PHCs could help reduce household cost on diagnostic and imaging services in the private sector and improve NCD management	Need to look at the problem from the perspective of all stakeholders Need to budget for increased expenditure in providing such services	Estimating unit costs using different models – at PHC unit, mobile clinics, collection of blood to be tested at central location, using private services with state funding
Stewardship			
1. Establishment of an Advisory/Governing body within the MoHNIM – Preferably Planning Unit in the ministry to oversee and make recommendations regarding all investments proposed and made within the health sector	Decide on capital investment, drawing on technical advice from independent experts where necessary.	Acceptance of the process by the Ministry of Health and Provincial Health Authorities.	Focus on the composition of the board, identifying the expertise needed and its location in the institutional organogram. Health Intervention and Technology Assessments
2. Strengthening the Planning Unit to undertake its core role to oversee and make recommendations regarding all health sector	Currently, no systematic evaluation is being undertaken though there is a discussion about the public-private partnership projects. A strengthened and reinvigorated Planning Unit would ensure that the	Acceptance of the process by the Ministry of Health and Provincial Health Authorities.	Focus on strengthening the role of the Ministry of Health Planning Unit. Need for special expertise to be developed in this unit and for its location in the institutional organogram to be reconsidered

Proposal	Justification	Challenges	Related proposals
investments in both public and private sectors, including public-private partnerships	projects proposed are both efficient and equitable, particularly that they safeguard the welfare of the poor.		
3. Developing Mechanisms and methods for auditing of performance and expenditure at PMC Units	It will be extremely important to evaluate the performance of the PMC Units initially set up to guide expanding the programme in the later stages. -Reorientation of PMCs has some objectives – improving health, patient-centred care, citizen involvement and reducing OOPE it will be very important to assess performance and financial outcomes	Currently, no such systematic recording and monitoring exists for hospitals though it is practised in community health activities. Support of the health professionals	-Need to develop forms for regular data collection on performance and expenditure -Managerial accounting at institution level -Designing evaluation and auditing process and selecting personnel to carry out such activities -Health Impact Evaluation of Interventions -Recommend Strategic Purchasing based on evaluation of alternatives

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Appendix 9: Technical Report on Public-Private Partnership

Current Status

The Primary Health Care (PHC) programme in Sri Lanka has mainly focused on maternal and child health (MCH), environmental sanitation, and communicable diseases, adopting prevention and health promotion strategies based on the health unit system. These 341 health units have defined catchment areas that coincide with local government administrative units. Each is headed by a medical doctor termed the MOH, and is further comprised of various public health field staff. These include the Public Health Inspector (PHI) charged with environmental sanitation, school health and control of communicable disease, which the Public Health Midwife (PHM) and Family Health Workers (FHW) address MCH at the family level.

According to the World Bank, non-communicable diseases (NCDs) such as diabetes, cancer, heart disease and asthma, and their risk factors such as obesity, smoking, high sugar and salt diets and alcoholism, have become major health issues affecting Sri Lanka's population at present. Currently, there is a challenge before the National Health Services: how can the system be oriented towards handling the challenge of emerging NCDs?

Proposals for Engaging the Private Sector

This paper describes how the private sector could collaborate with the public health sector in controlling this situation, and identifies changes to the existing set up that would be necessary to achieve the desired outcomes.

An analysis was carried out by the sub-committee developing this report to identify the Strengths, Weakness, Opportunities and Threats of each sector in its operation at Primary health care level. This analysis is presented in Table 4.

Literature published by the World Bank and the Ministry of Health has revealed the following aspects of the current problem:

- The population pyramid of Sri Lanka has dramatically changed from 1950 – 2015, giving way to a large elderly population and resulting problems.
- There is a large burden of diseases related to NCDs.
- 71% of adults have never measured their total blood cholesterol levels.
- Effective management of hypertension appears to be a challenge as out of the 26% of the population observed to have hypertension; only 7% have achieved control of hypertension.
- There is inadequate distribution of trained government sector health personnel at PHC level.
- Patients bypass PHC and reach tertiary care level institutions at later stages of NCDs to obtain treatment.

- Government sector PHC units currently have no programme to screen and offer treatment for NCDs.
- There is no link between the MOH, General Practitioner (GP) in the community and district hospital of the area.

Table 4: SWOT Analysis on the Current Situation of Public and Private PHC Providers

Sector	Strengths	Weakness	Opportunities	Threats
Public	<ul style="list-style-type: none"> Island-wide accessibility for public Funded by government, hence no cost to consumer Trained and qualified HR Legal framework in place to function Coordination of services between agencies is good Authority of MOH services accepted by community without question Public not educated and staff not motivated to check for NCDS 	<ul style="list-style-type: none"> Area of operation mainly covers MCH and environmental health Cannot cater to the NCD burden and issues of elderly and mental health Staff is lacking family health concept No continuity of care except in MCH Availability limited by working hours – 8 to 4 pm 	<ul style="list-style-type: none"> Possible to expand MCH to include others. Get PHM to check BP and Glucose test after 5 pm. Cancer screening too. Mental Health Check Possible to develop one health card per person that runs through Public, Private, 1ry, 2ry, 3ry care. Can provide digital records. Email, internet, Whatsapp 	<ul style="list-style-type: none"> Trade Unions can oppose expansion of MCH services Govt. Health, oriented experts also will oppose expansion Govt. doctors will not cooperate the linking with private sector GPs
Private	<ul style="list-style-type: none"> Functioning 24 hours for seven days Accessible in many places (less travel cost) Less waiting time for consumers Accessibility for multiple services such as consultation, diagnosis, Para-medical services in one place Private GP is part of the community and referral point for an entire family. Holistic 	<ul style="list-style-type: none"> No formal referrals or continuity of care between different agencies Poor information collection and dissemination Some GPs provide distorted, unethical, poor quality care Qualifications not fully supervised such as per-interns being used PHSRC system available but not functioning properly Limited by the capacity of the 	<ul style="list-style-type: none"> Can develop a people-centred approach to have continuity Can develop laboratory facilities to offer testing at lower cost Can provide BP check and other tests at a reduced and fixed cost for referrals by MOH Can give computers and internet facility to MOHs and GPs 	<ul style="list-style-type: none"> Locum GP's and channel consultants will not cooperate with the proposed linking of MOH and GPs attending to NCDs

