



**The Regional Strategy on
Research for Health
2012-2016**

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FOREWORD

Research is one of the six core functions of WHO, stated as “shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge”.

For decades, health research was mainly carried out by the health sector alone. With the growing complexity of health problems, it can no longer be tackled alone. “Health” has gone far beyond the “health sector”. Thus health development needs the involvement of the disciplines in other sectors that have bearing on health. These among others are education, economy, social, population and agriculture.

Research for health is to promote research in support of “Healthy Public Policies” or “Health in All Policies”. This is very much in line with the Primary Health Care reform. Research for Health is a timely idea in today’s health development to support our pursuit towards strengthening health systems based on primary health care and to achieve the aspirational goal of Health For All.

With the multiplication of stakeholders and partners in health development, “research for health”, including “health research”, becomes a complex undertaking that requires efficient management and coordination at all levels.

Particularly at the “country level”, all research for health, from both within or outside the health sector that can have bearings on health should be efficiently coordinated and utilized to support the development and implementation of policies and programmes towards universal health coverage and health for all.

Inadequate coordination or cooperation among “researchers” and “research institutions” will lead to wastage of resources due to “unhealthy competition” and “unnecessary duplication” of efforts. Potential resources for research for health in other non health sectors such as agriculture, environment and industry should be efficiently utilized.

To reduce such competition and duplication, WHO could serve as an important platform for promoting coordination and networking among researchers and research institutes. Globally, at the same time, there are a number of other initiatives or players in these areas. To familiarize ourselves with those initiatives is imperative in order to have better opportunities of getting access to resources for research worldwide.

Efficiency in the development and management of health policies and programmes depend on the availability and usage of research-based evidence. Let us move forward in this direction.

The Regional Strategy on Research for Health provides a generic framework for member countries in formulating their plan on research for health. Ultimately it will lead towards robust national health policies, strategies and plans. within the context of health systems based on Primary Health Care.

WHO stands committed to supporting member countries in strengthening their capacity for achieving viable and functioning national research for health.

Dr Samlee Plianbangchang

Regional Director.

1. BACKGROUND

The notion that improving health outcomes requires the involvement of many sectors and disciplines. The term “research for health” as defined by Dr Samlee Plianbangchang , Regional Director of WHO SEARO implies to any research carried out by health and non health sector institutions which has bearing on health. Thus, health research is a part of the research for health. Health research is whereby research is mainly carried out by health researcher and /or health research institutions.

Research for health seeks a) to understand the impact on health of policies, programmes, processes, actions or events of any sector, b) to assist in developing interventions that will help to prevent or to mitigate that impact, c) to accelerate the achievement of the Millenium Development Goals (MDGs), health equity and better health for all.

The Global Ministerial Forum on Research for Health held in Bamako Mali in November 2008 was the embryo of Research for Health. It was convened by 5 other partners: the Gov of Mali, UNESCO, the World Bank, the Global Forum for Health Research and the Council on Health Research for Development. Two years later in May 2010 the sixty third World Health Assembly endorsed the resolution on Global strategy on research for health.

Research for health covers the full spectrum of research and spans the five generic areas of activity:

- measuring the magnitude and distribution of the health problem;
- understanding the diverse causes or the determinants of the problem, whether they are due to biological, behavioural, social or environmental factors;
- developing solutions or interventions that will help to prevent or mitigate the problem;

- implementing or delivering solutions through policies and programmes; and
- evaluating the impact of these solutions on the level and distribution of the problem.

Research is one of the six core functions of the World Health Organization (WHO), stated as “shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge”. The sixty fourth World Health Assembly in May 2011 endorsed WHO’s five core business which focuses on 1) convening better health 2) generating evidence on health trends and determinants 3) providing normative work that links to achievements of health MDGs 4) coordination of health security and 5) strengthening health systems to ensure better outcomes toward better access to health technology -universal health coverage- strong health workforce and support toward development of the national health strategies.

The sixty fourth World Health Assembly also adopted five resolutions related to strengthening of health systems based on primary health care that encompasses code of practice of international movement of health personnel, nurse and midwifery, health systems in emergency, financing for universal coverage and robust health policies-strategies-plans

Due to weak health systems many developing and low-income countries will not be able to achieve MDGs on time. Research for health should assist health systems based on PHC to improve its various components to function better.

The thirty first session of SEA Advisory Committee for Health Research (SEA ACHR) held in Kathmandu, Nepal in July 2009 recommended that a ‘Regional strategy for research for health’ be developed, taking into account the Member States, specific situation and context. The regional strategy should cover well illustrated regional and national research strategies; formulated

towards a common goal that will address relevant health needs, taking into consideration the diversity of health needs and research capacity of countries in the Region.

Research to support countries on the achievements of MDGs and health for all need multi sectoral and multidiscipline and collaboration and efforts; using relevant types of research, ranging from basic and biomedical research, behavioural and social research, and with special emphasis on health systems research.

This document provides generic strategic directions to refine the formulation of national health research.

It is the role of WHO to develop mechanisms and to provide support to all relevant sectors for promoting, developing and implementing research that have bearing on health.

2. TYPES OF RESEARCH FOR HEALTH

a. Basic and biomedical research

Basic and biomedical research comprises physical and biological sciences such as research in chemistry, pharmacology, toxicology and genetics. Research and development for drugs and vaccines, diagnostics, appliances and others is more toward health interventions. When connecting basic and biomedical research with health systems, these two types of research fit well under the domain of implementation research, where the research aims to develop new health interventions that can bring better health to people as the target population.

Basic and biomedical research is characterized by its focus on the need for exploring innovative approaches in health science and technology; genetic research being one example.

At the early stages of basic and biomedical research, the research is often far from the field and most of the time is conducted through experimentation in the laboratory. When proven safe and effective in the laboratory, the study is then carefully carried out in more realistic conditions closer to human nature.

Basic and biomedical research is becoming more important with the increasing challenges posed by emerging and re-emerging diseases. Referring to Figure 4 in Annex 2 (Iceberg of health problems), basic and biomedical research is crucial to unfold the unknown risks and vulnerability that could endanger human health .

The aim should be to strike the right balance between basic and biomedical research with health system's research .

b. Research in health systems

Referring to Figure 2: Defining research to improve health systems in Annex 3, Remme et al (2011) defined the following three types of research:

- *Operational research* to solve current operational problems of specific health programmes or specific service delivery sites of the health systems, e.g. a hospital. Operational research is characterized by a strong problem-solving focus, an urgency to find solutions. It is demand-driven and has a connection with close to routine health care delivery. The findings will be for local use.

- *Implementation research* to develop strategies for available or new health interventions to improve access and how to scale up the intervention and ensure effective integration within the health system. This research is characterized by a focus on the need for innovative approaches and/or ensuring the effectiveness of implemented interventions, e.g. the introduction of new evidence-based birth practices in isolated populations with no formal health services or maternity clinics. Implementation research also covers behavioral interventions or economic interventions. There is a growing interest in conducting implementation research due to convincing examples in recent years that have demonstrated the effectiveness of implementation research in enabling the implementation and scaling-up of priority health interventions.
- *Health system research*, addressing health system and policy questions which are not disease-specific but more on the performance of the health systems as a whole. It encompasses a wide range of areas, from health financing, governance, and policy to structure, planning, management, human resources, service delivery, referral, and quality of care in the public and private sector. Health systems research by necessity is highly multidisciplinary with a strong emphasis on social sciences, economics, and anthropological research e.g. on community perceptions of health care. Most health systems research is undertaken through collaboration between health the sector and academic institutions.

