

# Report of Regional meeting on Strengthening health systems to address co-morbidities in the South-East Asia Region

Jaipur, India, 18–20 November 2014



**World Health  
Organization**

Regional Office for South-East Asia

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## Abbreviations

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ART	antiretroviral therapy
ASHA	accredited social health activist
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
CCS	Country Capacity Survey
CSR	corporate social responsibility
CVD	cardiovascular disease
DALY	disability-adjusted life year
EHR	electronic health record
GDP	gross domestic product
GP	general practitioner
HIS	health information system
HMIS	health management information system
ICD-10	International Classification of Diseases-10th revision
ICT	information and communication technology
IIHMR	Indian Institute of Health Management Research (Jaipur, India)
IT	information technology
LMIC	low- and middle-income countries
MCH	maternal and child health
MDG	Millennium Development Goal
MIS	management information system
MO	medical officer

MVT	medical products, vaccines and technologies
NCD	noncommunicable disease
NGO	nongovernmental organization
PEN	WHO Package for Essential Noncommunicable Disease Intervention
PLHIV	people living with HIV/AIDS
PPP	public–private partnership
QALY	quality-adjusted life year
UN	United Nations
WHO	World Health Organization

## Background

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Many countries in the South-East Asia Region treat co-morbidities (i.e. more than two or more co-existing illnesses in the same patient) in isolation without adopting a holistic approach to treating the patient. This specialized treatment approach has led to inefficiency and wastage of resources. It has become necessary to adopt a systems approach at lower-level health facilities by strengthening and providing them with screening and diagnostic facilities, adequate supply of drugs, and improving the capacities of human resources as well as strengthening health information systems for the efficient management of co-morbidities. Addressing co-morbidities will help in efficiently and effectively managing not only the increasing burden of noncommunicable diseases (NCDs) but also communicable diseases as well as maternal and child health issues.

A regional meeting to work towards addressing co-morbidities was convened in collaboration with the Indian Institute of Health Management Research (IIHMR), Jaipur, India – a World Health Organization (WHO) collaborating centre. There were four participants from each Member country of the South-East Asia Region, and included programme managers/national-level responsible officers in the areas of maternal and child health (MCH), communicable diseases, NCDs and health systems. The resource persons were regional and extraregional experts on health systems and programme management of NCDs, MCH and communicable diseases.

The meeting aimed (i) to share country experiences in managing co-morbidities and explore multicountry initiatives; (ii) to raise awareness among higher-level health officials of the need to address co-morbidities in an efficient and cost-effective manner by strengthening health systems, especially at lower levels of care; (iii) to obtain guidance for Member States as well as WHO to address co-morbidities in the future, and address further needs for strengthening health systems. (Annex 1 provides the agenda, Annex 2 the programme of the meeting and Annex 3 the list of participants).



# 1. Opening session

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Dr Sunil Senanayake, Regional Adviser, Health Systems Management, South-East Asia Region welcomed the participants to the meeting. He said that WHO has so far focused on the prevention and control of diseases. There have been successes in eradicating some diseases and controlling others, which has improved the quality of life globally. However, over the years, the dimensions of health have changed; they have gone beyond the purview of ministries of health. Not all countries are on course to meet the Millennium Development Goals (MDGs). There are now new challenges such as antibiotic resistance and many new partners and stakeholders, including nongovernmental organizations (NGOs). Health systems need to be made more efficient in view of the changing demography of NCDs, which account for 60% of all deaths globally. However, co-morbidities have never been discussed in the Region. This meeting aimed to highlight the importance of managing co-morbidities with an integrated systems approach to delivering health services.

Dr S.D. Gupta, Director, IIHMR, said that this consultation was important because the magnitude of co-morbidities of NCDs was not known. The incidence of chronic diseases is likely to rise by 20–25% by 2020; consequently, the incidence of co-morbidities will also rise. He said that it was important to address the issue of chronic diseases because that will impact the disease burden as well as disease outcome. He said that we should first strengthen health systems and make them more responsive and efficient in managing chronic diseases and then address co-morbidities. He hoped that the proceedings of this consultation would prove to be a milestone in public health. He thanked WHO for collaborating with IIHMR.

## 1.1 Message from Dr Poonam Khetrpal Singh, Regional Director, South-East Asia Region

The message was read out by Dr Sunil Senanayake, as Dr Singh could not be present. In her message, the Regional Director said that, “WHO describes the health systems framework under six building blocks, namely, service delivery; health workforce; health information system; medical products, vaccines and technologies; health-care financing; and leadership

and governance. This system should be able to produce four outcomes, namely, improved health of the people; responsiveness to the needs of people; social and financial risk protection; and improved efficiency of the health-care delivery system. This framework is also concerned about the access, coverage, quality and safety of health services.”

Dr Singh said that a country should allocate at least 4–5% of the gross domestic product (GDP) to health. The present health-care system wastes a lot of a patient’s time. She suggested that this was the right time to think out of the box and adopt effective, efficient as well as patient-friendly approaches. Dr Singh expected the participants to make recommendations to address co-morbidities and multi-morbidities, improve efficiencies and minimize wastage of resources in health-care institutions in Member States. (The full text of the Regional Director’s message can be found in Annex 3.)

## **1.2 Objectives of the meeting**

Dr Sunil Senanayake introduced the participants and gave details of the objectives and agenda of the consultation. He said that the general objective was to strengthen health systems in the South-East Asia Region for effective and efficient management of co-morbidities.

The specific objectives were:

- ◆ to discuss the epidemiology of co-morbidities in the South-East Asia Region;
- ◆ to deliberate upon the status of health systems preparedness to manage co-morbidities;
- ◆ to share innovative experiences in tackling co-morbidities in the South-East Asia Region; and
- ◆ to suggest the way forward to strengthen health systems to address co-morbidities.

This was followed by nomination of the Chair/Co-Chair and Rapporteur for the consultation. Dr Sheeza Ali, Director General of Health Services, Ministry of Health, Male, Republic of the Maldives was unanimously nominated as the Chair; Mr Md Mizanur Rahman, Deputy Secretary,

Ministry of Health and Family Welfare, Dhaka, People's Republic of Bangladesh as the Co-Chair; and Dr V.T.S.K. Siriwardana, Director (Non-Communicable Diseases), Ministry of Health, Colombo, Democratic Socialist Republic of Sri Lanka as the Rapporteur for the consultation.

### **1.3 Health systems strengthening**

Dr Sunil Senanayake spoke about strengthening health systems. He said that the present health service delivery system is overburdened and unsatisfactory; it needs to be made efficient, responsive and patient-friendly. To do this, each of the six building blocks of health systems need to be strengthened.

- (1) Good health services: service delivery infrastructure should be made effective and safe, by introducing quality health interventions to those who need them, when and where they need them, with minimum wastage of resources.
- (2) Well-performing workforce: that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible.
- (3) Well-functioning health information system: to ensure production, analysis, dissemination and use of reliable and timely information on health determinants, health systems performance and health status.
- (4) Medical products, vaccines and technologies (MVT): to ensure equitable access to essential, scientifically sound MVT of assured quality, safety and efficacy. In addition, the use of technologies should be cost-effective.
- (5) Good health financing: that provides adequate funds for health, ensures that people can get or use needed services and are protected from financial catastrophes or impoverishment.
- (6) Leadership and governance: to ensure that strategic policy frameworks exist and are combined with effective oversight, coalition building, appropriate regulation and incentives, attention to system design and accountability.

The existing situation in Member States needed a lot of improvement in various sectors. Health information systems (HIS) are weak in several countries; migration of skilled workforce is a concern; irrational use of medicines is an issue. More progress needs to be made towards achievement of the MDGs in different countries. Overall, four countries in the South-East Asia Region have “relatively” strong health systems. He said that the pattern in many countries shows that 5% of the population is living with at least one disability; 10–15% live with a disease; 40% are exposed to risk factors and have a high risk of falling ill; and the remaining 40% constitutes the healthy population. The challenge before us is to have different strategies for the four groups. He mentioned WHO’s “life-course approach”, which involves primordial prevention, primary prevention, secondary prevention, and tertiary prevention and rehabilitation and which could be used to develop strategies to address co-morbidities.

## **Discussion**

The ensuing discussion concerned various health strategies in the context of the national budget of a country. Dr Senanayake said that there was no readymade answer for the health budget of a nation because the situation differs from country to country, and the challenges differ from terrain to terrain.