Sector	Strengths	Weakness	Opportunities	Threats
	<p>care</p> <ul style="list-style-type: none"> • Medical records available within the GP practice for continuity • Provide holistic care and cover all categories of patients • PHSRC structure available to coordinate GPs – legal structure in place • Cover all aspects of PMC 	<p>consumer to pay</p> <ul style="list-style-type: none"> • GPs are in a good position to detect NCDS by checking BP, blood glucose, cholesterol, cancer screening 		

Problem Statement

There is a large disease burden of NCDs in the Sri Lankan population and diseases of elderly due to the changing population pyramid. However, the government PHC model has no specific programme to screen and manage this problem at present. Private health care represented by GPs and small-scale private medical centres can handle this problem, but at a cost to the public. Currently, public awareness about NCDs and care of the elderly is poor. There is no link between the private and public sectors to develop a common programme to address the issue of NCDs in Sri Lanka.

Justification for Changes

If the NCDs are to be controlled, public awareness about the relevant diseases and their implications must be increased. Only the public sector preventive health programme can carry out such an educational programme to motivate the public to seek medical assistance, including a screening programme at community level. The private health sector can carry out blood tests and medical examinations necessary to detect NCDs through a screening programme. A good patient record system could link both systems and provide the means for follow up of patients.

Main Outcome

The disease burden due to NCDs is reduced, and care of the elderly population improves

Other Outcomes

- The primary health care staff in the public health sector is trained and organised to educate the public regarding the NCDs
- A unique patient record is developed and distributed among the population through the current PHC system
- The public sector primary health care programme motivates the public to get screened
- The private sector collaborates with the state primary health care programme in carrying out necessary laboratory tests to detect NCDs

Proposed Programme

- **Train PHC staff in the public health sector to conduct an educational programme on NCDs for the public**

Currently, there is little awareness among the general public about the emerging NCDs and the complications arising out of these diseases. Similarly, there is little knowledge about the screening tests available and the basic treatment and the preventive strategies about to keep these diseases away. Unless such an educational programme is carried out, it will be difficult to mobilise the public towards the necessary screening programme.

- **Develop a unique patient record system and IT facility used to refer patients to GPs and for follow-up**

Two major problems in handling NCDs on a mass scale are the lack of a proper records system, and ineffective referral systems for NCD patients identified a screening programme. Development of a unique patient record system and using IT facilities to refer patients from the MOH system to GP's and for further follow up will help overcome this problem.

- **Organise the private sector and its laboratory facilities to collaborate with the public primary health care sector to conduct necessary laboratory tests and other medical examinations to detect NCDs among the needy public**

By combining state primary health care programme and the private sector GPs system, the population can be screened, and NCDs can be detected efficiently.

- **Facilitate a referral system between GPs and state health care institutions to provide appropriate care for people with NCDs**

Through such a referral system, the detected patients with NCDs can be first treated at GP level and, when necessary, could be referred to the state sector hospitals for the management of complications and further follow up when necessary.

Appendix 10: Technical Report on Medical Supply Management in State Sector Hospitals and Health Institutions

Introduction

The objectives of Supply Chain Management (SCM) are sometimes described as: getting the **Right** items, in the **Right** quantity and **Right** quality, to the **Right** place at the **Right** time with minimal waste. SCM is always a complex process involving many stakeholders. When it concerns medical items, complications arise due to the importance and urgency of commodities in patient care management, the high number of items needed (along with various dosages and strengths), high quantity required, limited lifespan of medicines, the long lead time needed for manufacturing and required supply conditions.

SCM involves several functions, including Selection, Estimation, Ordering, Procurement, Supply, Storing, Distribution and Usage of products. Each aspect is vital to maintaining efficiency, effectiveness and quality in SCM.

Management of medical supplies is one important component of any effort towards the revitalisation of primary care health service. Without medicines and other diagnostic and therapeutic items, quality health care at any level from primary to tertiary is impossible. Hence maintaining continuous availability of good quality medicines, in adequate numbers and quantities with minimal waste is a compulsory element of consideration for primary health care reforms. Failing to address the SCM approach will result in wasted resources.