The users of these three types of research in health systems fall broadly into three groups: operational research being of use to health care providers; implementation research predominantly of use to managers of programmes to scale up an intervention programme and health systems research being of most use to managers and policy makers.

c. Social and behavioural research

- Social, economic, cultural and behaviour factors are underlining determinants of health of the population. Social disparities studies and reports conducted in selected countries in South-East Asia show a strong link between health and social equity. Poverty is one of the leading social indicators related to poor health outcome. Poverty and living conditions hinder people's ability to access health services and quality of life. Risk behaviour such as alcohol and tobacco consumption, poor physical activity and diet, unsafe sex, poor nutrition for mothers and children's health vary depending on the social, economic, and cultural background of people. Poverty and low literacy affect people from the time of conception. Poor nutrition during pregnancy causes anaemia for the mother and low birth weight as well as compromised fetal development. Behavioural and gender studies show significant gender-based power relations influencing maternal and child health that can undermine the achievement of MDGs 4 and 5. Social and behaviour research will identify barriers to achieving health outcomes at the individual, family, community and national levels.
- At the macro level, social research can contribute to an understanding of the whole health systems and financial modality analysis. This kind of research provides a better understanding of the social structure and system of power that influence health service delivery and accessibility. Some studies show the economic impact of health care costs not only on national productivity but also on the family and groups of population especially the poor and elderly. Low government expenditure on health and social security has a sufficient impact on people's out-of-pocket expenditure. In the South-East Asian Region, nearly two-thirds of the expenditure on health is met by private resources, almost entirely out-of-pocket. This places a disproportionate burden on the poor. Social security is not commonly available for a large segment of the population. Social research on justice and equity in accessibility to health care services demonstrate important links among

various sectors, public health, legislation, ethics, and human rights which are increasingly becoming important issues in health systems.

d. Research beyond the health sector

i. Research in zoonotics

Many well-known emerging diseases are zoonoses — where humans are infected by an animal disease agent that does not normally depend on human hosts to complete its life cycle. West Nile virus, rabies, lyme disease , leptospirosis and kala azar are some examples.

Today there are over 300 zoonotic diseases; of the 30 human pathogens that were detected 75% are of animal origin. Control of zoonoses is needed to not only protect human health but also to facilitate trade in livestock and livestock products. Prevention and control of zoonoses need mutual understanding and close collaboration among various disciplines outside the health sector such as veterinary sciences, animal husbandry and animal health laboratories. Six areas on the role of research priorities in zoonoses can be found in the Asia Pacific Strategy for Emerging Diseases (APSED). More scientific research is needed to focus on the epidemiology of zoonoses, especially on human host- animal germ interactions to develop potential preventive measures and the search for efficient combat methods.

ii. Research on climate change

Increased population growth may place more people and assets at risk from increased frequency and/or intensity of extreme climate events. On the other hand, economic growth and development may increase the capacity of the people to withstand and adjust to future changes, thus reducing the impact. Dynamic changes in the baseline situation in technology, infrastructure, social practices and conditions and natural environments will determine vulnerability. Thus, research on climate change and health will be necessary for assessing vulnerability and adaptability of the people and the health systems to the health impacts of climate change.

There is considerable uncertainty about future socio-economic and weather conditions. Whether and how much such key variables as population, income, technology, policies, laws and the environment will change is quite uncertain. The health sector's efforts may be boosted or negated by the policies and programmes of other sectors related to climate change.

Quantitative assessment of vulnerability is one way to estimate the number of people who can be expected to become ill as a consequence of an environmental exposure. Combined with associated cost and effectiveness analysis strategies, the assessment offers quantifiable evidence to the decision-maker for defining priorities within a socio-economic and political context. Such an assessment also provides the basis for other economic evaluations.

Inter-sectoral collaboration and coordination can provide health co-benefits, e.g. metro trains if managed efficiently, can reduce greenhouse gas emission. Emissions from different sectors vary, which is also important for the health providers to know, so that if possible and within the remit of the health sector, efforts may be taken to reduce those. Coordination between the relevant sectors needs to be effective. All these aspects provide areas for research.

iii. Intersectoral and multidisciplinary research for health

1. Multisectoral research on four major Non Communicable Diseases (NCDs)

Cardiovascular disease, cancer, chronic respiratory disease and diabetes – share four common modifiable behavioral risk factors, namely unhealthy diet, tobacco use, physical inactivity and harmful use of alcohol. Interventions to reduce these risk factors are largely lie in sectors outside the health sector, for example, food and agriculture, urban development, education etc.

Needless to say, intersectoral and multidisciplinary research is imperative for evidence-based prevention and control of NCDs. Some examples of priority research needed in various sectors are:

- Social determinants: Research to develop policies and interventions for reducing social inequities in access to prevention and control of NCDs.
- Economic: Research to estimate the impact of tax and price policies on tobacco use and tobacco control
- Food/ agriculture and trade: Research to determine effective agriculture and trade policies (including legislation and price control) to improve nutrition and reduce the risk of obesity (e.g. eliminate trans fat, reduce salt in processed food and improve access to fruit and vegetables and low-fat products)
- Education sector: Developing and validating health promotion approaches to improve nutrition programmes in schools, worksites and government institutions
- Urban development: Research on effects of rural–urban migration and changing food preferences, physical activity patterns and transportation policies on physical activity and sedentary behaviours

2. Intellectual Property Rights , Innovation and Public Health Research

An independent Commission on Intellectual Property Rights, Innovation and Public Health (CIPRH) was set up on 28 May 2003 (WHA56.27). The CIPRH gave its report in 2006 that made important observations on innovation, Intellectual Property Rights, promoting access to new and existing medicines, development of new diagnostics and vaccines to treat diseases that disproportionately affect developing countries. 1) An independent Commission on Intellectual Property Rights, Innovation and Public Health (CIPRH) was set up on 28 May 2003 (WHA56.27). The CIPRH gave its report in 2006 that made important observations on innovation, Intellectual Property Rights, promoting access to new and existing medicines, development of new

diagnostics and vaccines to treat diseases that disproportionately affect developing countries.

In 2006, based on the recommendations of the CIPIH, WHA59.24, decided to establish an intergovernmental working group (IGWG) to draw up a global strategy and plan of action (GSPA). The IGWG gave its report (A60/27) on 5 April 2007.

The IGWG recommendations on GSPA were adopted by WHA 61.21 on 24 May 2008. The IGWG framework aimed at securing an enhanced and sustainable basis for needs-driven, essential health research and development relevant to diseases that disproportionately affect developing countries.

3. VISION, MISSION, GOAL and OBJECTIVE

Vision: Evidence from research is the basis for strengthening national health policies, strategies and plans to achieve HFA and health-related MDGs.

Mission: Member States in collaboration with WHO and development partners in research will be working together to harness science, technology and broader knowledge in producing research-based evidence for strengthening health systems based on PHC.

Goal: To assist Member States in strengthening research capacity for achieving the national and international health goals.

Objective: To provide generic strategic directions for use by countries to formulate or revise their national strategies on research for health with the focus on health systems strengthening based on PHC.

4. CONCEPTUAL FRAMEWORK

The conceptual framework depicts the most important issues and challenges of health development including research in its efforts to accelerate the achievement of the health-related MDGs and other development goals.

The framework elucidates the link between research for health with the health system to tackle major health challenges. Research will provide valid information to make interventions and policy changes to improve its performance in achieving MDGs, HFA and other development goals.

Five priority issues have been identified for the purpose of this regional strategy:

- a. Weak health systems;
- b. Insufficient capacity of health research;
- c. Lack of evidence based policy making;
- d. Inadequate protection of human participants; and
- e. Inadequate resources for research.

To perform well, health research must become stronger and sustainable, guided by effective governance, qualified manpower for research and ability to disseminate and convince decision makers to use the evidence and keep track of challenges and developments in undertaking research scientifically.