## **2. Epidemiology of co-morbidities in the South-East Asia Region and disease burden - Dr Prabhdeep Kaur**

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Dr Kaur reviewed the available literature to identify the patterns of co-morbidities in the South-East Asia Region. Based on certain criteria, she had searched PubMed for studies from the Region on NCDs during the period January 2001 to June 2014. Of the 170 articles selected, most of the studies were from Thailand and India. There were a few studies from Bangladesh, Indonesia, Nepal and Sri Lanka. There were no studies from Bhutan, Democratic People's Republic of Korea, Maldives, Myanmar and Timor-Leste. The studies had considerable heterogeneity in terms of methodology used, sample size and outcome measures. She observed that the Region lacked research on NCDs and that most of the studies concerned single diseases and not co-morbidities. Thus, it is a challenge to estimate the burden of co-morbidities and multi-morbidities in the Region.

Dr Kaur said that the study setting and the source of data influence the prevalence of co-morbidities. Most of the studies were done in general practice outpatient clinics, a few were done in specialist clinics or tertiary care centres, and not many were from community settings. The studies from tertiary care centres had a very high prevalence of co-morbidities, probably due to referral from general practice of patients with prior diagnoses or suspicion of co-morbidity.

Dr Kaur said that diabetes was the most widely studied disease and there was evidence for a high burden of various co-morbidities. A large number of studies reported multi-morbidity among patients with diabetes due to microvascular and macrovascular complications. She pointed out that the co-existence of diabetes and tuberculosis was one of the most widely reported clusters. A few studies reported co-morbidities among patients with hypertension, cardiovascular disease and chronic kidney disease, but the majority of studies reported only one co-morbidity. Depression emerged as one of the major co-morbidities with various NCDs. There was a high burden of gestational diabetes and postpartum depression among pregnant women as reported in nine studies (from Thailand and India). Only two studies from India estimated multi-morbidity

in the community setting. There were 16 studies with NCD co-morbidities among patients with HIV/AIDS. The major co-morbidities reported were retinopathy, neurocognitive impairment, cardiomyopathy and cancer of the cervix.

Dr Kaur suggested that, for the management of patients with multi-morbidities, reorientation of health systems and integrated disease management protocols were necessary. She said that periodic monitoring of patients with hypertension, diabetes, cardiovascular disease, chronic kidney disease, tuberculosis and HIV for highly prevalent co-morbidities during the course of treatment might provide opportunities for early detection and effective management. Existing programmes such as the TB, MCH, and NCD programmes can provide platforms for interventions for co-morbidities associated with the primary diseases covered by the respective programmes.

Dr Kaur stressed that there was a need for more research studies and surveys by other Member States after developing standard tools and definitions for co-morbidity/multi-morbidity. Community-based studies need to be done to estimate the burden of multi-morbidity associated with high-prevalence diseases in various age/gender groups. Disease registries and hospital information systems should be established for estimating the burden of co-morbidities among patients with various chronic diseases. She said that doctors need to be sensitized to identify and treat co-morbidities and multi-morbidities, as these are often missed.

## **Discussion**

Participants stressed the need for standardization of the definitions of co-morbidity/multi-morbidity to enable further research and surveys to estimate the burden of these. The importance of HIS in developing a platform for surveillance of co-morbidities was highlighted, which would enable systematic collection of data as well as indicate time-trends. There were suggestions for more community-based surveys as well as enhanced community participation and dialogue. It was pointed out that country programmes should identify opportunities to address the issue of co-morbidities.

The Chair concluded the session by emphasizing the need for standard definitions of co-morbidity and multi-morbidity.

### **3. Integrated approach to strengthening primary health care (including preventive health services) to address co-morbidities with improved efficiency - Dr S.D. Gupta**

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Dr Gupta said that co-morbidities in NCDs and other chronic diseases have emerged as a major and complex challenge as they influence prognosis, complicate disease management and treatment, and impose a heavier burden of health-care cost on individuals and health systems. Co-morbidities in chronic diseases have assumed greater importance globally and are receiving increased attention with the rise in the burden of chronic diseases and mortality. Often, people have multiple chronic diseases with increasing age. Chronic disease management and prevention is further compounded by concurrent co-morbidities and coexistence of multiple chronic diseases.

A WHO report estimated that globally in 2010, about 63% of the total 57 million deaths were due to NCDs. The report further projected an increase of 15% in NCD deaths during the decade 2010–2020; in the South-East Asia Region it might increase by 21%. An estimated 8.5 million NCD deaths occur every year in the South-East Asia Region, i.e. about 62% of all deaths in the Region. About one-half of these deaths occur below the age of 70 years and cause a huge economic loss on account of reduced productivity, cost of illness care to the health-care systems and catastrophic expenditure for households.

Dr Gupta presented the country-wise NCD profile of the South-East Asia Region. He also explained the various definitions and constructs of co-morbidities and multi-morbidities. He advocated the need for integrating the care of co-morbidities in primary health care. Efficient and effective functioning of health systems is vital for health promotion and prevention of NCDs, early diagnosis and disease management, and managing co-morbidities associated with chronic diseases. He pointed out that health systems work with various constraints. The health systems in low- and middle-income countries (LMIC) are poorly managed, resulting in low efficiency and effectiveness of health care. Inadequate coverage and

low quality of services, shortage of human resources, lack of skills and competencies in the prevention and management of NCDs, inefficient logistics and supply chain, fragmented HIS, and ad-hoc surveillance and monitoring are the major constraints of health systems and service delivery in primary health care.

Dr Gupta said that strengthening of health systems based on primary health care is the foremost requirement to meet the challenges of prevention and management of chronic diseases, and associated co-morbidities and multi-morbidities. The current focus of health systems is on prevention and treatment of single diseases rather than on co-existing multi-morbidities. A paradigm change is required in the primary health-care approach to addressing chronic diseases as well as co-morbidities/multi-morbidities. The critical step is to integrate the care of co-morbidities in primary health care, both structurally and functionally. An integrated approach would not only ensure effective operational management of service delivery aimed at primary health care but is also important in low-resource settings for efficient utilization of limited resources in the existing health systems.

WHO has recently assessed the response and preparedness of national health systems to manage chronic disease care in Member States in its 2013 Country Capacity Survey (CCS). It found that Member States are not prepared for the prevention and management of NCDs. In most Member States, the management of NCDs is not integrated in primary health care. While most countries have established an operational NCD unit in their respective ministries of health, none had set up a national population-based registry. Except Thailand and Maldives, no country had a sustainable NCD surveillance and monitoring system in place to enable reporting against the nine global NCD targets. Only Bangladesh, Myanmar, Indonesia and the Democratic People's Republic of Korea have an operational multisectoral national policy, strategy or action plan that integrates several NCDs and shared risk factors. India, Maldives and Nepal did not have evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach.

Dr Gupta said that the Regional NCD action plan has identified four strategic action areas: (i) advocacy, partnerships and leadership; (ii)

health promotion and risk reduction; (iii) health systems strengthening for early detection and management of NCDs and their risk factors; and (iv) surveillance, monitoring and evaluation, and research. The WHO Package for Essential Noncommunicable Disease Interventions (PEN) for primary care is an innovative and action-oriented response to the challenges of managing NCDs in primary care in low-resource settings. It is the first important step for integration of NCDs in primary health care and reforms that cut across the established boundaries of the building blocks of national health systems.

The six pillars' approach of health systems may be adapted to develop an integrated approach to strengthening primary health care to address chronic diseases and co-morbidities. Technology is not enough to achieve the health goals; strategic leadership and effective management are also required. These six pillars include improved governance, strengthening service delivery, building the capacity of human resources, streamlining logistics and supplies of drugs and vaccines, establishing effective HIS and appropriate financing of primary health care. Dr Gupta suggested that vertical health programmes should be integrated into core public health programmes for promotive, preventive and curative care of chronic diseases and co-morbidities.

The development of disease management protocols for treatment and management, and their incorporation into service delivery at the primary and secondary care levels is an important strategy for addressing chronic diseases and co-morbidities/multi-morbidities. While designing and developing disease management protocols, attention should be given to drug interactions, drug delivery systems and cost-effectiveness, and potential clustering of chronic diseases with common risk factors and co-morbidities. Further testing would be required of these disease management and treatment protocols for their validity, effectiveness and operational feasibility in primary health care settings.