The Medical Supplies Division

The Medical Supplies Division (MSD) of the Ministry of Health is the main central organisation responsible for SCM of medical items needed for patient care services provided by government hospitals and other health care institutions (see sidebar below). Overall supervision and management of MSD lie with Director (MSD), supported by a Deputy Director. MSD is comprised of six sections: the Technical Section (managed by one Senior Assistant Director and ten Assistant Directors), the Finance Section (managed by two Accountants, one for finance and one for supply), the Administrative Section (managed by an Administrative Officer), the IT Section (managed by Assistant Director-ICT), and the Planning and Quality Management Unit.

MSD aims to achieve the “equitable timely distribution of supplies, procured based on its estimates and delivery schedules.” The main functions of MSD are estimation, indenting, storing, controlling processes, distribution and accounting, along with surveillance and monitoring of medical supplies provided to government health institutions in Sri Lanka. SPC is the procuring agency for MSD, responsible for timely procurement and supply following regulations as requested by and agreed upon with MSD.

MSD provides all pharmaceuticals, surgical items, laboratory and X-ray supplies, radioactive items and printed materials to government facilities. In addition, MSD is responsible for supplying all dangerous medicines and other essential medical items that are not available in the open market even to the private sector.

MSD is responsible for supplying 19,281 items, including 1,309 pharmaceutical items (920 in formulary), 10,508 surgical items (4,348 in formulary) and 7,464 diagnostic items (3,768 in the formulary).

A consolidated forecasted national estimation is submitted to SPC annually. MSD prepares the forecast based on institutional estimates collected from central ministry institutions and through RDHSs (district estimates) from provincial institutions. Stocks of items are procured and supplied by SPC based on proper procurement procedures; they are temporarily stored at MSD (either at the MSD main store or sub-stores in Wellawatta, Angoda, Digana and Welisara) with 2-3 months buffer stocks. Supplies are then periodically distributed directly to central ministry institutions and RMSDs under relevant RDHSs, mainly based on demand and requests received. Through RMSDs, items are distributed to provincial institutions.

The whole process is now operated through a web-based database and supply chain management software: MSMIS (Medical Supplies Management Information System). The system was implemented after situational and process analysis studies, with the objective of making the SCM of medical supplies more efficient. It directly connects MSD with SPC, 50 line ministry institutions, and RMSDs through a VPN data exchanging system. As per the requests of the other medical institutions, the system is expanding to provincial hospitals, which are dealing with RMSDs.

To achieve the Sri Lankan government's policy of free medicine, the Ministry of Health has allocated 45 billion rupees worth recurrent budget to MSD (this represents one-third of the Ministry's total recurrent budget). This amount has been drastically increasing annually.

The Medical Supplies Division

MSD Vision: To be a centre of excellence in Sri Lanka in Medical Supplies Management

MSD Mission: By ensuring continuous availability of medical supplies for patient care services in government sector hospitals through well-established effective and efficient medical supplies management system coordinated, facilitated & controlled by MSD operated by skillful dedicated and satisfied MSD staff also linking with network of central, provincial ministry and institutions in order to provide optimum contribution to the Ministry of Health to achieve its vision - healthier nation

MSD Goal: Equitable timely distribution of quality medical supplies to institutions for successful health care service

MSD Objective: "To supply right item (medical supplies) of right quality in right quantities to the right place at right time at right affordable cost with least wastage"

Currently, MSD handles around 90 million rupees average daily receipts, and 80 million rupees worth of supplies are issued to institutions.

Main operational areas of MSD:

- **Demand satisfaction:** meeting consumer demand through forecasting and providing the required items in the right quantity through proper selection, estimation and ordering, within reasonable limits.
- **Procurement:** maintaining stock levels to pre-determined levels.
- **Storage & Distribution:** managing distribution, re-distribution, handling and storage of commodities, emphasising cost-effective utilisation of infrastructure and other facilities.
- **Resources & Facilities Management:** ensuring effective organisational structure, human resource utilisation, and facility planning, development and management.
- **Quality Assurance:-**providing quality-assured supply throughout procurement, storage and distribution to consumers.
- **Financing:** managing funds by economical, efficient and effective spending to achieve value-for-money, with prioritisation of needs.
- **Minimizing Waste & Risks:** monitoring and eliminating underutilisation and wastage, while promoting rational use and improving productivity.

Gap Analysis

The sub-committee examined MSD’s current strengths and weaknesses in each operational area, shown in Table 5.

Table 5: Current Strengths and Weaknesses in SCM System

Area	Strengths	Weaknesses
Estimation	Based on laid guidelines Centrally driven guiding and coordination Dedicated skilful pharmaceutical staff Through MSMIS web-based data system Completion within pre-determined time frame Participation of all stakeholders even consultants Training for all officers	No direct access to Divisional Hospitals Assumption on updating of system by institutions
Procurement	Adequate financial allocation in recent years Special institute (SPC) for purchases Agreed schedule Based on laid down procurement guidelines Worldwide quotation calling by web publishing, fax & emails Maintaining transparency & equity Payment based on LC	Inadequate procurement unit capacity (facilities & staff) Not adapting to timeline Barriers from registration, TEC, specification gaps, etc Inadequate support from suppliers Less registered suppliers Less participation from registered suppliers