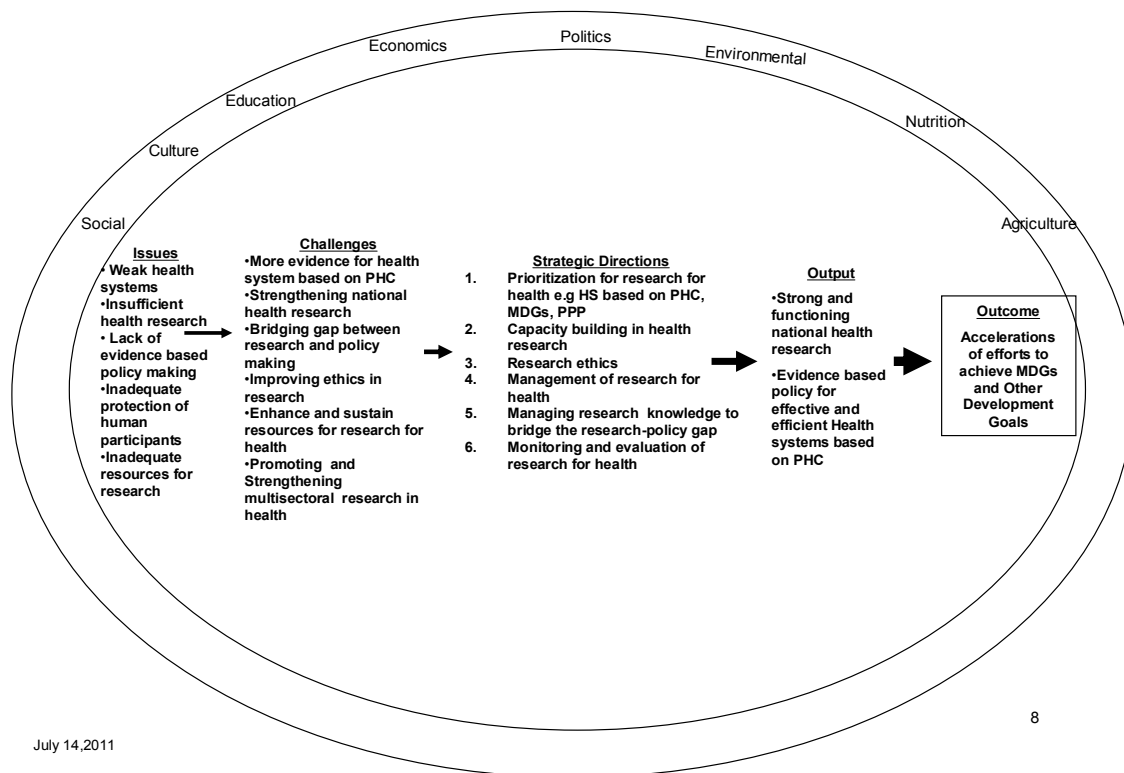
Research in the countries is part of the bigger system which poses additional challenges to use scientific evidence for health system interventions. These include among others 1) the social, political, economic and beyond-health factors e.g. agriculture, environment hazards, 2) the complexity of the health system itself, 3) the sensitive ethical factors when dealing with research involving human

subjects, 4) the multiple players in health and 5) the meagre resources for undertaking research.

Challenges in dealing with or for overcoming the issues are identified and strategic directions formulated and aligned to the extent possible with the five issues and challenges.

Henceforth, the outline of the document will follow the conceptual framework.

CONCEPTUAL FRAMEWORK: STRATEGIC DIRECTIONS FOR RESEARCH FOR HEALTH



5. THE ARCHITECTURE OF HEALTH RESEARCH IN MEMBER STATES

5.1 Bangladesh

The Bangladesh Medical Research Council (BMRC) was established in 1972 as an autonomous body under the Ministry of Health and Family Welfare (MOH&FW). The objectives, rules and regulations of the Council

were formulated by a resolution of the MOH&FW in 1974 and 1976. BMRC is the focal point for health research, has a general body with 54 members representing post-graduate medical institutes, medical colleges, universities, medical institutions, health-related organizations, various divisions and departments of ministries dealing with medical education, services and research. The mission of the council is to create effective and quality health care by promoting health research through strengthening research facilities, training and dissemination of research results.

5.2. Bhutan

The Health Research and Epidemiology Unit (HREV), Ministry of Health (MOH) is the nodal point for research management in Bhutan since 1995. The main objective of HREU is to make research as an important tool for informed policy decisions for appropriate prioritization and sound investment in health. Besides carrying out various types of research from health system to epidemiological research, HREU activities cover the undertaking of epidemiological to health systems research, develop research skills, garner political commitment for research culture and for evidence-based policy and conduct ethics review.

5.3 India

In 1911, the Government of India set up the Indian Research Fund Association (IRFA) with the specific objective of sponsoring and coordinating medical research in the country. In 1949, the IRFA was redesignated as the Indian Council of Medical Research (ICMR) with considerably expanded scope of functions. ICMR New Delhi, being one of the oldest medical research bodies in the world, is the apex body in India for the formulation, coordination and promotion of biomedical research. ICMR is funded by the Government of India through the Department of Health Research, Ministry of Health & Family Welfare. The Council promotes biomedical research in the country through intramural and extramural research. It has 22 permanent institutes and six regional

research centres across the country under the intramural funding. The Council declared a National Health Research Policy in 2007 to enable evidence based health policies in the country. The policy is expected to help meet the multi-faceted challenges including those of creating and managing national health research system, capacity-building and networking, dissemination of results including their translation into action.

5.4 Indonesia

The National Institute for Health Research and Development (NIHRD) is a research institution under the Ministry of Health, established in December 1975 under the Presidential Act no 44 and 45, 1974. Its main duty is to coordinate and conduct health research both through its research centres and through collaboration with other research institutions. In 2010, the MOH underwent reorganization, including the NIHRD. The first reorganization was in 2005. Based on MOH Decree No. 1144 year 2010, the new structure of NIHRD consists of a Secretariat Body and four Research and Development Centre (R&D), namely Biomedical and Basic Health Technology R&D Center; Applied Health Technology and Clinical Epidemiology R&D Centre; Public Health Intervention Technology R&D Center, Humanity, Health Policy, and Community Empowerment R&D Centre. In addition, there are two other R&D Centres, namely the Medicinal Plant and Traditional Medicine R&D Centre and the Disease Vectors and Reservoirs R&D Center.

5.5 Maldives

The Health Information and Research Unit (later the Decision Support Division) under the Ministry of Health and Family, Maldives has conducted and facilitated health research projects which include social and behavioural research as well as operational and health systems research and serves as the secretariat to the National Health Research Committee, which reviews health research proposals for scientific and ethical validity

as well as appropriateness to the health research needs, and community context. The health research committee has been reviewing health research proposals since its inception in 2002.

5.6 Myanmar

The Department of Medical Research was established in 1963. It was renamed as the Department of Medical Research (Lower Myanmar) with the establishment of two Research Departments in the Upper and Middle parts of Myanmar. The department comprises of 22 research divisions, eight supporting divisions and 10 clinical research units of various disciplines. It's main function includes organizing research in various fields, trans-disciplinary collaborative research, promoting research capability, and supporting researchers from health institutes, universities and other departments under the Ministry of Health. Research capacity strengthening has been achieved through provision of regular training and workshops on various aspects of research in health.

5.7 Nepal

The Nepal Health Research Council (NHRC) started as the Nepal Health Research Committee under the Ministry of Health, chaired by the Secretary of Health in 1982. On 12 April 1991 the committee was upgraded as the Nepal Health Research Council, a statutory and autonomous body as promulgated by the Nepal Health Research Council Act No. 29 of 1991. The objectives of NHRC are to study health problems, provide consultancy service and information to make studies on health more useful, and to acquire global information about studies, researchers and work on various problems relating to health.

5.8 Sri Lanka

The National Health Research Council [NHRC] of Sri Lanka was established by the Ministry of Health on April 20, 1997 which was affirmed as a Special Agency and an independent body to promote health research in terms of planning, coordinating and monitoring the activities and also to provide guidance and financial support to researchers and to ensure implementation of research findings and recommendations. It has a wide representation of professional bodies, universities, other research organizations and the Ministry of Health. It conducts workshops for development of skills in writing research proposals with the aim of facilitating development of research culture within the country. In 2007, the NHRC published the research priorities for the country, which are being revised. Also, the NHRC is involved in development of national policies and guidelines, in relation to overseas transportation of human tissues for the purpose of research.

5.9 Thailand

Under the Prime Minister, the National Research Council of Thailand (NRCT) was directed to take responsibilities to provide research policy guidance and research priorities including health research policy. The Thailand Research Funds (TRF), the National Science and Technology Development Agency (NSTDA) and the Health Systems Research Institute (HSRI) were established as autonomous government organizations within their own legal entity. NSTDA manages the development of some products important for the public sector. TRF and NSTDA are also concerned in capacity strengthening by providing senior research scholarship for PhD study, and research grants for young researchers. HSRI and TRF are responsible to facilitate knowledge management translating research-evidence to policy-makers in health policy and science respectively. Finally, the Ministry of Public Health

(MOPH) produces the Thailand health profile report to provide background information, monitor health status and social determinants of health bi-annually.

5.10 Timor-Leste

In Timor-Leste, the structure of the Cabinet on Health Research and Development (CHRD) was declared by the Minister of Health on 17 January 2010. Due to limited human resources, the CHRD is divided into two departments: the Department of Health System and Policy Research Development and the Department of Biomedical and Pharmaceutical Research and Development. Already, CHRD is actively carrying out research studies.