Self-care or self-management of chronic diseases and co-morbidities at the household and community levels is an evolving concept. Self-care can be promoted at the community level through community health workers, NGO partners and civil society organizations. Capacity building at the community level should be done on a sustainable basis. A skilled

and motivated health workforce is critical for the management of chronic diseases and co-morbidities in primary care settings. There is also a need to strengthen and improve procurement, logistics and supply chain management of medicines at the primary care level.

Dr Gupta said that the probability of catastrophic expenditure and ensuing poverty is high among those hospitalized for chronic diseases, especially cardiovascular diseases and cancers. Diabetes is yet another chronic disease that has high catastrophic health expenditure.

This would necessitate strengthening health systems with increased financial allocation for chronic disease care programmes; reducing the cost of treatment and long-term care; reducing out-of-pocket expenditures; developing and promoting the use of low-cost and high-impact interventions; use of alternate technologies; and integration of chronic disease and co-morbidity management in primary health care for optimizing resources and enhancing access to and utilization of health care. He said that there is a need to initiate measures to reduce inequity and impoverishment, especially due to catastrophic expenditures on health.

## **Discussion**

Participants raised the issues of preparedness for universal health coverage, the importance of an integrated national policy, and the role and efficacy of screening for co-morbidities. There were queries about the structural and functional integration of services at the national level, for which the experience of Indonesia was cited as an example. Doubts were expressed about self-care and self-management in view of the low levels of literacy in some areas. The examples of Thailand and Sri Lanka were given in the context of screening for co-morbidities.

## **4. Integrated approach of strengthening curative care to address co-morbidities with improved efficiency - Dr Ananda Gunasekera**

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Dr Gunasekera started by asking, “Why do we need to integrate various components of the health service delivery system?” He said that the increasing prevalence of multiple diseases (co-morbidities) that are often likely to occur in the ageing population has put a greater demand on health/social care activities. It has resulted in fragmentation of care. He said that the clinical management of patients with co-morbidities is much more complex than that of those with single diseases.

Most health-care services are structured around acute episodes and curative health care. However, tackling chronic diseases effectively requires a long-term and complex response, involving coordination of primary care health professionals with different medical specialists with access to the necessary drugs and equipment, and social supportive care. He said that the perceived deficiencies of the present system in addressing co-morbid conditions are as follows: (i) many patients with chronic diseases receive suboptimal care and there are quality issues with how this care is provided; (ii) only a small proportion of patients with chronic diseases are adequately identified; (iii) only a minority of patients receive the proper care in the appropriate setting; (iv) diagnostic registries are incomplete; (v) evidence-based guidelines are usually not followed; (vi) hospital readmission rates are unnecessarily high; (vii) care is disease-centred and not patient-centred, and there is inadequate support for self-management of patients; (viii) from primary to tertiary care, the advice to patients on prevention and healthy lifestyles from health professionals is inadequate; (ix) continuity in care between the primary care and hospital settings, as well as between social and health care is inadequate; (x) compliance with clinical management and adherence to therapies are poor; (xi) information given to patients on health-related issues is poor and not well coordinated, including medical and non-medical treatment options.

There is growing evidence in favour of different approaches to integrate services so that they are more cost-effective for people. As a

result, strategies to create more integrated, cost-effective and patient-centred services for care coordination are growing internationally. However, there is a lack of knowledge about how best to apply care coordination in practice. Integrated care should not be regarded solely as a response to managing medical problems; the principles extend to the wider definition of promoting health, taking into account the holistic needs of patients.

Dr Gunasekera said that many missed opportunities for prevention have led to the recognition that an integrated approach was needed. He gave a SWOT analysis of the health system in Sri Lanka. He said that integrated care is best suited to long-term chronic and mental health illnesses, to older people, and to those with medically complex needs or requiring urgent care, including childhood illnesses to prevent premature death, and costly treatments for tertiary prevention.

He said that the key aims of integrating care were (i) to reduce the number of exacerbations/ readmissions/emergency bed days; (ii) to shorten the overall length of hospital stay; (iii) to optimize the use of medications; (iv) to provide acute, home-based, short-term interventions aimed at early discharge; (v) to increase patients' self-management skills; (vi) to coordinate cases between case managers in hospital and primary care teams; (vii) to provide educational programmes to support self-management; (viii) to provide telehealth/e-health-enabled case management and follow up.

Integration in care is unlikely to follow a single path and no "best practice" model of integrated care exists for all situations. Multiple modalities and degrees of integration can coexist within a single system, depending on the context in which they are delivered. He said that health programmes have to be flexible and affordable.

Dr Gunasekera suggested that the way forward could be found by trying to answer the following questions:

- (1) What changes could be made in Member States to enable health-care systems to respond better to the integration of prevention, treatment and care of chronic diseases?

- (2) Which partners could collaborate to address the chronic disease challenge in areas such as emerging new diseases, e.g. chronic kidney disease, malignancies?
- (3) How much emphasis should be given to further development of innovations, including e-health/electronic health records (EHR) and telemedicine, for the prevention and treatment of co-morbidities?
- (4) How can integration of the curative and preventive sectors be reoriented?

## Discussion

The issues of implementation, screening, and the role of general practitioners in health service delivery were discussed. It was pointed out that in public services, the waiting time for the patient is very long, while the average time of consultation is 2–3 minutes. The example of Sri Lanka was cited for the NCD Bureau to suggest that treatment protocols should be developed at the primary-care level for NCDs.

The Chair concluded the day's proceedings by observing that to improve the system we should include more partners in health service delivery such as community health workers.

## **5. Strengthening health information systems to provide evidence-based policy options to address co-morbidities with improved efficiency - Professor Dr Abul Kalam Azad**

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Dr Azad said that since accurate and adequate data are required for policy-making, no additional justification was needed for a nation to have an effective HIS. Co-morbidities put a huge social and economic burden even on rich nations. HIS was particularly relevant in the context of co-morbidities for the South-East Asia Region, which faces a double burden of disease – communicable diseases as well as NCDs. He said that annually there are an estimated 7.9 million deaths due to NCDs in the Region, which accounts for 55% of all deaths. A comprehensive, integrated and effective national HIS is the need of the hour.

Dr Azad pointed out that health services have focused on MCH, where considerable success has been achieved, but WHO data of 2004 show that mortality in the South-East Region due to NCDs has been about ten times higher. He observed that there have been too many vertical health programmes, such as those for TB, malaria and HIV, leading to separate, often duplicate, data collection. He said that the current models of disease prevention, treatment and care are designed for single diseases rather than a combination of diseases. A correct assessment of the burden of co-morbidities associated with NCDs is important and thus co-morbidities should be an integral part of the national HIS. Bangladesh has implemented integrated data collection – an approach strongly supported by WHO. From a public health perspective, appropriate management of co-morbidities can maximize the effectiveness and efficiency of a health system.

Dr Azad said that the purpose of the national HIS should be well defined while planning for it. Is it for collecting data only on co-morbidities or on all core health indicators inclusive of co-morbidities? Is it for collecting facility-based data, community-based population-centric data, or both community- and facility-based data? Is it for collecting data only on a defined population group, or for a defined geographical area or for the

entire country? Will the system be fully electronic or a combination of electronic plus paper-based? Will data be collected in an aggregated form or on a case-by-case basis? If on a case-by-case basis, will it be based on only a single event without link to previous or subsequent events? Or, will it track the continuum of care as a life cycle approach to capture every vital health encounter or event of an individual? How will co-morbidities be addressed in the HIS? What kind of data analysis will be done to generate evidence?

The next consideration in planning for the HIS is the context of a particular country, such as the structure of the health-care delivery network; role of the private health-care sector; health-care-seeking behaviour of citizens in terms of sources of care (public, private, NGO, informal, self-care, etc.); strength of preventive community-based health-care services (routine immunization, other child care and maternal health-care services, among others); resources available for HIS in terms of initial implementation, scaling up and operational cost; internet and mobile phone coverage across the country; skills in information and communication technology (ICT) and attitude of health workers; availability of technically skilled people in the country to set up, maintain and upgrade the HIS. Besides consistent, high-level policy support, a national HIS design must have a long-term vision for a multiyear phased plan. Dr Azad said that a strong national HIS should be comprehensive, integrated and effective through longitudinal tracking of citizens. The essential components of a HIS initiative are measurement, reporting and accountability.