Area	Strengths	Weaknesses
		No timely supply by awarded bidders
Receiving & Storage	Well maintained main central stores & 4 sub stores management. Standards laid down in store management Well maintenance according to guidelines	Inadequate storage capacity (MSD + Institutions) Lack of receiving bay
Monitoring	Through MSMIS web-based database Weekly MSR meetings Conducting bi-monthly DTC and quarterly NDTC meetings Weekly focal point reports Weekly LP reports	Irregular in some places Not sending reports regularly
Distribution	Good island-wide road network By cool lorries maintaining cold chains According to distribution plan Operating through MSMIS system To be accompanied by a responsible officer Quality Establishing of Quality Assurance Unit Quality check of at least one sample from one consignment. Quality assurance through registration, TEC, pre-delivery sample checking	No temperature indicators for cool lorries. Insufficient vehicles for MSD distribution Inadequate number of drivers and minus staff Unequal and not timely distribution by RMSDs to provincial hospitals Not always accompanied by a responsible officer Quality Inadequate capacity of Quality Assurance Lab

The sub-committee then conducted a situational analysis, considering criteria such as Accessibility, Equity, Availability, Quality and Financial Protection. Prevention of frequent out of stock situation was identified as the main challenge. Other challenges identified in supply chain management of medical items include:

- Preventing frequent out of stock situations
- Preventing frequent quality failure situations
- Minimizing waste and expiry items
- Improving central and institutional store capacities
- Improving transport capacity at MSD and RMSDD
- Improving the capacity of MSD staff with exposure to modern technologies of SCMx.
- Expanding the MSMIS to provincial hospitals

Action Plan

MSD has developed an action plan to address identified issues and gaps in the SCM process. The plan identifies the following strategic objectives.

- To improve and strengthen the infrastructure of central level at MSD and sub-stores
- To improve and strengthen the infrastructure at RMSD and institutional level
- To improve the system and process of supply chain management at central and

institutional levels

- To build the capacity of staff (Central, Provincial and Institutional levels)
- To improve evidence base management
- To improve MSMIS with expansion to provincial hospitals
- To coordinate and monitor the Supplies Chain Management process effectively
- To improve awareness of public and institutional staff on rational use of medicines

The action plan makes several important assumptions about risks and conditions. These include:

- Efficiency and effectiveness are improved through use of the MSMIS system
- Improved storage spaces and conditions reduce wastage of medicines
- Different levels of staff will be trained and positioned according to identified requirements.
- On-time reporting minimises the delay of medicines and other medical items to the relevant places
- All staff adhere to established guidelines and instructions

The plan presents new proposals and future plans for infrastructure and SCM system development:

- Maintain continuously renewing 3-month buffer stock of important critical items in Emergency Reserve Stores, to respond to disasters and other short supply-related unexpected demands
- Procurement reforms proposed:
 - Apply Blanket Ordering or extended term agreement systems, to procure items with highly volatile demands
 - Register local suppliers with pre-decided prices
 - Delegate the powers of purchasing low value, low quantity or machine-specific items to medical institutions, with centrally agreed rates/prices, based on annual purchase agreements of MOH with suppliers.
- Complete formulary revision, specification development and MSMIS data cleansing to improve the reliability, accuracy and currency of information
- Extend MSMIS to provincial hospitals, to strengthen the information management
- Re-engineer & develop procedures/SOPP with procedure manuals
- Implement human resources development schemes with capacity building of involved staff (Central, Regional & Institutional)
- Improve capacity and quality of Central, Regional & Institutional stores
- Develop new quality assurance schemes & lab facilities, pre & post delivery sample testing (currently NMQAL tests on demand only)
- Develop effective key-performance-indicator-based dashboard monitoring systems for all operational areas
- Enhance transport facilities with cool vehicles

Details on the challenges, preferred solutions and proposed actions are provided in Table 6.

Table 6: Details on SCM Challenges, Proposed Solutions, Proposed Actions

Problem: Frequent Out-of-Stock (OS) situations	
<p>Causes</p> <ul style="list-style-type: none"> • Main supply delays • Unreliable and widely deviating (both positively and negatively) main order delivery dates and Procurement Progress • Fast-growing demand for commonly used items • Change in the prescribing patterns and therapeutic regimens by new specialists • Expanding and proliferating specialty service units with diverse demands • Overestimation and underestimation 	<p>Solutions</p> <ul style="list-style-type: none"> • Shorten lead time • Timely correct information to enable MSD to take correct and timely alternate procurement actions and other measures to avoid stock out periods • Requested to prevent staggered supply of small quantities by SPMC & Local Manufacturers • Adherence to the National Formulary in prescribing and Standard Treatment Guidelines • Rational estimation with analysis through MSMIS with proper forecasting • Priority selections based on change in morbidity pattern, usage and demand
<p>Proposed / implemented actions:</p> <ul style="list-style-type: none"> • Enhance the capacity of relevant units to shorten lead-time • Prioritization of fund utilisation on LCs depending on the delivery schedule (developed based on capacity of the storage and distribution system) and real-time demands of the supply system on shared information with MSD • Opening of LCs, at the beginning of the last quarter of every year - high possibility of scarcity of funds delaying the opening of LCC leading to delay in supply • Revise and streamline the procurement procedures and registration procedures • Awarding of tenders at least for two years • Authorizing hospitals to procure low value, small quantity and machine specific items on centrally determined equal price • Introduction of more local manufactures with pricing committee determined price • 2-3 year term contract at MSD or SPC, specifying the minimum purchase quantity at an offered price with provisions to accommodate the price variation formula for the fluctuations of exchange rate & raw material costs • Procurement Monitoring Unit • Adequate tender limit of regional PC at MSD to overcome unexpected stock outs • Proper/effective system of maintaining Performance Index and a blacklisting procedure for evaluation of suppliers • Introduction of e-procurement system • Registration of local suppliers for selected essential items, where main order supply can be uncertain, with an annually agreed price via an MOU, requiring them to maintain a minimum stock with an assurance of a minimum buy-back quantity 	