It is noted that six Member States (Bhutan, Indonesia, Maldives, Myanmar, Sri Lanka, Timor-Leste) have established health research as unit or department within the Ministry of Health. Bangladesh, Nepal, India and Thailand have developed their overarching body of health research as independent authorization to the health sector. The various architecture in SEA Member States on health research showed how those organizations plays major role in coordinating health research, using different structure and mechanisms involved. The governance of health research spreads from authorization unit as an integral part of the health sector to autonomous organization which cross cut coordination among sectors.

6. ISSUES AND CHALLENGES IN RESEARCH FOR HEALTH

a. Weak health systems

- All countries agreed to revitalize or renew PHC in 2008. Thereafter, the WHO Regional Committee for South-East Asia and the World Health Assembly adopted resolutions on Health Systems Strengthening (HSS) based on PHC. What does this entail?
- HSS based on PHC has the following salient characteristics:
 - Uphold the value of equity and social justice
 - Emphasize public health measures i.e. health promotion and disease prevention in good balance with medical care i.e. curative and rehabilitative services
 - Equitable access to health care
 - Equitable financing based on capacity to pay
 - Participation of the community, and various health-related sectors
 - Use of appropriate technology.
- In practice resource allocation is still skewed towards medical care instead of public health care resulting in allocative inefficiency. Besides, the use of over-sophisticated medical equipment instead of appropriate technology will trigger technical inefficiency.
- Weakness in health systems can be attributed to one or more building blocks of health systems i.e. leadership and governance, service delivery, health workforce, financing, medical products and technologies and health information system.
- The World Health Report 2008, entitled 'PHC now more than ever' advocates four areas of PHC reform:
 - Service delivery: towards people-centered care
 - Universal coverage: for better equity in health and social justice with no exclusion
 - Public policy: 'Health in all policies' or 'Healthy Public Policy'
 - Leadership: to make health authority more reliable.

The Ministerial Summit on health research held in Mexico in 2004 concluded that research plays a crucial role in strengthening health systems and in improving equitable distribution of quality health services for populations in need. The Summit called for greater support for research in health systems.

b. Insufficient capacity of health research

- Many organizations dealing with health research do not have a sound conceptual framework nor a clear plan to achieve the desired goals. Thus, health research and management of health research are carried out in a fragmented manner. The quality leadership to continuously promote and develop effective and efficient research for health could also be lacking. Consequently, the strategic vision for health research development, both medium and long-term to be responsible for steering the whole research community in a coherent manner, including the oversight function is missing. Additional factors contributing to insufficient capacity of health research include poor research management, lack of knowledge-base for making decisions, poor skills in setting priorities and no regulation on ethical oversight.
- One of the biggest factors affecting health research is the paucity of human resources, which is more acute in countries recently embarking on research such as Bhutan, DPRKorea, Maldives and Timor-Leste. Trained researchers are not available and as a consequence, research activities are not able to provide the desired results to help decision makers to overcome the problems faced. There is a lack of integrated planning on human resource for research both at the decision-making level and the implementation level. Another problem is attracting and

retaining researchers. Studies reveal that poor incentives, no clear career development plans for researchers are the main constraints.

- The value of research is widely recognized, but using research optimally to resolve priority health problems is not a straightforward matter. The complexity of the health problems confronting society, the rapid advance in knowledge and technologies related to health, the shifting expectations and concerns of the public are among many factors that must be taken into account by health research.
- Setting priorities in health research is vital to make the most efficient use of scarce resources. Priorities may be identified through control of specific diseases or reduction of health problems or problems related to health care services and health policy development, or through biomedical and health technology development.
- When research capacity is low, the need for promoting collaboration across and within research institutions becomes crucial. This collaboration will create more effective research efforts in sharing resources and experiences to respond to the challenges of capacity in health research.

c. Lack of evidence-based policy making

- Low- and middle-income countries face obstacles in evidence-informed decision-making, including lack of data and evidence; chronic lack of resources; insufficient communication between researchers and policy-makers; and limited technical capacity.

- Appropriate and effective utilization of research findings is the ultimate goal of any research. However, utilization of knowledge gained through research depends on the research culture of each community. Experience shows that low utilization of research results was not only due to the poor quality of research but also due to weak research culture among planners and policy-makers of not practicing 'evidence-based' policy development. Important issues related to utilization of research findings are:
 - non-existence of an effective mechanism for utilization of research findings;
 - gap between research producers (researcher) and end-users of research (policy-makers, administrators, stakeholders) ;
 - inadequate and inappropriate dissemination mechanisms;
 - less or no involvement of policy-makers from the very implicit stages particularly in identifying priority research areas; and
 - lack of skills to present complicated scientific findings in a manner comprehensible to the policy-makers..
- Many SEAR countries still have a long way to go for policy-makers to make decisions based on evidence. Policy-makers tend to make policies based on practical experiences. Researchers and policy-makers do not work together. The involvement of policy-makers is in many cases, towards the end of the research which ignores the whole ownership of the research. Researchers tend to conduct research based on their interests for promotion purposes which lack linkages with the research needs of the policy-makers.

- Translating research evidence into policy is easy to talk about but difficult to do. An example was on how the evidence of the effectiveness of DOTS programme for TB, revealed in India since 40 years back, was not taken into consideration by the policy-makers in India; and only when WHO facilitated, basing on findings elsewhere, that this was adopted. There was a similar experience with the Pulse polio programme for eradication of polio in India. Thus, agencies like WHO are necessary for helping research evidence become policy.

From research to policy: DOTS in India

The strategy of Directly Observed Treatment, Short-course (DOTS) is based largely on research done in India in the field of TB over the past 40 years. The Tuberculosis Research Centre at Chennai under the Indian Council of Medical Research showed in the early 1960s that supervised medical treatment gives better results than the sanatorium approach for effective treatment of tuberculosis but the national TB control programme was initiated only in 1997 as a part of WHO's global DOTS strategy after piloting the same from 1993.

Similarly, the Pulse Polio Immunization strategy was implemented in 1995 following WHO's Global Polio Eradication Initiative although the clear evidence of this strategy was demonstrated through research at CMC, Vellore in 1981.

More recently, although the strategy for haemoglobinopathy control in the country was clearly brought by a multi-centric study by the Medical Research Council, its conversion into a national policy is eluding those suffering from the disease as the policy makers are merely looking into the number of affected population vis-a-vis those affected by other chronic or infectious diseases and not considering the benefit to the thousands suffering from talassaemia and sickle cell anaemia by having a National Haemoglobinopathy – Thalassaemia and Sickle cell anaemia- Control programme. Probably an initiative from WHO is again needed as this is also a problem in other Member States such as Indonesia, Thailand, Maldives etc.

Dr Vasantha Muthuswamy, Senior Researcher, India

- Influencing policy-makers is an art rather than a science and using media can improve effectiveness to advocate research evidence for policy making. To take into consideration that policy-makers could be at different levels of the administrative system, including those

working at hospitals, health centres and even at the community level. Thus, how to encourage policy-makers to use evidence must take into consideration the levels they belong to.

- Knowledge and research alone are insufficient influence decision making without two other critical components: political commitment and social movement as illustrated in Figure 3.

National Basic Health Survey for Improvement of health policy and health status at the district level in Indonesia

In 2007, the National Institute of Health Research and Development (NIHRD) carried out the first National Basic Health Survey (NBHS) or "Risksdas"; using 24 public health variables. Each variable was weighed on its influence toward public health status of Indonesian people. The results of this survey, analyzed by NIHRD and public health experts from several major schools of public health in Indonesia, Indonesian Public Health Association, National Bureau of Statistics, was the Public Health Development Index for the entire 440 districts/ cities in Indonesia. This index was cross-analyzed with the level of socio-economic development in each district/city in Indonesia. It was found that there were 64 districts in eight provinces (Aceh, West Nusa Tenggara, East Nusa Tenggara, West Sulawesi, Central Sulawesi, South East Sulawesi, Gorontalo and Maluku) categorized as district with Poorest Health Condition ("DBK").

NIHRD presented the findings to the decision-makers at the Ministry of Health (MOH), Ministry of Home Affairs (MHA), Ministry of National Development and Planning (MNDP), and Ministry of Acceleration of Underdeveloped Areas. The agreed effort was to give special and specific treatment to those 64 districts through " the Development of District with Poorest Health Condition (PDBK). No budget was given from the central level, the district team had to use their own budget or be supported by their province health budget.