The data requirement of the United Nations (UN) and WHO-led global initiatives, such as the global NCD monitoring framework, mental health action plan and universal health coverage, require each citizen of a country to be registered and tracked longitudinally electronically for specific health conditions and diseases. This needs introduction of an EHR for every citizen. Dr Azad gave details of how different countries such as Denmark, Estonia, the UK and USA, and African countries including Rwanda are trying to improve their respective HIS through compliance with global requirements. Bangladesh is making progress in establishing longitudinal EHRs of its citizens. The combined system will link on one electronic platform various health and non-health-related services, such as voter list, birth and death registers, schooling and marriage register.

Dr Azad said that DHIS2 and OpenMRS are the two open-source software that are downloadable free of cost from the Internet, and are considered the ideal national HIS software solution for resource-poor settings. Several Member States of the South-East Asia Region have started using DHIS2 (Bangladesh, India, Nepal, Bhutan, Myanmar, Democratic People's Republic of Korea, Sri Lanka, Timor-Leste) and OpenMRS (Bangladesh, India, Nepal).

Dr Azad concluded by saying that there is an acute shortage of health-related data in Member States for evidence-based decision-making. He said that an affordable national HIS solution for the South-East Asian Region should be based on a long-term plan implemented in a phased manner. These include selection of the software, hardware defining data standards, interoperability and electronic registers, types of forms for routine data collection, security and confidentiality of data, and training plan before putting the HIS blueprint into action. Dr Azad said that data quality is as important as the information culture for the success of HIS. He said that data on co-morbidity may be extracted, analysed and reported from longitudinal EHRs. There are four dimensions of measurement of co-morbidity data – magnitude, severity, pattern and burden of disease.

## **Discussion**

The discussion centred on issues such as the lack of uniform Internet connectivity, maintenance of hardware as well as confidentiality, security and quality of data. Dr Azad suggested a hybrid system for initial data collection and involvement of NGOs in monitoring and improving the quality of data. He emphasized the role of the private sector in developing the necessary IT culture. A unique identification code for citizens is crucial for HIS. Concerns were expressed about the health care of migrating populations and proper recording of co-morbidities in death certificates.

## **6. Skill mix and task shifting of health workers to address co-morbidities efficiently and effectively - Dr Surendra K. Sharma**

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Dr Sharma said that globally, there is a shortage and maldistribution of health-care workers. The deficit of health workers has an impact on the economy and well-being of a nation. A WHO report of 2006 noted that 57 countries fell short of the minimum health-care threshold, resulting in a need-based shortage of 4.3 million health workers (including 2.4 million doctors, nurses and midwives). India has more than 840 000 registered medical practitioners, i.e. an overall doctor–population ratio of 1:1800. The majority of health services is used by patients who require long-term care for diseases such as diabetes mellitus and hypertension, and chronic conditions such as TB and HIV, where co-morbidities play a role. The workload at health facilities is increasing and innovative methods are required to deliver health services efficiently.

Dr Sharma explained that skill mix means that specific tasks are moved in appropriate situations from highly qualified health workers to health workers with shorter training and fewer qualifications. Dr Sharma outlined three areas of skill mix: (i) role enlargement – qualified/unqualified skill mix; (ii) role enhancement – qualified skill mix; and (iii) multidisciplinary worker. He said that skill mix could be used for tasks such as screening, early treatment, intervention and prevention. He cautioned that skill mix is not a panacea and its implementation is not easy.

Dr Sharma cited the system of nurse practitioners, which began in the late 1960s in the USA. Studies indicated that the primary care provided by nurse practitioners was equivalent or superior to that provided by physicians. A meta-analysis has shown that nurse-led care had a positive effect on patient satisfaction, hospital admission and mortality compared to that provided by primary care physicians. In Kenya, community-based health-care workers were able to deliver safe and effective care to people living with HIV/AIDS (PLHIV), expedite roll-out of antiretroviral therapy

(ART) and increase access to treatment while expanding the capacity of health-care institutions in resource-constrained settings.

Dr Sharma said that role enhancement involves expanding the skills of a group of workers so that they can assume a wider range of responsibilities through innovative roles. Role enhancement does not entail adding functions from other professions; it occurs within a given profession's scope of practice. The US and the UK have general practitioners (GPs) with special interests. Such integrated care delivery systems headed by GPs can go a long way in tackling the emerging epidemic of lifestyle diseases, which require long-term care. He said that a holistic health-care approach would help in delaying the onset of co-morbidities of NCDs. He emphasized the need for patient education and counselling, and the role of NGOs in health-care service delivery.

Dr Sharma said that employing multipurpose workers in primary health-care settings in rural and remote areas may be economically beneficial and productive. With appropriate training, such workers can be employed for health-care service delivery in various community-level health programmes such as treating common ailments with the help of algorithms. New workers could belong to a higher cadre of work, such as nursing assistants acting as midwives and technicians. The National Rural Health Mission in India provides every village with a trained female community health activist, ASHA (accredited social health activist). The ASHA, selected from the same village, is trained to work as an interface between the community and the public health system. There are norms for the educational qualifications, selection process, training and remuneration of ASHAs. A preliminary assessment of the competency of ASHAs in the field of HIV/AIDS in Andhra Pradesh has shown encouraging results. ASHAs can also be trained to monitor adverse events related to antituberculosis treatment. He said that telemedicine can also be used for training health workers.

The implementation and success of skill mix require inputs and support from many stakeholders; the prerequisites are: (i) dedicated political support; (ii) economic and educational resources for training; (iii) willingness of the participants; (iv) efficiency of the participants; (v) acceptance from doctors in allowing nurses to prescribe; (vi) clarification

on the scope of practice, titles and certifications; (vii) regulations for reimbursement; (viii) legal issues in allowing and limiting prescriptions; and (ix) public acceptance.

The basic aim of skill mix is to increase access to health care without increasing the cost, i.e. increasing the productivity. Besides patient-oriented advantages, skill mix also provides development opportunities for staff. The time taken for a specialist to be trained is substantially reduced when the job is divided and decentralized. Dr Sharma mentioned that there is insufficient evidence to show that skill mix is productively efficient. He said that there are many challenges in implementing the concept of skill mix; these include the following: (i) it is not easy to identify people with the right skills; (ii) it is time consuming as it requires supervision to enhance the quality of care; (iii) it is difficult to evaluate the benefits versus harm in terms of outcome, survival and mortality; (iv) it is difficult for patients to accept a non-doctor taking care of their ailment; (v) there are also legislative and political issues besides those of funding and sustainability.

Dr Sharma said that skill mix is difficult to introduce in resource-poor countries where the share of GDP on health expenditure is low. Skill mix can be a success (i) when it is used in a controlled setting where the role of each health-care worker is well defined; (ii) where the management and referral of a particular health condition has clear guidelines; (iii) where adequate systems are in place for supervision and accountability; (iv) where health-care providers are motivated; and (v) when there are enough funds for training human resources.

## **Discussion**

The main concerns were: whether skill mix was a short-term solution or whether the primary health system needed to be redesigned; whether policy changes were necessary to ensure the continuity of care; whether delegation of work from a higher to a lower level would be acceptable to medical associations; whether skill mix would lead to a blurring of roles and how the quality of care would be ensured; and whether there would be clear career paths for new workers to ensure sustainability. It was felt that these issues needed further deliberation.

## 7. National and district health planning and co-morbidities - Dr Sarath Samarage

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Dr Samarage said that countries in the South-East Asia Region face considerable challenges in delivering health services to their populations and improving health outcomes. He said that innovations are required in health systems for improvement in the access, coverage, quality and efficiency of care. WHO Regional Committees at their sessions in 2010 called on countries to strengthen health systems. It is important to create a framework for action to respond to issues posed by co-morbidities in health settings. This should be developed around four priority areas for action: (i) improve infrastructure and systems development; (ii) focus on workforce planning and development; (iii) improve response in priority settings for priority clients; (iv) improve promotion, prevention and early intervention strategies.

Dr Samarage said that in view of the various constraints facing governments and the private sector in employing an adequate number of health workers, there is a need to consider the health system as a functional whole, rather than as a set of interventions targeted to specific diseases or as discrete functional areas. The immediate priorities are: (i) to develop principles/models that support sustainable linkages between state services and the broader health network; and (ii) to enhance workforce development and training approaches, with priority given to the development of nationally recognized competencies, for various types of workforces employed in the management and treatment of co-morbidities. The longer-term priorities are: (i) to develop a model for a national quality framework to ensure integrated care; and (ii) to develop a “national co-morbidity strategy”.

