

National Health Research in Malaysia: The Future Directions

Australia-Malaysia Medical Research Colloquium

28 April 2010

First of all, I would like to thank the Australian High Commission, in particular the Australian Education International, for inviting me to deliver this keynote address, and to share with you, our Ministry of Health's perspectives and future directions for health research in this country.

I have been informed that this event is held in response to the intense interest expressed by both countries to develop further collaboration in medical research. This event is therefore a good opportunity for us to showcase some of our successful outcomes of joint collaborations and ongoing partnerships between Malaysia and Australia, and to further strengthen the ongoing bilateral relationship in education.

The importance of medical research and its potential in solving health issues are unquestionable. Besides advancing scientific knowledge and understanding, research has provided the evidence for formulating and evaluating policies, practices and health programmes. There have been many significant medical breakthroughs that have impacted on peoples lives, ranging from prevention strategies to new medical treatment and interventions.

Thankfully, there is already strong support from the Malaysian Government for health research in this country, with the Ministry of Health (MOH) being given a RM90 million allocation under the present 9MP. Research and development (R&D) is also targeted as one of the key drivers to transform the country into a safe, developed and high income economy. Based on the IMD World Competitiveness Yearbook 2009, Malaysia was ranked 39th in the world with RM3.2bil in Gross Expenditure on Research and Development (GERD) or 0.64% of the Gross Domestic Product (GDP). Is this enough? If we look at other Asian countries, Malaysia ranked sixth after Japan, China, South Korea, Taiwan and Singapore. Obviously, the Malaysian Government's investment in R&D needs to be further increased.

Past investments in health research, globally, have been effective. According to the World Development Report, over the last 50 years, the generation and application of new knowledge accounts for approximately half of all health gains worldwide. The increase in life expectancy and gains in quality of life over the past century confirms the value of knowledge on human health derived from biomedical and public health research.

Given the significant contribution of medical research in preventing and combating diseases, it is important that we set the right direction and do the right research, with the limited resources that we have.

Setting research priorities are essential steps in the process of making choices about where and how government spends public money on research. The health research agenda should address the health problems of the country, the needs of the people, society, patients, as well as the scientific community, who desire to unearth new discoveries that can improve health through, prevention, diagnosis and treatment.

Our health care system is constantly being challenged. The emergence of new diseases such as the recent Pandemic Flu A H1N1, SARS and Nipah virus; the increase in the number of diseases in tandem with changes in our society and aging, such as mental illnesses, dementia, Alzheimer's disease, Parkinson, arthritis and the resurgence of old diseases, such as tuberculosis and malaria are some of these challenges. As Malaysia becomes more affluent, we are saddled with the double burden of disease, on the one hand we have the emerging communicable diseases, and on the other hand, we have to grapple with the increase in lifestyle diseases and the attendant risk factors that come with such diseases.

Cancer is a much "dreaded" disease with nearly 70,000 new cases reported in Peninsular Malaysia over a two-year period between 2003 to 2005 as reported in the National Cancer Registry Report, 2008. Common cancers seen here include breast cancer, colorectal cancer, lung cancer and liver cancer. The WHO predicts that by 2020, cancer would kill 12 million people per year, worldwide. The battle against cancer is an essential and multifaceted and there is an urgent need to search for new knowledge and understanding of the biology of the disease and the development of new and innovative approaches to counter it, as 30% of all cancers can be prevented. Cancer pathogenesis, developmental therapeutics, biomarkers, clinical outcome and prognostic factors, genome and environmental interaction are among some of the important focal areas for research. The MOH has drawn up the National Cancer Control Blueprint that views cancer management and research from a holistic viewpoint.

The climatic variations and extreme weather events that we are experiencing can impact on infectious diseases in Malaysia and in the region. These climatic changes influence both disease distribution and transmission dynamics resulting in increasing incidences of infectious diseases like malaria and dengue. Dengue is the fastest emerging viral infection and the maximum burden of disease borne by the countries in this region. It is estimated that of the 2.5 billion people at risk of the infection globally, 70% live in the Asia Pacific Region, mostly in the developing countries. Research is urgently needed to develop effective vaccines and innovative tools to manage and control these diseases and their increasing transmission potential.

The burden of disease in Malaysia and the critical gaps in information largely formed the basis that set the tone and direction of our National Health Research Priorities for the Ninth Malaysia Plan which spans from 2006 - 2010. To address the leading causes of the burden of disease effectively and efficiently and to contribute to economic development eight priority areas of research and three cross-cutting areas were identified. These are: Cancer, Cerebrovascular Disease and Stroke, Diabetes Mellitus, Infectious Diseases, Ischaemic Heart Disease, Mental Illnesses, Respiratory Illnesses, Road Traffic Injuries, Health Policy and Systems, Medical Biotechnology, and Pharmaceuticals and Medical Devices.

As people are living longer and the population ages, we need new approaches in understanding the biology of ageing and how it relates to disease. Besides that, research is needed to address other challenges that affect health including biosafety and food security. In all of these, we must work in partnership with others to study their impacts and provide solutions across the multitude of disciplines that deal with these problems. Funds should be directed towards supporting research in these new critical areas and also for continuing investigations into the leading causes of the burden of disease in the country.