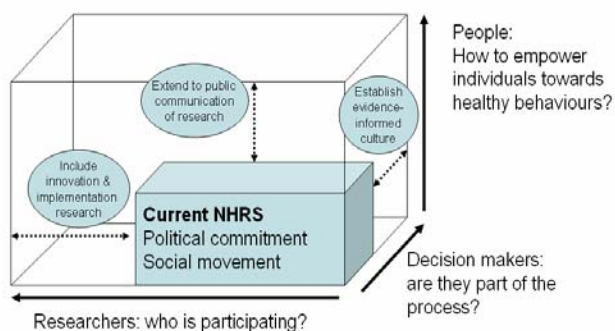
The effort started in 2010, and the Minister of Health formed a team comprising a high ranking officer from the central MOH, provincial and district health officers and health researchers. The team was to explain to the local authorities why their districts was categorized as having poorest health condition. The evidence from the NBHS was further utilized to stimulate discussion on root causes and to find solutions through developing Plan of action and achievement indicators.

Observations were conducted by NIHRD researchers during the whole process at the district level and feedback to the local government. This " evidence health program intervention at poorest performed districts" will be evaluated yearly at the district level, and once every three years nationally.

The process and efforts was not easy and smooth. It needed patience, art and special efforts to convince the local health officers to use the evidence based data for local health policy and program improvement.

Dr Agus Suwandono, Senior Researcher, NIHRD, MOH- Indonesia

Fig. 3. Three dimensions to consider for policy creation or change based on evidence



d. Inadequate protection of human participants

- Work in support to protect the rights and safety of humans in research is not keeping pace with the best practices. Ethics in health research, though followed for many years in developed countries, have only recently emerged as an important issue in developing countries, including Member States of the South-East Asia Region. Health research and research ethics are in different stages of development in SEAR. As a result, the priority needs of these countries regarding the establishment of research ethics review systems are different.
- Bioethics and research ethics are not new topics for the SEA Region. However, development at the country level of a strong ethics review mechanism for research proposals that involve human subjects remains a major challenge.
- Mushrooming of Ethical Review Boards (ERBs) in the country invited risks by which researcher would obtain ethical approval of the research proposal from weak and poor functioning ERB. Unfortunately, ERBs are also not

widely and evenly spread, many research institutions and academic institutions have yet to establish ERBs.

- Parachuting health research from outside agencies, both from public and private domains, with financial and other incentives attached is an issue. After the collaborative research is carried out, in many instances, especially those related to research and development of vaccines and vaccine production, the capacity of institutions involved remains constant or insufficiently strengthened and transfer of technology and knowledge is ignored.
- Many Member States do set up precautionary mechanisms for carrying out proper ethical reviews, especially for research proposals funded internationally. One example relates to genetic diversity. Global interest in the South-East Asia Region is now profound because the Region is a very good resource for genetic diversity. Multinational private corporations from the developed and developing world are in touch with private and public hospitals of developing countries for samples of biological products to match genes that will require large families and population diversity. National ethical guidelines and appropriate legislation needs to be developed to deal with such practices and protect the vulnerable populations.
- The role of an ERB is very important and hence needs to remain viable. Ethics committees should be reasonably funded so that the experts reviewing the voluminous material and participating at meetings of the ethics committee are provided with an adequate honorarium. Records of all meetings of the ethics committees should be meticulously kept and the need for a sustainable secretariat to keep the administrative matters of an ERB is crucial. Practice of a good research needs a strong ethical and peer review structures and procedures.

e. Inadequate resources for research

- Research is often viewed as an activity with considerable expenditure and governments are generally reluctant to provide the required degree of attention to research and health research in particular. Investments in health research are insufficient if not deviated, and many research funds, were not appropriately directed to tackling priority health problems.
- The problem faced when addressing resource mobilization is strike the right balance between meeting the resource requirements and the resources required for the development and strengthening of country health research in alignment with the national health systems. Many research organizations perceive resource mobilization only from the monetary aspect, yet mobilization of resources for health research covers more than the supply of money. Appropriate human, financial and other material resources are required to support long-term health research strategies, including capacity strengthening, which will eventually be cost-effective. More efforts are needed to mobilize resources for health research to cover appropriate human and other material resources as well.

○

Need for interdisciplinary research on health

With regard to the vast body of literature on breastfeeding and complementary feeding different views are held by researchers belonging to different disciplines. Medical and nutrition researchers claim that all mothers *can* and *should* maintain exclusive breastfeeding for six months followed by complementary feeding along with breastfeeding. On the other hand the anthropological view of infant feeding behaviour suggests that it is a composite of behaviours, with no specific emphasis for exclusive breastfeeding or for specific foods or feeding devices.

Feeding and child rearing practices are constantly influenced by and are sensitive to the social and technological changes occurring in the environment and mothers worry as much about breastfeeding as they worry about the choice of other foods. Development literature goes further and claims that it is important to perceive of mothers as also women with multiple responsibilities and occupying a secondary position with limitations of access and control over resources. This is reflected in the poor nutritional status of mothers and the coping strategies they adopt to combine work with child feeding. Hence prescriptive behaviour, without empowering mothers through creation of a support mechanism for addressing inequalities at the household level necessary policy changes and programmatic interventions will not enable women to adopt the optimum feeding choices in their conditions. Multidisciplinary research is the key to understanding the feeding behaviour of mothers and the kind of support to be given to them for infant feeding.

Ms. Rama Narayanan, M S Swamintahan Research Foundation, India

- Long-term investment, both national and international, on national and local health research systems development aims at future savings. The adoption of an appropriate funding mechanism on a long-term basis, independent of the political system, is highly desirable. Appropriate funding mechanisms can make efficient use of the resources for health research and to bring actors together to tackle a problem, requiring multi-disciplinary skills.
- The Ministerial Summit for Health Research in Bamako in November 2008 urged governments to spend at least 2% of their national health budgets on essential health research, as recommended by the 1990 Commission on Health Research for Development.

- These funds should be used locally for health research and research capacity strengthening. Also, in line with the Commission's recommendation, donors were urged to allocate 5% of their funding for the health sector to health research and research capacity strengthening in developing countries. Monitoring the use of funds for capacity development is a vital complementary activity. (GF)

- Beyond the biological factors that cause disease, there is growing appreciation of the range of other determinants that impact health. These wider determinants have gained greater attention recently and have been the focus of work by the WHO Commission on Social Determinants of Health and many other initiatives and programmes. Such determinants include, *inter alia*, income, social status, working conditions, education, culture, social and physical environments, women and gender equity, early child development, health systems, globalization and social support networks. This is aligned with the four reform of PHC i.e. placing health in all policies. The challenges with multisectoral collaboration are the level and quality of communication among the different constituents within research beyond the health sector. The multiplicity of players and deficient rules and mechanisms lead to deficiency in transparency and accountability. A national health research forum or similar coordinating mechanism with full involvement of all stakeholders is essential for ensuring good governance.

GUIDING PRINCIPLES

- WHO commits to promote, produce and use high quality research that is ethical, technically sound, efficient, effective and useful (quality) as communicated in the 2001 SEAR Guidelines for submission of research proposals, whereby research proposals should adhere to the following principles :
 - Technical relevance: the research must be relevant and in accordance with the national health priority and regional health problems and must be aligned to WHO's programme of work. The hypothesis should be an innovative, definitive, testable and scientifically sound proposition.
 - Scientific merit: research design and methodology must be appropriate to answer the research problem or for testing hypothesis, scientifically sound and reviewed by a credible technical committee.
 - Ethical clearance: all health research proposals involving human subjects must be reviewed and approved by recognized lead institutions or national ethical review committees, as deemed appropriate by the country concerned.
- WHO gives priority to research and innovation that is relevant in meeting the health priorities of the Member States and at the regional level, research with greatest potential to improve health, health-related development, that redresses health inequity and attain MDGs and HFA (impact).
- WHO carries out research work in partnership with Member States, research institutions, communities and civil society (inclusiveness).