Dr Samarage identified some issues in dealing with co-morbidities, which included: inconsistent and ineffective referral processes; lack of direction with referral entry points causing situations where clients present to service providers at any point in time; barriers to accessing services; poor knowledge of services; peer-to-peer relationships mitigating against making referrals; concerns about professional skills and qualifications;

ineffective communication and continuity of care processes between services and sectors; lack of education and training; knowledge of clinical conditions; inconsistencies in the use of diagnostic screening, assessment tools and approaches; community understanding of the stigma associated with co-morbidities; awareness and knowledge of agreed national clinical guidelines; and challenging behaviours exhibited by some clients.

Patterns of disease, care and treatment are changing. Systems for managing the continuum of care pose different demands from those needed for acute intermittent care. New delivery strategies may create new demands on health systems. For example, the shift from traditional birth attendants to skilled birth attendants has implications for staffing, referral systems, and upgrading of facilities to deliver emergency obstetric care. New approaches to mental health and NCDs emphasize primary prevention, community care and well-informed patients – which may shift the focus from institutional care.

Dr Samarage said that planning is broadly defined as the process of deciding how the future should be better than the present, what changes are necessary to make these improvements, and how the changes should be implemented. Planning does not mean just selecting activities, forecasting what might happen, a statement of what is desirable or allocation and reallocation of resources. He said that based on the time frame, health-care planning can be of three types: (i) short-term planning (1–3 years) is concerned with present trends using currently available resources; (ii) medium-term planning (5–10 years) has some scope to modify demands based on new needs; and (iii) long-term planning (10–20 years) is based on selecting a desired future and designing a way of reaching it.

Elements of effective planning include the following: (i) plan early; (ii) identify and define outcomes; (iii) identify and define milestones and timelines; (iv) consult everyone involved in implementation during the planning process; and (v) make planning flexible and ongoing. Hurdles to effective planning include: (i) insufficient attention and commitment to planning; (ii) poorly defined outcomes; (iii) poor information; (iv) poor long-term planning; (v) lack of capability; and (vi) insular planning.

Dr Samarage said that it is important to develop a programme logic, which is a tool that describes the logical links between inputs, activities, outputs, and short-term, intermediate and long-term outcomes related to a specific problem or situation. Direct or indirect benefits might include: (i) improved delivery and effectiveness of government services; (ii) increased revenue; (iii) improved public health; and (iv) economic growth. It is also important to develop a benefits statement. Benefits are measurable improvements resulting from an initiative, which are perceived as an advantage by one or more stakeholders, and contribute to achieving the end goal.

Dr Samarage said that some questions need to be asked when integrating the planning process. Has an appropriate governance structure been identified and mapped? Have all relevant stakeholders been consulted in drafting the governance plan? Is there an appropriate plan for engaging stakeholders? Have all stakeholders been identified? Have all risks been considered, mitigated and contingencies planned for? Have all risks to implementation been identified? Has an evaluation and review framework been agreed upon? Does the implementation have measurable indicators? What resources are needed to implement the initiative? Are there existing capabilities that can be harnessed to aid implementation, or are new resources required? Has a project plan been drafted? Have project management roles been defined?

The planning mechanism varies from country to country, depending on the political system and governance, socioeconomic conditions and status of civil societies. Generally, there is a high-level policy-making body at the national level, which provides overall policy directions and guidelines for national development activities concerning both the public and private sectors. Those policy directions are translated into overall planning strategies by some central planning authority such as the planning commission or policy planning body. Such a central planning body can have several divisions/units under it to facilitate its work. The subnational levels (provinces, districts, etc.) prepare their own plans for their institutions and organizations in keeping with the national policy and guidelines.

## Discussion

The issue raised was related to lack of evidence-based data to inform the planning process or measure change. Dr Samarage suggested having a basket of indicators or proxy indicators to measure change, or adopting outcome indicators or process indicators or different levels of indicators to measure the impact. The priority should be to get baseline data for planning.

## 8. Group work

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The participants were divided into four groups and asked to deliberate on the following four topics:

- (1) Strengthening health-care facilities to address co-morbidities
- (2) Strengthening community health services to address co-morbidities
- (3) Research and generating information for policy to address co-morbidities
- (4) Skill mix, task shifting and building human resources to address co-morbidities

The list of participants in each group is given in Annex 4. Each group was provided with a facilitator and they were asked to present the consensus opinion of the group in the following format:

- ◆ Major issues
- ◆ Major opportunities
- ◆ The way forward
- ◆ Recommendations for Member States
- ◆ Recommendations for WHO

The presentations based on group deliberations are summarized below.

### **Group 1: Strengthening health-care facilities to address co-morbidities**

**Facilitator:** Dr Ananda Gunasekera

**Rapporteur:** Dr Gopinath T.S.

Group 1 discussed some major issues and opportunities available to address co-morbidities in health-care facilities of Member States of the South-East Asia Region across all levels of care, i.e. primary, secondary and tertiary.

## Major issues

- ◆ The existing health system does not adequately address the issue of co-morbidities at all levels, i.e. primary, secondary and tertiary.
- ◆ There is a lack of awareness about co-morbidities among the public and health service providers.
- ◆ There is a lack of policies and programmes to address the issue of co-morbidities.
- ◆ There is lack of proper guidance to patients/clients from health-care providers.
- ◆ Out-of-pocket health-care costs are high.
- ◆ Diagnostic facilities for co-morbidities are inadequate.
- ◆ There is too much focus on specialized disease conditions.
- ◆ There is a lack of coordination (or communication) between different levels and departments of the health-care system; the referral system is dysfunctional.
- ◆ Human resources are inadequate in terms of quantity, distribution and skills.
- ◆ The logistics of the supply chain for equipment and drugs is poorly managed.

## Major opportunities

- ◆ All countries in the South-East Asia Region have “established health systems” at the primary, secondary and tertiary levels.
- ◆ There is availability of medical and paramedical staff, community health workers and volunteers.
- ◆ Specialist services are available.
- ◆ Capacity-building centres are available.
- ◆ Advanced medical technologies are available for drugs, laboratories and diagnostics.
- ◆ E-health platforms are available.

- ◆ There exist powerful social media such as Facebook, WhatsApp and Twitter.
- ◆ Mass media such as the internet, print, TV and radio are available.
- ◆ International health and funding agencies are willing to provide support.
- ◆ There is political commitment.
- ◆ Public–private partnerships (PPPs) can be forged.
- ◆ Projects focusing on health already exist.
- ◆ Other sectors such as education, nutrition, environment, labour, water and sanitation can collaborate with the health sector.

### **The way forward**

- ◆ Make changes in policy and guidelines to provide comprehensive health care, i.e. preventive, promotive, curative and rehabilitative care.
- ◆ Develop standard operating procedures, including treatment protocols, lists of essential drugs and equipment packages.
- ◆ Introduce the concept of skill mix to have task-oriented multidisciplinary health teams.
- ◆ Have multipurpose workers at the community level.
- ◆ Train and develop a workforce for health care.
- ◆ Adopt patient-centric approaches.
- ◆ Establish a sustainable model for planning, supervision, monitoring and evaluation as well as mechanisms for feedback.
- ◆ Introduce a universal health card.
- ◆ Develop a robust patient referral system with the use of technology (e.g. management information system [MIS]).
- ◆ Strengthen the PPP to address health needs.
- ◆ Develop a school health policy.

## Recommendations for Member States

- ◆ To introduce legislation and lay down regulations and policies for holistic and integrated health care;
- ◆ To identify country-relevant disease conditions and their co-morbidities or multi-morbidities so that they can be addressed efficiently and effectively;
- ◆ To institutionalize health promotion activities;
- ◆ To provide screening facilities for the community and counselling services for patients at all levels of health care;
- ◆ To organize mobile outreach services with inbuilt facilities such as specialty services, laboratory investigations, X-ray, pharmacy and health education;
- ◆ To establish good communication channels between various levels of health care;
- ◆ To facilitate a central–provincial dialogue on addressing co-morbidities;
- ◆ To establish a central surveillance system (e.g. health management information system [HMIS]) linking all health facilities;
- ◆ To use the International Classification of Diseases (ICD)-10 coding system for coding multiple conditions and train coders.

