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**SPEECH BY DR TONY TAN KENG YAM, CHAIRMAN OF THE
NATIONAL RESEARCH FOUNDATION AT THE NATIONAL
HEALTHCARE GROUP (NHG) ANNUAL SCIENTIFIC CONGRESS
2007 HELD ON SATURDAY, 10 NOVEMBER 2007 AT 9.00 AM AT
CANNING BALLROOM, RAFFLES CITY CONVENTION CENTRE**

Mr Michael Lim
Chairman
National Healthcare Group

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Chief Executive Officer
National Healthcare Group

Associate Professor Lim Tock Han
Chairman
NHG Annual Scientific Congress 2007 Organising Committee

Distinguished guests

Ladies and Gentlemen

I would first like to thank the National Healthcare Group for inviting me to attend the NHG's Annual Scientific Congress 2007.

The group of distinguished speakers, scientists and clinicians attending the Congress will focus their discussions on the theme "Innovative Medicine" and how to synergise research with clinical practice.

Indeed, Singapore's emphasis on clinical research has grown, and I am happy to see so many scientists and clinicians taking an active part in this initiative.

Phase I of the Biomedical Sciences (BMS) Initiative in Singapore

Singapore has made substantial and rapid progress in our BMS initiative.

In year 2000, the Singapore Government made a significant commitment to develop the BMS sector into a new growth engine to help diversify our economy.

The vision was for Singapore to become the Biopolis of Asia, an international biomedical sciences cluster advancing human health through the pursuit of excellence in research and development, manufacturing and healthcare delivery.

The first phase of the BMS Initiative from 2000-2005 focused on laying a firm foundation in basic sciences.

Through its research institutes, the Agency for Science, Technology and Research (A*STAR) developed core capabilities in Bioprocessing, Genomics & Proteomics, Molecular & Cell Biology, Bioengineering & Nanotechnology, Computational Biology and Chemical Synthesis.

In addition, A*STAR expanded its extramural grants to support research at the universities, hospitals and disease centres.

Phase I has seen significant scientific achievements by our local research community.

EDB, with the help of A*STAR, has also successfully attracted corporate R&D activities to Singapore. From a zero base in 2000, there are now over 25 companies, including MNCs such as Glaxo Smith Kline and Eli Lilly undertaking research in Singapore.

Phase II of the BMS Initiative

These significant scientific achievements laid the groundwork for Singapore to proceed with the second 5-year phase (2006 – 2010) of the BMS initiative, which focuses on translational and clinical research (or TCR) to bring research from “bench-to-bedside”, strengthening our healthcare institutions’ research capabilities, with the ultimate aim to benefit patients.

In Jul 2006, the Research Innovation and Enterprise Council (RIEC) approved the key recommendations to further develop BMS in Singapore, which included establishing flagship research programmes in strategically important disease areas, building up a critical mass of human capital for TCR supernumerary to clinical needs, and developing the necessary investigational medicine capabilities, translational and clinical research infrastructure, supporting resources and regulatory frameworks.

The multi-agency BMS Executive Committee (BMS ExCo), comprising the Ministry of Health (or MOH), A*STAR, hospital clusters and medical schools, has since made research progress in several of these initiatives. For example, Singapore has launched an internationally competitive “bench-to-bedside” TCR flagship programme to establish Singapore as a leader in five disease-oriented areas which are strategically important to us, or where we have comparative advantages – namely cancer, neuroscience diseases, eye diseases, infectious diseases and cardiovascular/metabolic diseases. The inaugural award was made to the Singapore Gastric Cancer Consortium¹, and the awards from the 2nd grant call for neuroscience and eye diseases will be made by early next year.

We have also put in place initiatives to support clinicians to do research. We have launched the Singapore Translational Research (STaR) Award and revamped the Clinician Scientist Award (CSA) to attract, retain and support outstanding clinician scientists and investigators. A key feature of the CSA is that it will provide full salary support for our clinician scientists, and allow them to devote time to research whilst maintaining flexibility to remain engaged in clinical service in the hospitals.

¹ Comprising the National University of Singapore, National Cancer Centre Singapore, and National University Hospital.

Healthcare institutions will thus be able to hire and pay for manpower to backfill the void in clinical service left by doctors who do research.

Overall, the Government is also increasing funding for manpower in the hospitals to cope with the growing clinical service volume – we recognise that it is difficult for doctors to think innovatively and do research, if they are overburdened with heavy patient loads.

In terms of research infrastructure, we will be supporting the development of research laboratory space, investigational medicine units, and animal facilities at both the Kent Ridge and Outram healthcare and medical school campuses.

For Kent Ridge in particular, these new facilities will help support the recent direction to better integrate the 3 missions of clinical service, research and education.

The goal is to be able to bring innovations quickly and safely into clinical practice, which will ultimately result in better patient care.