For scientists, this is a time of unprecedented opportunities for research and innovation. The development and expansion of genomics, proteomics and other “omics” tools are providing new ways and approaches for conducting research in medicine and biosciences. These tools set the stage for the Human Genome Project which has now revolutionised our research into virtually all diseases or disorders. These technologies had propelled the biotechnology industry and led to the development of new therapeutic products and diagnostics. Based on the precise molecular knowledge obtained through these “omics” and high throughput investigations,

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the potential to identify individuals at risk of disease and a chance to intervene before disease strikes has been significant.

The national health research agenda of Malaysia goes beyond identifying and setting research priorities and initiating the research. We will develop the capacity of our researchers and scientists to conduct health research and respond in a timely manner to unpredictable health threats. The productivity and competencies of our research base need to be strengthened by investing in infrastructure, education, training complemented by a conducive environment for research and innovation. Technology transfer, commercialisation of scientific discoveries and translation of research into policy and practice should be actively promoted. We must also enhance our efforts to integrate significant research findings into the healthcare system and ensure a strong research governance, good clinical practice and strive for continuous improvements in evaluating research outcomes and impact.

The provision of health services in Malaysia is however not without its challenges. Malaysia, like many other countries, is concerned with the sustainability of the present system that we have today, especially with regards to issues of affordability, accessibility, quality of care and

cost of services. The MOH is on track to introduce some major changes to modernise and reshape our health system to accommodate the evolving needs of the public while ensuring accessibility, quality and sustainability. Along the aspirations of 1Malaysia (which is preservation and enhancement of unity in diversity) and the government's tagline of "People First, Performance Now", the MOH is proposing a health sector transformation. The reformed system will be an integrated system and will be more responsive and provide choice of quality health care while ensuring universal coverage for the health care needs of the population based on the concepts of solidarity and equity. Primary health care services will be the thrust of the health services with strong focus on promotive – preventive care and early intervention.

With the government bent on improving the standard and sustainability of quality of life, the scientific and medical community of this country, be they from the government or private research institutions and universities, have a major and vital role to play in providing the knowledge and evidence for this ambitious but vital health sector transformation. The focus of the transformation is on ensuring effective health service delivery, consumer empowerment, health promotion, lifelong wellness, disease prevention, treatment and control.



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We are all keenly aware that many health problems and their impending research questions are so broad or complex that cannot be solved by a single researcher, a single institute or even a single country. There is increasing need for a interdisciplinary approach in modern research that combines a critical mass of both scientific and technical competencies and resources. In certain circumstances, the creation of research consortia may be necessary to investigate ways of combating chronic or new infectious diseases, or solving problems related to climate change and sustainability.

Therefore, shared partnerships not only between the public, private and NGOs in the country and enhanced collaborative efforts between countries are necessary. In this regard, it is important that we develop mechanisms and tools to enable more effective inter-sectoral, inter-ministerial, and inter-country research collaboration and coordination to address complex health challenges.

We especially need to strengthen inter-country collaboration and work through these alliances to advocate research, establish networks of researchers and regional centres of excellence.

Such co-operation will help to ensure sustainable funding, improve education and career opportunities in research and research management, and strengthen harmonisation of regulations and ethical conduct.

Malaysia and Australia are already cooperating in a number of medical areas as will be presented in the next two days. In fact, the co-operation between Malaysia and Australia in matters pertaining to health, is a fine example of co-operation and collaboration at its best. Considering that both countries face many similar health challenges, joint efforts can help accelerate research and development in these areas. There is certainly a need to increase collaboration in scientific and health research on molecular markers for diagnosis and disease susceptibility, pharmaceutical product development, biomedical imaging, nanotechnology, clinical research and so on. Collaboration between our two countries would provide opportunities for our scientists to engage in training exchange opportunities, conduct joint research and training symposiums, develop scientific collaborations and participate in scientific and clinical initiatives in designated research priority areas of mutual interest. Interested parties at this colloquium should take the opportunity to discuss and explore areas for future collaborative work to update and share the wealth of information that has resulted from medical research in our individual countries and to develop new approaches and future directions based on world trends and needs. I hope that the diverse range of audience present in this meeting will become a catalyst to generate the passion in medical research between the countries, the medical community and all support organisations. The strong bilateral ties in education between Australia and Malaysia will be an ongoing asset in helping us to forge ahead and to be major players in medical research at a global level.

Lastly, I take note of interesting sessions that have been lined up over the next two days. The session on collaboration will be of great value to encourage future explorations among participants today while medical teaching should be of immense interest to all, as we need to develop and nurture the next wave of medical doctors and researchers, and endeavor to raise the benchmark of excellence in all aspects of this noble profession.

Ladies and gentlemen, I end by quoting Dr Carl Sagan who says "somewhere, something incredible is waiting to be known". The hope of all researchers is to find that incredible unknown.