## Recommendations for WHO

- ◆ To integrate the concept of “addressing health morbidities” into universal health coverage;
- ◆ To define the terms “co-morbidity” and “multi-morbidity”;
- ◆ To develop region-wise standard guidelines/protocols for all levels to address co-morbidities;
- ◆ To incorporate co-morbidities in various existing disease-specific WHO programmes;
- ◆ To emphasize the importance of the ICD coding system and develop a coding system for multiple conditions as well as organize training for coders;
- ◆ To organize more regional meetings to share country experiences.

## Discussion

It was pointed out that facilitation by the government was important to introduce behaviour and attitudinal change among patients as well as service providers. Both education and awareness were keys to sensitizing all stakeholders. Only Thailand has a system at the community level for referral to higher centres. There needs to be clarity about the packages being delivered at different levels of care. Issues related to terrain and logistics were also highlighted. Guidelines will need to be developed in view of different countries being at different levels of health preparedness. It was suggested that integrated health care should be provided at all levels. The need for surveillance systems in all countries was emphasized. Systematic effort would be required to build capacity and collect data on co-morbidities.

## Group 2: Strengthening community health services to address co-morbidities

**Facilitator:** Dr Sunil Senanayake

**Rapporteur:** Ms Khadeeja Abdul Samad

Group 2 discussed current services provided at the community level and identified major areas and opportunities available to address co-morbidities through community health services at primary, secondary and tertiary levels.

### Major issues

- ◆ There are limited resources and research to address the burden of co-morbidities.
- ◆ Some countries of the South-East Asia Region implement NCD-related services at the primary health-care level but these need to be strengthened and prioritized.
- ◆ NCD-related co-morbidity services at community health facilities are fragmented.
- ◆ Community health staff lack adequate skills and competencies concerning NCDs and associated co-morbidities.
- ◆ Community health workers focus currently more on MCH, nutrition and control of communicable diseases.

## Major opportunities

### Existing programmes in the South-East Asia Region

- ◆ **Bangladesh:** NCD programmes exist at community clinics.
- ◆ **Indonesia:** Risk factors are monitored at the community level. Community society organizers/leaders screen, educate and motivate people for referral. Primary health nursing as well as integrated NCD health services exist at primary health facilities.
- ◆ **Maldives:** NCD clinics exist in various communities.
- ◆ **Myanmar:** Monthly mobile clinic services are provided to the community.
- ◆ **Nepal:** A programme for screening for NCDs is proposed, which will also distribute drugs at the community level.
- ◆ **Sri Lanka:** A programme exists for screening for NCDs at the primary level but it is not optimally utilized by the community.
- ◆ **Thailand:** Village health volunteers educate the community and screen for NCDs. There is a programme to monitor and spread awareness about NCDs in village hospitals.
- ◆ **Timor-Leste:** Domiciliary visits are conducted by health workers. An integral routine visit is made twice a year and the population is stratified as “healthy”, “at risk” or “diseased”. Health workers also educate the community on health issues.

### Additional services to be included in community health services

- ◆ Community-based screening and monitoring are required for risk factors.
- ◆ Health promotion and risk reduction programmes are required in all settings such as schools, workplaces and public places by adopting the life-course approach.
- ◆ Community health-care workers are needed to assist in health promotion and screening in community health centres.

- ◆ A referral system needs to be established with a continuum-of-care approach from the community to the primary, secondary and tertiary levels.
- ◆ The information system should be enabled to notify NCDs and co-morbidities to create an evidence base.

### **Recommendations for Member States**

- ◆ To develop policies to integrate multiple sectors in the NCD programme;
- ◆ To develop protocols/guidelines to address the issue of NCDs at the community level;
- ◆ To allocate adequate funds to sustain health programmes;
- ◆ To strengthen HIS;
- ◆ To ensure a balanced distribution of health-care workers for universal coverage;
- ◆ To develop a referral system from the community to primary health-care facilities;
- ◆ To ensure capacity building of health workers and voluntary health workers.

### **Recommendations for WHO**

- ◆ To validate clinical protocols for the management of NCDs;
- ◆ To strengthen capacity building in Member States;
- ◆ To recommend best practices for the prevention and management of co-morbidities associated with NCDs;
- ◆ To develop tools for monitoring;
- ◆ To provide technical support for training of health staff.

### **Discussion**

It was suggested that health-seeking behaviour should be promoted among men because they constitute a major risk group. It was pointed out that, as community health services are differently organized in rural and urban areas, guidelines need to be developed accordingly. The need

for basic training was emphasized for the delivery of comprehensive care. Capacity building in the public and private sectors should be appropriate for target clients.

### **Group 3: Research and generating information for policy to address co-morbidities**

**Facilitator:** Dr Gunawan Setiadi

**Rapporteur:** Dr V.T.S.K. Siriwardana

Group 3 discussed some major gaps in research and information that need to be generated to manage co-morbidities effectively. The group also discussed what could be done to advocate for adopting better policies and to change the approaches to care delivered at health-care facilities.

#### **Major issues**

- ◆ Most countries of the South-East Asia Region are facing the double burden of communicable diseases and NCDs, with an added burden of co-morbidities such as hypertension, diabetes, respiratory diseases, cardiovascular disease (CVD), chronic kidney disease, stroke, cancer and psychiatric disorders.
- ◆ Co-morbidity is not considered a priority in most Member States, which lack a policy dedicated to prevent and treat these diseases rationally.
- ◆ Countries such as Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka and Thailand lack discrete information and data on the burden of co-morbidities and their implications for disability-adjusted life years (DALYs) and quality-adjusted life years (QALYs).
- ◆ This lack of data makes it difficult to analyse the financial implications of the morbidity and mortality caused by the burden of co-morbidities in addition to the burden of existing chronic diseases.
- ◆ There is a lack of research and surveys for data collection on the indicators for the burden of co-morbidities due to insufficient financial and human resources, as well as lack of infrastructure and equipment in certain countries.
- ◆ Another important reason for inadequate research is lack of awareness of co-morbidities among both health service providers and users.

- ◆ Most countries do not have mechanisms to integrate the data recorded and managed independently at government and private facilities, which makes it difficult to assess the burden of existing co-morbidities in these countries.
- ◆ The basic registration system in most of the South-East Asia Region is incomplete due to lack of death registrations with little or no information on the cause of death.
- ◆ One of the grave issues is lack of evidence-based planning. In the South-East Asia Region, the data collected at the household and facility levels is not fully utilized and analysed for decision-making, especially in India, Nepal and Sri Lanka.

### **Major opportunities**

- ◆ Most countries of the Region have ongoing annual and five-yearly household and facility-based surveys that collect data on demographic, morbidity and mortality indicators, in addition to the registration of vital statistics.
- ◆ Most countries of the Region have a HIS (electronic or paper-based systems).
- ◆ Most countries of the Region have a policy on chronic diseases such as CVD, stroke, cancer, respiratory diseases, psychiatric disorders, except the Maldives and Myanmar.
- ◆ NCDs and chronic diseases are a priority in most of the countries due to the burden of a double epidemic.
- ◆ Most countries of the Region have well-established, functioning and funded health systems and governance, which can be used to integrate research and policy development for co-morbidities into the existing national health programmes.
- ◆ Bangladesh, India and Sri Lanka have sufficient human resources and technology to conduct necessary research and health surveys for producing evidence on the burden of co-morbidities.
- ◆ Disease registries (cancer) exist in some states/provinces of Bangladesh, India, Nepal and Sri Lanka.

## What additional data collection/information could be included in HIS?

- ◆ A pilot research study on co-morbidities should be conducted in all countries of the South-East Asia Region with technical support from donor agencies and WHO to assess the burden of co-morbidities in terms of demography, region, socioeconomic status, index disease, DALYs and QALYs, which should be integrated in the respective country HIS.
- ◆ Major NCDs such as hypertension, diabetes mellitus, respiratory diseases and cancer along with various co-morbidities such as chronic kidney disease, stroke, hypertension, CVD, diabetic retinopathy and psychiatric disorders should be included in facility- and community-based surveys.
- ◆ Most countries have a policy for NCDs, which should be linked and integrated with the HIS of that country to inform evidence-based planning. In countries such as the Maldives, where there is no policy for NCDs, a policy should be documented and implemented with integration of co-morbidities.