<ul style="list-style-type: none"> • Revised delivery schedules • Request to improve their store capacity • Revision of the National Formulary and Specification revision with participation of all stakeholders • Prepare and introduction to Standard Treatment Guidelines (Antibiotic Guideline, etc.) • Encourage for Prescription Audits • Expansion of MSMIS even to peripheral hospitals • Pre-prepared plan on upgrading • Maintain continuously renewing 1-2 month buffer stock of important critical items in newly established of Emergency Reserve Store 	
Problem: Frequent quality failures	
Causes <ul style="list-style-type: none"> • False OS situation showing disparity between stock information in the system with the actual preventing to cater for real-time demands • Lack of an efficient and effective quality testing facilities and a credible system to evaluate quality, efficacy & safety of medicines & other medical supplies 	Solutions <ul style="list-style-type: none"> • Encourage collecting medical supplies via MSMIS to prevent accumulation of partially executed issues on requisitions and abandoning stocks at MSD • Introduction of pre- and post-delivery/institutional store sample checking before end users' demand other than depending on pre-registration examination of the product quality, other certifications (GMP & COPP) as well as TEC recommendations
Proposed / implemented actions: <ul style="list-style-type: none"> • Improve work discipline and adherence to best practices/protocols • Improve a system for one of the hospital representatives to collect all the medical supplies requested via MSMIS at MSD on a given date • Less frequent and irregular visit leading to OS situation at institutions • Improve quality assurance facilities with establishing /upgrading Quality Assurance Laboratory to test all medical supplies and to reduce its cycle time on sample testing for sourcing, pre-shipment, post shipment, pre-delivery, post- delivery, post-marketing • Improve and make efficient NMRA registration system • Get the service of reputed private laboratories accredited by the NMQAL • Maintain samples in a supplier recommended storage conditions • Introduce a randomised blind sample testing before the formal receipt, LC payment and distribution; pre-delivery, post-delivery and institutional stock sampling 	
Problem: Wasted and expired items	
Causes: <ul style="list-style-type: none"> • Excesses created due to unavoidable circumstances like unexpected demand drop • Non-adherence to system 	Solutions <ul style="list-style-type: none"> • Identifying most feasible places for redistribution, instead of still practising old system of manually reporting excess/short dated stocks to MSD for time-consuming centralised re-distribution

<ul style="list-style-type: none"> • Bad storage conditions • Diversion of containerised consignments to private container yards by SPC, incurring extensive demurrages due to inadequate space at MSD, violating requested delivery schedules 	<ul style="list-style-type: none"> • Institutions are not considering the volume factor, when requesting, transporting and in stores arrangement, leading to uneconomical suboptimal space utilisation in the storage, transportation, planning trips and identifying additional facility requirements • Minimizing the wastages due to expiry, quality loss on poor storage, in transit damages and re-distribution time & cost. It also makes the monitoring & controlling the stock in the system easier, than when it is dispersed throughout the supply network.
<p>Proposed / implemented actions:</p> <ul style="list-style-type: none"> • Approval for provisions to re-sale the excess quantity in local market (via OsuSala) at a discounted price • Improve mobilising through better coordination using MSMIS stock information at other peripheral institutions • Adhere to the already laid down system • A system to calculate cost generated within the distribution network relating to storage, handling & transportation, to the inventories at different locations inducing wastage of space, fuel /wear & tear, handling, MIS processing cost, etc. • Storing a higher % of annual requirement in Centralized Storage Facility backed by a cost-effective transportation system (e.g. By Railway etc.) also making monitoring & controlling the stock in the system easier, than when it is dispersed throughout the supply network. • Plan /control shipments according to space availability • Advance notice of high volume stock deliveries 	
<p>Problem: Insufficient central and institutional store capacities</p>	
<p>Causes</p> <ul style="list-style-type: none"> • Inability to use vehicles, store and other resources of RMSDD under the provincial administration, as an integrated storage and distribution system • Neglected poor and inadequate store conditions in most hospitals • Inadequate and nonstandard store conditions at central level MSD(MSD has only <20% annual demand volume) • Grossly understaffed operational management cadre and lack of systematic capacity development schemes & exposure to modern medical supply management systems in other countries. • Unnecessary dumping of stocks at MSD and institutions disrupting their storage space management 	<p>Solutions</p> <ul style="list-style-type: none"> • Improve operating flexibility • Improve capacity and facilities of store conditions to obtain adequate stocks with buffer stocks • Improve capacity and facilities of store conditions • Cadre revision and approval • Improve motivation and competency, in logistics & supply chain management • Better utilisation of stock intake capacity of MSD& institutions, available storage & transport capacity
<p>Proposed / implemented actions:</p>	