7. STRATEGIC DIRECTIONS

a. Strategic Direction 1

Prioritization for research for health

- Inclusion of prioritization of health research into the national health research policy.
- One size will not fit all countries to use prioritization tools/ models already available which fit the national health research capacity and complexity.
- For areas to be prioritized (see Annex 4):
 - Four areas of PHC reforms.
 - Six building blocks of health systems.
 - Health problems.
 - Intellectual Property Rights , Innovation and Public Health
 - Gender Related research

b. Strategic Direction 2

Capacity building in health research

- Develop a comprehensive plan for human resource in research as part of national health systems development.
- Some areas for capacity building:
 - Strengthening both demand and supply sides for research.
 - Build/enhance institutional and individual capacity for preparing good research proposals based on sound research methodology and undertaking research in a scientific manner.
 - Different target groups in research for health at country level.
 - Technical content of research for health such as on whole cycle of research, on research management at different levels, on research ethics, on scientific writing and dissemination and ensuring a forum for publication locally and regionally.
 - Training for different institutions involved in health research such as medical and public health schools, non-health organizations , NGOs, INGOs.

- Creation of twinning mechanism through horizontal collaboration among two or more WHO country offices to help build capacity of countries who are in the developing stage of health research. For example, Timor-Leste to twin with Indonesia, Bhutan to twin with India and Maldives to twin with Sri Lanka.

c. Strategic Direction 3

Research ethics

- To respect ethics and human rights in the national policy of health.
- There should be appropriate legislation in each country to make ethical review mandatory.
- Ethis Review Boards (ERB) to be in position in all institutes in the country with proper structure and functions according to the WHO SOP and guidelines.
- Enhance capacity of ERB members on research ethics.
- Develop uniform curriculum on research ethics for different target groups
- Develop clear SOP and guidelines to deal with unethical practices and international research that involve human participants i. e of harm to the subject, sample storage and sharing, ownership.
- “ Recognition “ of national ERBs which are fulfilling the standards and evaluation of WHO on ERB setting.

d. Strategic Direction 4

Enhancing management of research for health:

- Analyzing stewardship in research for health at three administrative levels i.e regional level, the institutional level, the sub-national and national level.
- Enhancing cost efficiency through multisectoral collaboration including the private sector, INGOs, NGOs and involving all parties from the planning stage of research.

- Equal partnership with clear role and functions of research stakeholders defined i.e academia, civil society, researchers, policymakers, donors.
- Maximizing usage of existing WHO networking system, such as WHO Collaborating Centres, Expert Advisory Panels etc.
- Pooling donor commitments to avoid volatility and short-term funding.

e.Strategic Direction 5

Managing research knowledge to bridge the research –policy gap

- Maximizing the use of existing information technology network e.g. Evidence for policy Network (EVIPnet), Health Literature, Library and Information Services (HELLIS), Health InterNetwork Access to Research Initiative (HINARI), Index Medicus for South-East Asia Region (IMSEAR) which is a library system in Member States.
- Capacity building on meta analysis, meta synthesis, advocacy, transfer of knowledge to policy.
- Creating a forum for researcher-policy makers interface.
- Use of media as a vehicle for influencing policy makers.
- Use of network among researchers-policy makers and society for advocacy (“triangle that moves the mountain”).
- More publications and dissemination of research findings

f.Strategic Direction 6

Monitoring and evaluation on research for health

There are two levels of monitoring and evaluation:

- Monitoring and evaluation at the strategic direction level. Careful and relevant indicators are needed to measure the success to achieve the outputs of each strategic direction selected. The monitoring and evaluation is to ensure that the actions developed under the selected strategy direction(s) are implemented and are evaluated to lead toward success in implementing the strategy.

An example of Indicators of success for Strategic Direction 5 on research dissemination / utilization could be:

The number of publications and patents.

The number of policy recommendation papers for policy makers (policy papers, policy briefs).

The number of policy forums conducted (interface between researchers and policy makers).

The number of policies based on research results.

- Monitoring and evaluation of strengthening national health research as a whole. The indicators are to measure whether the selected strategic direction(s) chosen by each country based on the specific situation and country needs, as a whole has strengthened/improved national health research in order to become viable and well functioning. The outputs identified in the conceptual framework which is a strong and functioning national health research system and evidence-based policy making for effective and efficient health systems based on PHC should be the basis for identifying indicators of success. Systematic short-term, mid-term and long-term evaluation of research for health should be developed.

There should be a feedback mechanism for the findings of monitoring and evaluation.

The document on “ The WHO role and responsibilities in research for health of the 63rd WHA 63 resolution has included the evaluation of impact which is assessing the achievement of the mission and goal of the overall strategy for research for health. The evaluation provides an approach for monitoring implementation of the components of the strategy, as well as for evaluating the impact changes.

The examples of indicators were given as follows:

- Input/activity indicators could be the percentage of national budget dedicated for research for health from the health sector and the other health-related sectors
- Process indicators could be measuring the number and the quality of discussions and debates that lead toward agreement on policy paper(s) that resulted from research or from a synthesis of results of more than one research conducted on a similar theme.
- Outcome indicators could be the percentage of Member States that report general satisfaction with the nature of technical cooperation received in support of their national research for health. Output indicators could be of measuring health research performance, ranging from success in competitive grant contest, to the number of active researchers in health to the successful application of research proposals, and .the issuance of a report on progress in strengthening national health research by each Member States.
- Impact indicator could be the percentage of priority health needs for which up-to-date systematic reviews of the research literature were made available within one year of the need being identified (priorities goal).

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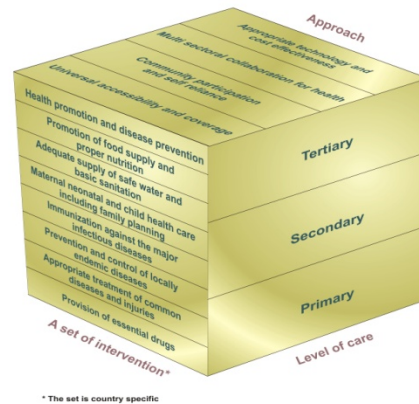
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Annex 1

Health system based on Primary Health Care

The Alma Ata Declaration in 1978 declared the PHC as guidance for health development to achieve the HFA by the year 2000. This primary care was designed to deliver at least eight types of health service and health care that are mostly public health in nature, supported by referral system at the secondary and tertiary levels which consisted of hospitals of varying technology advancement to provide medical care back-up. Many viewed that PHC is the whole continuum of care from primary to secondary and tertiary care, thus associated closely with health systems. A cubicle approach is used to visualize the three dimensions of PHC (Figure 1). The first dimension denotes PHC as a set or package of care comprising of at least 8 elements of care. The second dimension views PHC as levels of care and the third one indicates PHC as an approach.