## What policies need to be adopted?

- ◆ All countries of the South-East Asia Region should integrate in their national health policies all aspects of the prevention and management of co-morbidities for both communicable diseases as well as NCDs.

## Recommendations for Member States

- ◆ To perform a situation analysis and baseline survey to determine the factors for and assess the burden of co-morbidities;
- ◆ To have a section in the HIS to address the indicators related to major co-morbidities;
- ◆ To integrate horizontally and vertically the health-care system for strengthening referrals for different morbidities related to various pathological conditions to reduce the burden of co-morbidities;

- ◆ To train and build capacity of health-care providers for necessary research activities;
- ◆ To integrate health services at the primary level for the management of co-morbidities.

### Recommendations for WHO

- ◆ To provide technical assistance to every country of the South-East Asia Region through policy guidelines and relevant definitions to explain co-morbidities for standardization;
- ◆ To facilitate the availability of adequate funds to developing countries;
- ◆ To develop a standard HIS for the South-East Asia Region by using tools such as DHIS and OpenMRS;
- ◆ To conduct workshops for data collection, analysis and utilization at the regional headquarters of WHO;
- ◆ To integrate all stakeholders from the information technology (IT) unit and the policy and planning unit for preparation of guidelines to include co-morbidities in the HIS of each country.

### Discussion

It was suggested that a pilot research project should identify the resources required to reduce the burden of co-morbidities. Then identified indicators should be integrated with existing programmes and ongoing surveys. It was suggested that surveys should be conducted periodically to have sufficient data for policy-makers. The need for better diagnostic methods was also highlighted. The need to modify the ICD-10 system was suggested. The need for operational research to validate standard protocols was suggested.

### Group 4: Skill mix, task shifting and building human resources to address co-morbidities

**Facilitator:** Dr Sarath Samarage

**Presenter:** Dr S.R.U. Wimalaratne

Group 4 discussed issues concerning human resources and opportunities available to address co-morbidities in facilities across all levels of health care.

## Major issues

Major issues were categorized into those regarding human resources and those concerning the process/system.

### *With regard to human resources*

- ◆ Human resources are inadequate (e.g. in Bhutan, Indonesia) and discrepancies exist in demand and supply.
- ◆ There is uneven distribution of human resources.
- ◆ Training and facilities are inadequate.
- ◆ Brain drain and migration are major issues.
- ◆ Transfers and absenteeism are causes for concern.
- ◆ Issues such as dishonesty as well as lack of accountability and responsibility are important.
- ◆ There is reluctance on the part of physicians to delegate duties and share responsibility with nurses and other health workers.

### *With regard to process/system*

- ◆ Environmental concerns and logistics are major issues.
- ◆ There are sociocultural issues, including taboos.
- ◆ Health practitioners resist task shifting.
- ◆ Quality checks and monitoring are inadequate.
- ◆ Skill mix and task shifting involves a financial burden.
- ◆ Health service providers are overburdened.
- ◆ The real burden of NCDs has not been assessed.
- ◆ Medical curricula need to be updated and there should be clarity in terms of services provided and duties and responsibilities.
- ◆ No standard protocols exist to implement skill mix and task shifting.
- ◆ No clear career paths exist for various service providers.

## Major opportunities

- ◆ Training centres are available for health-care workers.
- ◆ There are well-established alternative medical systems, e.g. AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy).
- ◆ Existing mid-level human resources can be used for screening of NCDs, which will be easy, accessible and affordable.
- ◆ There have been developments in technology, e.g. HIS, telemedicine and e-health.
- ◆ Coverage can be increased by screening merely for common risk factors.
- ◆ Some countries have provisions for free medical screening and referral.
- ◆ Effective drug supply systems exist in some countries.
- ◆ There are information systems (media) to create health awareness among the community and government.
- ◆ Corporate social responsibility (CSR) as well as external donor support are available to raise funds.
- ◆ The infrastructure to cover co-morbidities associated with NCDs already exists.
- ◆ Health educators and female community health volunteers are available in some countries.

## What additional human resources are required?

- ◆ Gerontologists and geriatric wards in hospitals are required in all countries of the South-East Asia Region.
- ◆ Community health nurses are required in Sri Lanka.
- ◆ A holistic approach by family doctors and community health nurses is required in Bhutan, Indonesia and Thailand.
- ◆ AYUSH (indigenous system of medicine) needs to be introduced at the subcentre level in India.
- ◆ Midwives are required in Bhutan, Indonesia, Nepal and Timor-Leste.

## What tasks need to be shifted and who should be the new task performers?

- ◆ A new task force consisting of mid-level health workers is required for screening of co-morbidities related to NCDs.
- ◆ There should be physicians to treat NCDs at the district level.
- ◆ There should be periodic screening programmes in remote areas so that medical officers (MOs) can refer patients directly to specialists.

## Recommendations for Member States

- ◆ To include indigenous systems of medicine as part of the health system, ensuring capacity building and regular supervision and auditing;
- ◆ To forge PPPs;
- ◆ To ensure the availability of cost-effective drugs and diagnostic facilities;
- ◆ To provide strong leadership and political will to address the issue of co-morbidities of NCDs;
- ◆ To adopt behaviour change communication strategies that target women and children to carry messages about NCDs and co-morbidities, as well as available modes of treatment;
- ◆ To give special attention to geriatric care;
- ◆ To institute a referral system for physicians for NCDs;
- ◆ To strengthen vertical programmes to cater to the co-morbidities of NCDs.

## Recommendations for WHO

- ◆ To clearly define the terms “co-morbidity” and “multi-morbidity”;
- ◆ To assess the actual burden of NCDs in Member States of the South-East Asia Region;
- ◆ To strengthen current MCH, TB, NCD and other programmes to cover co-morbidities;
- ◆ To adapt/modify existing treatment protocols to address the issue of co-morbidities in the context of NCDs;

- ◆ To develop a standard protocol for skill mix and task shifting of health workers;
- ◆ To organize joint programmes between various regions;
- ◆ To provide technical and financial support to promote intraregional cooperation.

## Discussion

It was pointed out that health service delivery requires team work and the entire team should have the necessary skills to work at the community level. Additional skills should be provided to strengthen the team. The skill requirements are different at different levels and it should be assessed whether a new person with new skills is required or an existing person can be trained to acquire new skills. Protocols are required to ensure that comprehensive care is delivered at all levels. Task shifting assumes that certain categories of providers are overburdened, but it should be ensured that task shifting is acceptable to clients. It was also pointed out that there is uneven distribution of doctors and nurses in different parts of a country. Health camps were suggested at the peripheral level for screening and referral to higher centres. Issues of motivation and incentives were highlighted in the context of lack of infrastructure in rural areas. Sharing of good practices was suggested by citing the example of Tami Nadu Health Systems where NCD staff nurses are multi-skilled and a patient is given an incentive to bring five more patients. An eminent person of the community is asked to head a health camp to ensure ownership by the community. Nepal's example was given, where four levels of health workers exist for service delivery.

## 9. Closing session

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Dr Sunil Senanayake thanked the participants for their active role in the discussions and the support staff for efficient organization of the meeting.

Dr S.D. Gupta in his vote of thanks appreciated the initiative of WHO in organizing the meeting on the important and timely issue of co-morbidities. He said that the issue has implications for the survival of people. He thanked the Chair for the smooth organization of the proceedings. Dr Gupta said that it was a useful meeting and the group discussions yielded good recommendations. He hoped that, based on the recommendations, WHO would provide technical support to Member States. He hoped that the participants would take key messages from the discussions to share with their colleagues and decision-makers in their respective countries. He thanked WHO for collaborating with the IIHMR.

The Chair observed that the issue of co-morbidities needed much attention and countries needed technical support. She said that the technical papers provided valuable information, which enabled active participation from all delegates. She thanked the participants for supporting her in conducting the proceedings. She declared the meeting closed.

## Annex 1

### Agenda for the meeting

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- (1) Opening session
- (2) Epidemiology of co-morbidities in the South-East Asia Region and disease burden
- (3) Integrated approach of strengthening primary health care (including preventive health services) to address co-morbidities with improved efficiency
- (4) Integrated approach of strengthening curative care to address co-morbidities with improved efficiency
- (5) Strengthening health information systems to provide evidence-based policy options to address co-morbidities
- (6) Skill mix and task shifting of health workers to address co-morbidities efficiently and effectively
- (7) National and district health planning and co-morbidities
- (8) Group work
- (9) Group work presentations
- (10) The way forward and recommendations
- (11) Closing

## Annex 2

### List of participants

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#### **Bangladesh**

Mr Md. Mizanur Rahman  
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Dhaka

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Civil Surgeon  
Rangamati

Dr Mukhlesur Rahman  
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#### **WHO Collaborating Centre (WHO CC)**

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#### **Faculty/Researchers**

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Dr Vinod Kumar S.V.