For the Outram campus, new research facilities will be co-located with the SGH Pathology Department at their new building, facilitating closer interaction and collaboration between researchers and pathologists to support translation of findings to practical clinical treatments and diagnostic capabilities.

The Next Stage of the BMS Initiative

Now that a sound scientific foundation has been laid down and rapid progress is being made in developing translational and clinical research, it would be timely to begin planning for the future development of our BMS Initiative.

One area for consideration would be to consider how we can extend our efforts in the BMS Initiative beyond our shores to the region and in the international

arena in areas where Singapore can make a significant and impactful contribution.

One such area would be in the treatment of infectious diseases (ID) which cross national boundaries and where no single national or government administration can manage or contain the spread of the disease.

Because of the ease with which epidemics can spread throughout the world due to air-travel, Infectious Diseases have in recent years attracted increased attention from governments, health administrations, researchers and philanthropic organisations.

Four years ago, in 2003, SARS devastated our region.

The SARS episode threatened regional and global prosperity, confidence and stability.

Such health threats are not one-off; there are continued concerns about a potential global Avian Influenza pandemic, spread of dengue and other tropical diseases, as well as emergence of new threats from animal transmitted and vector-borne diseases.

The main lesson learnt was that these are trans-border diseases, and that no country can tackle the disease on its own.

Rather, close collaboration and cooperation among countries is the key to successfully contain such infectious disease outbreaks, which besides causing death and suffering, can have a severe impact on economies and societies.

Thus, Singapore can and should work with the region and other countries such as the US, Australia and China in the area of infectious diseases research (or ID research).

Developing Singapore as a Research and Education Hub in ID

Singapore has some experience and expertise in ID research. Basic ID research in areas covering viral, bacterial and parasitological diseases is currently

conducted in the universities, research institutes and the National University Hospital².

Clinical ID research is conducted in various government hospitals (e.g. Tan Tock Seng Hospital and Singapore General Hospital), supported by about 30 ID specialists³.

Various companies in Singapore also conduct ID research to develop drugs, diagnostic kits and vaccines.

MOH has also committed \$4.2 million through its Health Services Development Programme to develop new diagnostics for emerging infectious diseases, involving the hospitals and national public health laboratory.

In addition, consortiums have been established to develop Singapore's research capabilities in certain ID research areas.

For example, the Singapore Dengue Consortium was established in 2003, and comprises key scientific bodies⁴ such as research institutes, universities, hospital clusters, as well as the private sector.

The Consortium aims to develop new strategies to prevent, treat and eradicate dengue.

A*STAR's Singapore Immunology Network (or SIgN) was established in 2005 to build on the strengths of existing immunology research groups and immunology research expertise in Singapore, with the aim to support both national and international collaborations, including in the field of infectious diseases (Hepatitis B).

² E.g. National University of Singapore (NUS), Nanyang Technological University (NTU), Genomic Institute of Singapore (GIS), Institute of Molecular and Cell Biology (IMCB), Institute of Molecular Biology (IMB) and National University Hospital (NUH)

³ Specifically, there are 28 ID specialists registered with the Ministry of Health's Specialist Accreditation Board of which some are involved in clinical research and development.

⁴ Namely DSO National Laboratories (DSO), Duke-NUS Graduate Medical School, Experimental Therapeutics Centre, Genome Institute of Singapore (GIS), Institute of Molecular and Cell Biology, Nanyang Technological University, National Environment Agency, National Healthcare Group, National University of Singapore, Novartis Institute for Tropical Diseases (NITD) and Singapore Health Services.

Singapore is also developing new programmes in ID research.

The Duke-NUS Graduate Medical School is building a Signature Research Programme in Emerging Infectious Disease, and the recent appointment of Professor Duane Gubler, a foremost authority on dengue virus and other arboviruses (and previously Director of the US Centers for Disease Control and Prevention's Division of Vector-Borne Infectious Diseases), to head this initiative will significantly boost our capabilities in ID research.

Separately, MIT, through the Singapore-MIT Alliance for Research and Technology (SMART) Centre, has embarked on a 5-year research programme jointly with local universities and research institutes to study host-pathogen interactions in infectious diseases such as influenza, malaria and tuberculosis.

The TCR grant call to develop flagship research programmes in infectious diseases will close in Nov 2007, and we look forward to receiving strong applications that will create partnerships between the major players in both basic and clinical areas, so as to establish Singapore as a leading regional centre for ID research.

Moving forward, as we strengthen our various research capabilities and programmes, there is a valuable opportunity for Singapore to play a more active regional and international role in extending our BMS Initiative to promote more co-operation in the treatment and management of diseases endemic to our region.

The National Research Foundation (NRF) will therefore work with the BMS ExCo, other Government agencies and universities, as well as the private sector to draw up a co-ordinated framework to develop Singapore as a hub for research and education in cross-border diseases.

Conclusion

On this note, may I wish you many fruitful discussions and sharing sessions that will make this Scientific Congress a success.