Figure 1: The Primary Health Care Cube

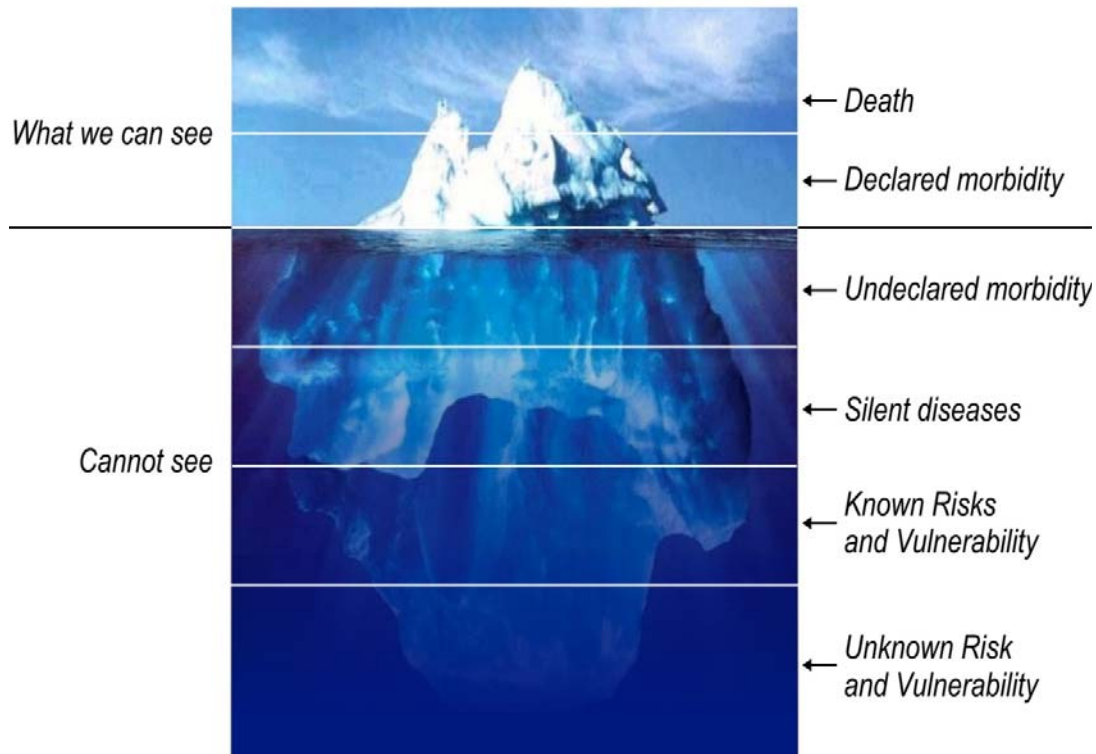


In 2008, thirty years after the Alma Ata Declaration, the HFA is still far from achieved, instead observations identified widening of health inequity within and across countries, spiralling health care cost, global economic downturn, aging population, increased burden of non-communicable diseases and climate change. To deal with these unprecedented trends, revitalization of PHC was carried out with given better focus on the followings:

- Public health interventions/services with good balance between preventive care and medical care,
- Primary health care services with good referral back-up,
- Improved efficiency of the health systems by minimizing allocative inefficiency, to allocate funds towards less cost effective activities and technical inefficiency,
- Community based health workforce and community health volunteer that are multidisciplinary in nature rather than institution based health workforce,
- More equitable health care financing through adoption of pre-payment and risk pooling instead of direct payment/out-of pocket payment,
- More responsive or people centered health systems,
- Development approach instead of merely providing health services.

HFA as a social goal is still in the agenda and still serves as the vision or the goal of aspiration of health development. The MDGs to be achieved by 2015 can be regarded as the mission of health development particularly in developing countries.

Figure 4: The iceberg of disease in problems and progress in medical care

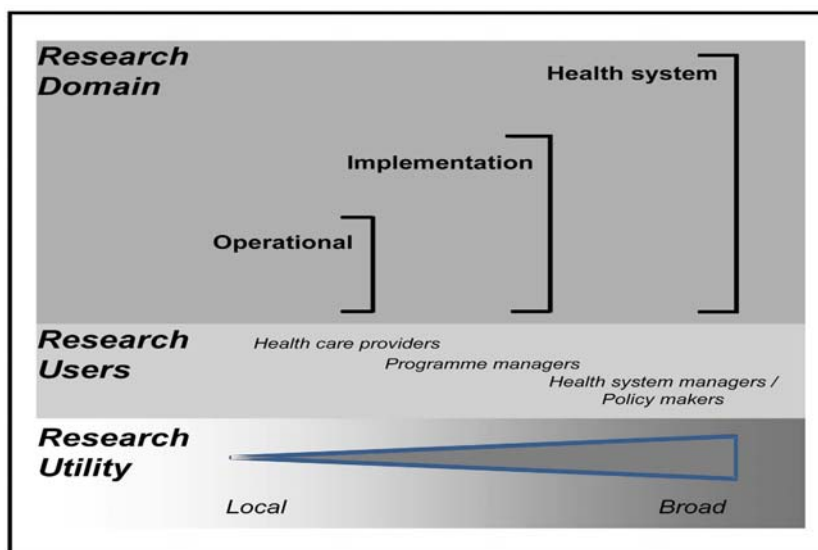


Modified from the Iceberg of Disease in Problems and Progress in Medical Care, by Logan.

Death is normally caused by old age or health problems due to various causes. People suffering from health symptoms will visit health facilities to obtain treatment and the diagnosis of health provider will declare the morbidity. It can be stated that mortality and morbidity are obvious events, hence could be recorded and therefore attracts attention of resources. However, death and declared morbidity represent only the tip of an iceberg, the part that appears above the surface of the water. Figure 4 in Annex 1 shows much is still unknown on the bigger part of the iceberg which lies beneath the “water surface”. The layer calls “silent diseases” for example, refers to people already sick with no signs or symptoms, such as in HIV/AIDS infection, diabetes. The deeper layer on “known risks and vulnerability” are where people may expose themselves or are exposed to various types of health risks and vulnerability that may be known. The threatening situation where very little information is available is the deepest layer named the “unknown risks and vulnerability”, where research is demanded. Studies on health problems on what “lies beneath” and unseen should be strengthened and promoted especially in chronic communicable diseases targeted by the MDGs such as TB, HIV/AIDS, malaria; emerging and reemerging diseases of H5N1.

Acknowledging the iceberg phenomenon of diseases in Figure 4, research in the public health area should focus more on the morbidity aspects of disease burdens, to identify what factors lead the people to become sick and to find interventions to reduce the episodes of sickness as to prevent them from death. Thus research in health system should play more attention to research in the areas of prevention, promotion and maintenance of health. Little is known in these areas so far.

Figure 2: Defining research to improve health systems.



Research Domain	Primary Characteristic		
	Focus of the Research	Users of the Research Outputs	Utility of the Research Outputs*
Operational	Operational issues of specific health programmes	Health care providers programme managers	Local
Implementation	Implementation strategies for specific products or services	Programme managers, R&D managers	Local/broad
Health System	Issues affecting some or all of the building blocks of a health system	Health system managers, policy makers	Broad

*How amenable the research outputs are to adaptation, scaling up or use or in other contexts or locations.
doi:10.1371/journal.pmed.1001000.t001

Strategic Direction 1: Prioritization for research for health

Research priority on Health System strengthening based on Primary Health Care, in the areas of

- Four sets of the PHC reforms:
 - The universal coverage reforms: to ensure that health systems contribute to health equity , social justice, moving toward universal access and social health protections.
 - The service delivery reforms: reorganizing health services as primary care around people's need to make it more socially relevant
 - The public policy reforms: pursuing healthy public policies across sectors
 - The leadership reforms: replacing the disproportionate command and control on one hand, by leadership based on participatory, inclusiveness and healthy negotiation
- The six building blocks of Health System:
 - Providing leadership and advocacy,
 - Integrating policies
 - Providing consistent financing
 - Develop and allocate human resources
 - Support legislative frameworks
 - Strengthen partnerships
- Balancing operation research, implementation research , health system research with biomedical research and incorporating social, economic , behavioral study when needed

Research priority on enhancing research for effective communicable disease control and eradication:

- Better estimation of disease burden through improving monitoring and surveillance tools
- Conduct research on diseases with unknown risks and vulnerability that threatens health of human beings
- Establish a national data base of all on-going research relevant to the communicable diseases programme, including drug trials, development of vaccines and diagnostic tools and share this information both within the country and with other countries of the Region
- Using the communicable diseases outbreak investigations to generate epidemiological and clinical data to contribute to medical and health and greater understanding of disease epidemiology , mode of transmission risk factors and population at risk
- Research on developing diagnostic tools that can rapidly and reliably establish the diagnosis of emerging infectious diseases such H5N1 and other epidemic prone new pathogens that can be used by peripheral health facilities

Research priority in Non Communicable Diseases:

- Increasing awareness and recognition on the importance of research on NCD
- Analysis on factors e.g. risk behavior, education and economic factors that contributed to success and failures in the prevention and promotion of NCD
- Increasing research on morbidity of NCD, while continuing efforts for research on mortality
- Prioritizing NCD research and developing NCD research agenda to be incorporated into the national health policies
- Building capacity on epidemiological and health-systems research in the area of NCD

- Translating the NCD research findings to the socio-economic, cultural, political and health system context to further develop and operationalize the NCD plans and programmes
- Increasing investment in NCD research through mobilizing resources from research funders, key partners and development agencies to support national NCD Research Agenda
- Establishing of institutional mechanisms to facilitate effective use of available research evidence on NCDs for health decision-making, policy development and programme implementation

Research priority in maternal, new born, child and adolescent health (MNCAH)

- Improving data and information on magnitude and causes of mortality and morbidity in the area of MNCAH
- Analysis on factors e.g. risk behavior, education and economic factors that contributed to success and failures in the prevention and promotion of healthy mothers-newborn-children-adolescent groups
- Increasing research on morbidity of MNCAH , while continuing efforts for research on mortality
- Understanding social, behavior and other indirect influences on neonatal, and maternal mortality
- Increasing knowledge and capacity of researchers in community based research, epidemiological and clinical research to study the burden of diseases that affect mothers and children's health
- Identifying the feasibility and cost effectiveness of midwifery service that lead to improving health of MNCAH, increasing the number of institutional deliveries, reducing maternal and neonatal health,
- Conducting multi site and multicountry studies for research that serves common needs of the countries in the region, and identifying mechanisms to facilitate such research
- Identifying potential research institutions and individuals to engage and stimulate them to contribute further to research in the area of MNCAH
- Disseminating the findings and creating forums for healthy debate on issues related to MNACH research..