Dr Jalpa H. Thakker

#### **JHSPH/IIHMR Students**

Dr Anirudh Mutalik

Dr Gopinath T.S.

Dr Sudhamsu Koirala

Dr Aditee K.C.

Ms Amrutha Anand

#### **Rapporteur**

Mr Dinesh Sinha

## Annex 3

# Message from Dr Poonam Khetrpal Singh, WHO Regional Director for South-East Asia

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Distinguished participants, honourable guests, ladies and gentlemen,

WHO describes the health systems framework under six building blocks, namely: service delivery; health workforce; health information system; medical products, vaccines and technologies, health-care financing; leadership and governance. This system should be able to produce four outcomes, namely: improved health of people; responsiveness to the need of people; social and financial risk protection; and improved efficiency of the health-care delivery system. This framework is also concerned about the access, coverage, quality and safety of health services.

Countries should produce an adequate number of required health workers with the appropriate mix and allocate an adequate amount of financial resources to develop service delivery infrastructure, provide medical products and vaccines, and introduce appropriate technologies to develop health information systems and produce human resources for health. It is recommended that a country should allocate at least 4–5% of the GDP to health. Due to economic growth retardation and the global financial crisis, allocation of financial resources to health has become thinner. It is also a known fact that out of the scarce resources allocated by countries, 20–40% goes to waste due to various reasons. Improper drugs and logistics management, purchase of inappropriate technologies, inefficiency of patient management at hospitals, over-requesting of unnecessary investigations to prevent liabilities of doctors, compensation payments for medical negligence and high incidence of health care-acquired infections are some of them.

What is our approach to managing patients? We have many superspecialists. These superspecialists belong to compartments of body systems. They look at only the body system that they have specialized in. They do not look at the patient as a whole. The usual practice is that

a patient has to go from one specialist to another until the problem is diagnosed. Even after the diagnosis, if the patient has several morbidities, he has to come to the hospital on different days to attend each specialist's clinic. For example, a patient having hypertension and diabetes, which co-exist very often, may have to come to the diabetes clinic on one day and hypertension clinic on another day. This type of approach leads to high inefficiencies in health-care institutions. Also, it wastes the time of the patient and he disappears for follow up. Again, this patient might turn up when he gets complications of the morbidities he suffers from and, in such a situation, we have to use very high hospital resources to manage the complications. Can't we change this approach to make our health-care delivery system more responsive to the needs of people? Can't we increase the efficiency of our hospitals by adopting a different approach? I think this is the right time to think out of the box and adopt patient-friendly, effective and efficient approaches.

This meeting is organized to discuss the possible different approaches our Member States could adopt in order to improve the efficiencies of our health-care delivery system and make them responsive to the needs of the people. It is the right time to look at the patient as a whole and examine for all the morbidities that co-exist at the first contact point. This can be done at many service delivery points. For example, when a mother comes for antenatal care, she should be examined for hypertension, diabetes, HIV, TB, malaria as well as anaemia, nutritional deficiencies and mental illnesses. Also she could be screened for indoor air pollution, obstructive pulmonary airway diseases, exposure to tobacco and alcohol, and domestic violence. As experts in the health-care delivery system, you may discuss the opportunities we have and identify where and how we could change our approaches. Please make recommendations to address co-morbidities and multi-morbidities, and improve efficiencies to minimize wastage of resources in health-care institutions in our Member States.

Ladies and gentlemen,

With these few words, I wish you success in your deliberations and wish you a very pleasant stay in Jaipur, the pink city.

## Annex 4

### List of participants for group work

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#### **Group Work 1 – Strengthening health-care facilities to address co-morbidities**

**Facilitator:** Dr Ananda Gunasekera

#### **Participants**

- (1) Mr Md Mizanur Rahman
- (2) Ms Mingma Lhamo Sherpa
- (3) Mr Yan Aslian Noor
- (4) Dr Sheeza Ali
- (5) Dr Moe Khaing
- (6) Dr Bhoj Raj Neupane
- (7) Dr P.L. Attapattu
- (8) Dr Phattarapol Jungsomjatepaisal
- (9) Dr Bourdaloue Fernandes Moniz
- (10) Dr Daya Krishan Mangal
- (11) Dr Gopinath T.S.

#### **Group Work 2 – Strengthening community health services to address co-morbidities**

**Facilitator:** Dr Sunil Senanayake

#### **Participants**

- (1) Dr Sneha Kanti Chakma
- (2) Mr Wangdi Dukpa

- (3) Dr Aries Hamzah
- (4) Ms Khadeeja Abdul Samad
- (5) Dr Win Lwin
- (6) Dr Garib Das Thakur
- (7) Dr Indrakumari Fernando
- (8) Mrs Wararut Kijpojana
- (9) Dr Alipio Gusmao Lopes
- (10) Dr Vinod Kumar S.V.
- (11) Dr Sudhamsu Koirala

### **Group Work 3 – Research and generating information for policy to address co-morbidities**

**Facilitator:** Dr Gunawan Setiadi

#### **Participants**

- (1) Dr Md Golam Mostafa
- (2) Dr Namgyel Wangchuk
- (3) Dr Susiyo Luchito
- (4) Mr Nayaz Ahmed
- (5) Dr Hla Hla Kyi
- (6) Dr Ramesh Kumar Kharel
- (7) Dr V.T.S.K. Siriwardana
- (8) Dr Panuwat Panket
- (9) Mrs Sidalia Ximenes
- (10) Dr Jalpa H. Thakker

## **Group 4 – Skill mix, task shifting and building human resources to address co-morbidities**

**Facilitator:** Dr Sarath Samarage

### **Participants**

- (1) Dr Mukhlesur Rahman
- (2) Ms Karma Doma
- (3) Dr Irni Dwi Aprianty Ibrahim
- (4) Dr Swoyam Prakash Pandit
- (5) Dr S.R.U. Wimalaratne
- (6) Dr Chumni Jittreprasert
- (7) Dr Helder Juvinal Neto Da Silva
- (8) Dr Anirudh Mutalik
- (9) Ms Amrutha Anand
- (10) Dr Aditee K.C.

The South-East Asia Region of WHO is experiencing a demographic and epidemiological transition due to improved health causing high life expectancy and a reduction in incidence of communicable diseases as well as improved reproductive, maternal, newborn and child health. As a result of this scenario, noncommunicable disease, mental health problems and injuries have become leading causes of morbidity. Noncommunicable diseases are caused by multiple risk factors, and very often a patient is suffering from more than one illness at the same time, which requires multiple treatments consuming more health resources. Health systems requires new approaches of addressing multiple morbidities at healthcare facilities with higher efficiency of managing these patients.

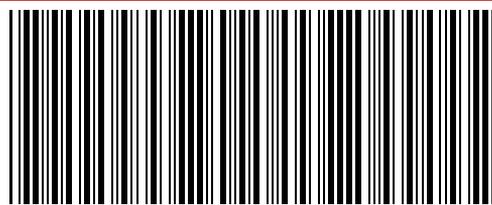
Many countries in the South-East Asia Region treat co-morbidities (i.e. more than two or more co-existing illnesses in the same patient) in isolation without adopting a holistic approach. This specialized treatment approach has led to inefficiency and wastage of resources. A systems approach has been adopted at lower-level health facilities, supplying them with screening and diagnostic machines, adequate supply of drugs, and improving the capacities of human resources as well as strengthening health information systems for the efficient management of co-morbidities. Addressing co-morbidities will help in managing not only the increasing burden of noncommunicable diseases but also communicable diseases as well as maternal and child health issues efficiently and effectively.

To address these issues, a regional meeting was organized by WHO-SEARO. The meeting aimed (i) to share country experiences in managing co-morbidities and explore multicountry initiatives; (ii) to raise awareness among higher-level health officials to address co-morbidities in an efficient and cost-effective manner by strengthening health systems, especially at lower levels of care; and (iii) to obtain guidance for Member States as well as WHO to address co-morbidities in the future, and address further needs for strengthening health systems.



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