<ul style="list-style-type: none"> • Appointing of Assistant Director of MSD to place at PDHS office to monitor provincial distribution through RMSDD, and coordinate with medical institutions under the provincial administration concerning data collection, re-distribution, quality assurance and stock & information reconciliation and verification, etc. • Authorizing D/MSD to network all stores including RMSDs • Build new or adequately expand and upgrade • Improve facilities (air-conditioning, raking system, etc.) • Adhere to store management standards • Build new or adequately expand and upgrade to be increased at least up to 40% with adequate modern automated storage and handling systems (Welisara new store, Angoda store completion, Central air conditioning at MSD stores, Improve racking in all stores) • Adhere to store management standards • Emergency Reserve Stores, to cater to disaster/short supply related unexpected demands. • Enhance the cadre and HR requirement • Arrangement of fellowship programme • Control the delivery schedules (closer to delivery) of SPC 	
Problem: Insufficient transport capacity at MSD and RMSDD	
Causes:	Solutions:
<ul style="list-style-type: none"> • Inadequate and old vehicles at MSD and institutions without proper cool transport facilities 	<ul style="list-style-type: none"> • Increase vehicle capacity
Proposed / implemented actions:	
<ul style="list-style-type: none"> • Purchase /lease or hire adequate vehicles (lorries and cabs) • SPC handling facilities to reduce the clearance & delivery cost,(i.e. container yard, container handling equipment and have their fleet of lorries, container carriers/prime movers & cold stores) which can also be used by MSD on hire basis to send containers directly to hospitals /RMSDD by road or railway • Purchase forklifts 	
Problem: Inadequate infrastructure facilities at MSD	
Causes	Solutions
<ul style="list-style-type: none"> • Inadequate space for offices, record rooms, sample room, auditorium 	<ul style="list-style-type: none"> • Improving building capacities at main premises and t sub stores
Proposed / implemented actions:	
<ul style="list-style-type: none"> • Contraction of expansions and new building as well as renovations (As per the Annual Action Plan) • Improving capacity of MSD staff with exposure to modern technologies of supply chain management 	
Problem: Insufficient human resources capacity	
Causes:	Solutions:

<ul style="list-style-type: none"> • Lack of in-service training programmes locally or abroad 	<ul style="list-style-type: none"> • Build capacity through developing training opportunities
<p>Proposed / implemented actions: Organizing training locally:</p> <ul style="list-style-type: none"> • Material Management course for SCOs at SLIDA • Store Management course for MSAs at SLIDA • Attitude Development in-service training for MSD staff and hospital paramedicals at SDF of Vocational Training Ministry • Procurement management course for middle management team at SLIDA • Training for selected group on electric work, plumber work and equipment maintenance at Technical College • Safety driving and first aid training at St Johns • Fellowship programme for SCOs and MSAs as well as middle management team 	
<p>Problem: MSMIS not in use at provincial hospitals</p>	
<p>Causes:</p> <ul style="list-style-type: none"> • Limitation of efficiency through system due to limitation of MSMIS only to Central Ministry institutions 	<p>Solution:</p> <ul style="list-style-type: none"> • Expand MSMIS to provincial institutions for better coordination, efficiency of system and information
<p>Proposed / implemented actions:</p> <ul style="list-style-type: none"> • Improve the capacity of MSMIS by changing service provider • Expansion of MSMIS up to Divisional Hospitals • Improve the IT infrastructure of such hospitals • Training of relevant staff at central and provincial levels • Improve reporting, analysis and monitoring through MSMIS • Improve communication through MSMIS system to fill the gap with respect to new arrival of stocks and pending out of stock items as well as to prevent incomplete requests (without SR Nos., dosage form of items etc.) • Develop effective KPI & Performance Indicator based monitoring systems for all operational areas; procurement, supply and distribution as well as quality assurance 	

The sub-committee proposes various indicators to measure progress towards the SCM improvement goals of ensuring efficient and effective supply of quality medical items to health institutions. These are shown in Table 7.

Table 7: Indicators for SCM system improvement

Objective	Indicators	Means of verification
Supply of quality medical items in health institutions	% of hospitals which have > 90 availability of essential medicines throughout the year	<ul style="list-style-type: none"> • Survey • MSMIS data • Reports from institutions
Availability of medical items	% of essential medicines which were 100% available throughout the year	<ul style="list-style-type: none"> • Survey • MSMIS data • Reports from institutions
	% of items which were supplied according to due delivery schedule	<ul style="list-style-type: none"> • Survey • MSMIS data
Adequate store facilities	% of consignments returned due to lack of storage capacity	<ul style="list-style-type: none"> • MSMIS data • SPC invoices
Supply of good quality items	No. of quality failed items reported throughout the year	<ul style="list-style-type: none"> • Quality failed reports
Minimized expired items	Average no. of expired items during the year	<ul style="list-style-type: none"> • Hospital reports • Verification reports
Regular DTC meeting	% of health institutions conducting regular DTC meetings	<ul style="list-style-type: none"> • DTC meeting reports

Recommended strategies and major activities for monitoring and evaluation include:

Weekly:

- Medical supply review meeting (with DGHS)
- Quality failure review (with DDG-MS)
- Local purchase review (with D/MSD)

Bi-Weekly

- Institutional Surveys (D/MSD)

Monthly:

- Institutional review meetings (DTC) (with Director/Medical superintendent, Superintendent Pharmacist, and Superintendent Radiographer/MLT)

Quarterly

- Provincial and regional review meetings (DTC) (PDHS, and RDHS)
- National-level review meetings (with DGHSs)

Appendix 11: Technical Report on Laboratory Services

Introduction

The Role of Medical Laboratories

ISO 15189:2012 defines the medical (clinical) laboratory as a “laboratory for biological, microbiological, immunological, chemical, immuno-hematological, hematological, biophysical, cytological, pathological or other examinations of materials derived from the human body for the purpose of providing information for the diagnosis, prevention and treatment of disease in, or assessment of the health of human beings, and which may provide a consultant advisory service covering all aspects of laboratory investigation including the interpretation of results and advice on further appropriate investigation.”