Research in environmental health and climate change

- Assessment of vulnerability to climate change and on adaptive capacity of the people and the health sector
- Inclusiveness of the health concerns in the health sector plans and the inter sector plans on climate change
- Developing appropriate indicators to assess and monitor the expected level of adaptation
- Identification of existing mechanisms in place for inter sector collaboration
- Level of knowledge and understanding of people on the sources of green house gas emission, in particular in homes and hospitals
- Collecting efforts to reduce green house gas emission in health facilities.

Social and behavioral research for health

- Mainstreaming social determinants of health indicators across diseases and health behavior with systematic disaggregated data
- Key indicators on impacts of social and economic development such as urbanization, globalization on health (including health behavior, health care services, and health system) should be developed in the context of South East Asia region
- Integrated analysis of social, economic, cultural and health behaviors of target population and their impacts on health outcome should be adopted at subnational and national level
- Analysis of health inequity should be beyond quantitative research by adopting qualitative analysis to links gender, equity, ethics and human rights

- Operationalized social and behavioral research to address health inequity through multisectoral system is critical to provide policy guidance and programmes development
- Research identifying key success and lesson on addressing social determinants of health with health promotion and preventive mechanisms should be considered

Research on Intellectual Property Rights, Innovation and Public Health :

On 7 October, 2011, CEWG of IPR and PH held a regional meeting in New Delhi to examine proposals to get a South-East Asia perspective on proposals under consideration with the CEWG under the parameters of:

- Potential public health impact on developing countries
- Rational and equitable use of resources/ efficiency considerations
- Cost effectiveness
- Technical feasibility, scaling up potential, replicability, speed of implementation
- Financial feasibility and sustainability
- Additionality
- Intellectual property management issues
- Potential for delinking research and development costs and price of products
- Equity /distributive effect, including on availability and affordability of products on access and delivery
- Accountability/ participation in governance and decision-making
- Impact on capacity building in and transfer of technology to developing countries
- Potential synergy with other mechanisms/ potential for combining with others.

Annex 5

**Presentation of Dr Poonam Khretapal Singh Deputy Regional Director WHO
SEARO on the Regional Strategy on Research for Health**

**(If I put now, it becomes huge file, will be inserted after no more revisions
at the word doc)**

Proposed Indicators for some Strategic Directions

No	Strategic Direction	Proposed Indicators
1	Research Priority Setting	<p>At Regional Level</p> <ul style="list-style-type: none"> ➤ No. of Member Countries with defined Research Agenda/ National Research Priorities <p>At National Level</p> <ul style="list-style-type: none"> ➤ Existence of National Level Research Prioritization Mechanism with Multi-Stakeholder Involvement ➤ Existence of National Level Research Agenda/ National Research Priorities ➤ Percentage of Research for Health Projects that address National Research Priorities <p>At Institutional Level</p> <ul style="list-style-type: none"> ➤ Existence of Institutional Level Research Prioritization Mechanism with Multi-Stakeholder Involvement ➤ No. of Research Institutions with defined Institutional Level Research Agendas/ Institutional Research Priorities ➤ Percentage of Research for Health Projects that address Institutional Research Priorities
2	Research Capacity Building	<p>At Regional Level</p> <ul style="list-style-type: none"> ➤ No. of Member Countries with Human Resources for Research for Health Plan <p>At National Level</p> <ul style="list-style-type: none"> ➤ Existence of National Level Human Resources for Research for Health Plan <p>At Institutional Level</p> <ul style="list-style-type: none"> ➤ Existence of Institutional Level Human Resources for Research for Health Plan ➤ No. of Research Methodology Training Workshops conducted for Junior Researchers (each year, at the Institutional Level) ➤ No. of Junior Researchers trained in Research Methods (each year, at the Institutional Level) ➤ No. of proposals written and submitted for funding consideration ➤ No. of proposals approved for funding ➤ No. of proposals funded by International Agencies ➤ No. of proposals funded by the Government ➤ Number of scientific papers presented at scientific conferences ➤ No. of Publications made in international journals ➤ No. of Publications made in local journals ➤ No. of Researchers received training abroad according to different disciplines

3	Research Ethics	<p>At Regional Level</p> <ul style="list-style-type: none"> ➤ No. of Institutions in Member Countries with ERCs with Standard Operating Procedures and Regulation Process (including for NGOs) <p>At National Level</p> <ul style="list-style-type: none"> ➤ Existence of a System of Regulation of ERC ➤ No. of Institutions with ERCs with Standard Operating Procedures (including for NGOs) <p>At Institutional Level</p> <ul style="list-style-type: none"> ➤ Existence of ERC Standard Operating Procedures in accordance with the Guidelines of WHO ➤ Existence of a Monitoring Mechanism for Research Proposals cleared by the ERC
4	Knowledge Management	<p>At Regional Level</p> <ul style="list-style-type: none"> ➤ No. of Member Countries with built-in Mechanisms to communicate relevant research findings to decision or policy makers/programme managers ➤ Specific Funding Criteria for Research developed, emphasizing aspect of application <p>At National Level</p> <ul style="list-style-type: none"> ➤ Existence built-in Mechanisms to communicate relevant research findings to decision or policy makers/programme managers ➤ Percentage of policy briefs written out of all the research reports ➤ No. of Dissemination Seminars for Stakeholders conducted ➤ No. and Types of Policy Changes affected by Research Evidence at National/Programme Levels <p>At Institutional Level</p> <ul style="list-style-type: none"> ➤ Percentage of policy briefs written out of all the research reports ➤ No. of Dissemination Seminars for Stakeholders conducted ➤ No. and Types of Policy Changes affected by Research Evidence at National/Programme Levels

Annex 7

Abbreviations

ACHR	=	Advisory Committee for Health Research
APSED	=	Asia Pacific Strategy for Emerging Diseases
BMRC	=	Bangladesh Medical Research Council
CD	=	Communicable Diseases
CHRD	=	Cabinet on Health Research and Development
DHF	=	Dengue Hemmorrhagic Fever
ERB	=	Ethical Review Board
EVIPnet	=	Evidence for policy Network
HELLIS	=	Health Literature, Library and Information Services
HFA	=	Health For All
HINARI	=	Health InterNetwork Access to Research Initiative
HREU	=	Health Research and Epidemiology Unit
HS	=	Health Systems
HSRI	=	Health System Research Institute
ICDDR,B	=	International Centre for Diarrhoeal Disease Research, Bangladesh
ICMR	=	Indian Council of Medical Research
IMSEAR	=	Index Medicus for South-East Asia Region
IRFA	=	Indian Research Fund Association
MDG	=	Millenium Development Goals
MOH and FW	=	Ministry of Health and Family Welfare
MOH	=	Ministry of Health
MOPH	=	Ministry of Public Health Thailand
NCD	=	Non Communicable Diseases
NRCT	=	National Research Council of Thailand
NSTDA	=	National Science and Technology Development Agency
MNCAH	=	Maternal , Newborn, Child and Adolescent Health
NGO	=	Non Government Organizations
NHCO	=	National Health Commission Office Thailand
NHIRD	=	National Institute for Health Research and Development
NHRC	=	Nepal Health Research Council
NRC	=	National Research Council of Sri Lanka
ORT/ORST	=	Oral Rehydration Therapy / Oral Rehydration Salt Therapy
PHC	=	Primary Health Care
R and D	=	Research and Development
SEAR	=	South East Asia Region
TDR	=	Tropical Disease Research
TRF	=	Thailand Research Funds
WHA	=	World Health Assembly
WHO	=	World Health Organization
WHR	=	World Health Report

Annex 8

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