Laboratories are often the first sites for the detection of disease outbreaks and also serve as a major source of health information. They produce critical and relevant information for patient care and treatment, epidemiology and surveillance. Strong laboratory facilities are therefore essential to health as well as to the national well-being and maintenance of health and economic development.

Background

The Government of Sri Lanka is currently engaged in a programme of significant restructuring of the nation’s health services and the health sector. In 2016 the Ministry of Health published the Health Master Plan 2016-2025, which provides a strategic framework for strengthening the health sector over that period. The central purpose of the plan is to chart a course for improving and strengthening the provision and delivery of laboratory services to ensure equitable access to quality services based on the adequacy and availability of skilled human and other financial and material resource inputs.

Mission: To improve the health status of Sri Lanka through the provision of quality services by advancing the capabilities of all laboratories in laboratory technology, related public health disciplines, training, research and well-motivated staff.

Objective: To strengthen and enhance the planning, management and operational/service capacity of Laboratory Services (including Blood Transfusion Services and MRI) for the provision of efficient and quality services.

General Strategic Objectives:

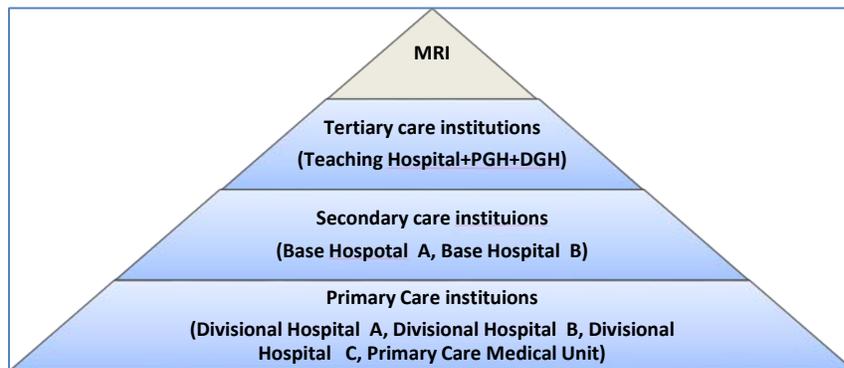
- Network laboratory structure, system, roles and responsibilities defined and operational
- A framework for planning and development of integrated laboratory services
- Delivery system established
- Operational standards and guidelines established and implemented

- Laboratory services well-staffed and managed
- Quality Assurance (QA) and Continuous Quality Improvement (CQI) Programmes for laboratory services developed and implemented
- A centralised management information system (MIS) for the laboratory service network established
- An efficient and effective procurement and maintenance system to be established and implemented.
- A marketing, advocacy and promotional programme designed and implemented to ensure quality laboratory services nationally.
- New legislation and regulations in support of laboratory service reform and accreditation of laboratories developed.

Situational Analysis of the Laboratory Sector

Public health laboratory services in Sri Lanka consist of a network of diverse institutions and public laboratories (shown in Figure 10) that work in undefined collaborations with private clinical laboratories.

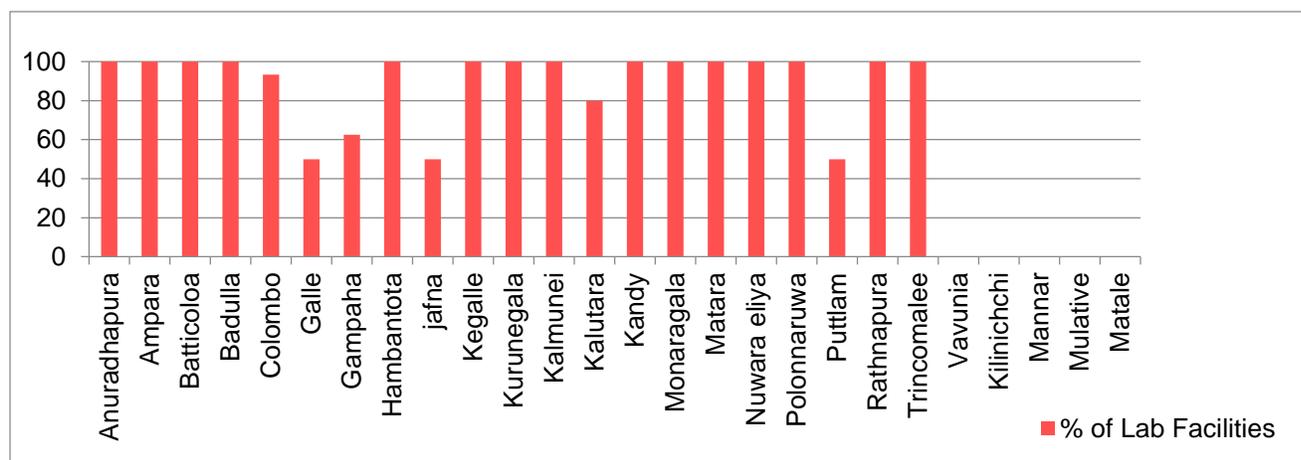
Figure 10: The Existing Laboratory Services Public Facilities



Ministry of Health laboratory institutions

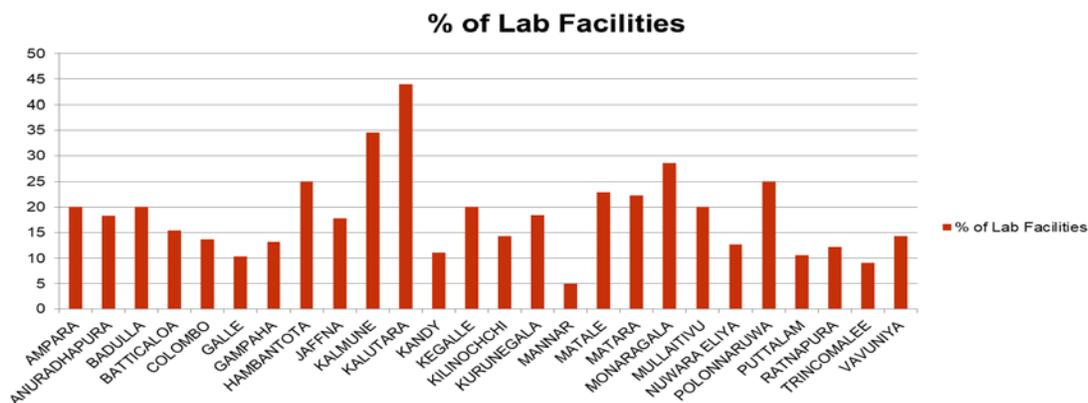
Health care institutions in the districts fall under the purview of either the Provincial Ministry or the Line Ministry, dividing all public health care institutions into Provincial Health care institutions and Line ministry health care institutions. Out of 26 districts in the country, line ministry health care institutions are situated in 21 districts (Figure 11). Other than prison hospitals (where laboratories are not available) all other line ministry hospitals have functioning laboratories. There are also 26 district hospitals, which offer varying levels of testing in their laboratory departments.

Figure 11: % of Laboratory Facilities



All “Base A” hospitals have laboratory facilities. All “Base-B” hospitals have laboratory facilities *except* Pulmude, Adampan, Murunkan, Thalaimannar, Vidathaltivu. Of the 61 DH-A hospitals, a laboratory facility is available in 41 hospitals (67%). Among the 132 DH-B hospitals, laboratory facilities are available in 57 hospitals (43%). Out of 288 DH-C hospitals, laboratory facilities are available in just 12 (4.1%). There are no laboratory facilities available in any of the 1395 PCUs. (Figure 12)

Figure 12: % of Laboratory Facilities



Recommendations to Improve Laboratory Capacity in Sri Lanka

Strengthen capacity for NCD diagnosis and management:

- Create a cluster laboratory system. Primary care hospitals should be provided strip to basic test (E.g, FBS, S.cho). This requires providing equipment and other facilities to primary care hospital where the MLTs are available.
- Provide transport facilities
- Develop infrastructure by construction/modification of primary, secondary care institutions
- Expand use of mobile laboratory; requires vehicle, equipment

Establish a Laboratory Information Management System

- Facilitate networking and data sharing within laboratories in secondary and tertiary care institutions, wards/clinics, and among cluster laboratories

Strengthen communicable disease management at all levels of hospitals

- Ensure capacity to diagnose dengue, influenza, HIV, etc.

Expand human resources for Quality Management of laboratories

- Provide adequate human resources for Quality Management of Laboratories (consultants/Medical officers to relevant field, MLTs)
- Prepare a laboratory human resource plan that forecasts recruitment requirements, establishes recruitment criteria
- Expand training, including continuous capacity building for MLTs and other staffs
- Offer training programmes on selected topics (advanced techniques, innovations, locally and internationally)

Formulate national laboratory standards and plans for laboratory accreditations

- Develop, adapt, and update laboratory guidelines

Develop and implement a national Quality assurance programme

- Internal & external quality programme
- Total quality management

Strengthen laboratories at secondary care, tertiary care and national reference laboratories to support primary care laboratories

- Strengthen of secondary care laboratories
- Develop provincial reference laboratories
- Establish regional vial/molecular laboratories in the region
- Strengthen advance laboratory facilities in MRI, NHSL

Develop high stranded advance laboratory at Apeksha Hospital Maharagama

- Provide advance Molecular test genetic relevant to bone marrow transplantation

Conduct Monitoring and Evaluation

- Review meetings and follow up in provinces
- Get returns from the laboratories at least quarterly

Procure, service and maintain equipment

- Proper vehicle facility for DDG-LS, D-LS to visit the regional laboratories and regular review meetings

Establish and monitor Antimicrobial Resistance Programme

- Implement awareness programme about AMR, biosafety and biosecurity
- Conduct media campaign about AMR, biosafety and biosecurity

Empowering citizens

- Behaviour change communication campaigns
- Increase awareness of availability of services
- Encourage/motivate citizen participation and use of services
- Paper/electronic media about availability of service and NCD

Build Private Public Relationship

- Some tests could be outsourced upon consideration of cost-effectiveness