

NATIONAL RESEARCH FOUNDATION
PRIME MINISTER'S OFFICE
SINGAPORE

**Opening Remarks by Guest of Honour, Professor Tan Chorh Chuan at
MSD's Drug Discovery and Translational Research Symposium
on 6th of November 2024, 845am**

Distinguished guests from MSD Research Labs:

Dr Bonnie Howell, Vice President and Global Head of Quantitative Biosciences and Nonclinical Pharmacology,

Dr David Weinstock, Vice President, Discovery Oncology

Dr Erin Whalen, Vice President, Discovery Cardiometabolic Diseases

Dr Iya Khalil, Vice President, Data AI & Genome Sciences,

Dr Marc Levesque, Vice President, Discovery Immunology and Cambridge Site Head,

Dr Brian Henry, Executive Director and Site Lead, TMRC,

Ladies and gentlemen,

Good morning.

1. It is such a great pleasure to join you today at MSD's Drug Discovery and Translational Research Symposium. We also celebrate the 15th anniversary of MSD's Translational Medicine Research Centre (TMRC) here in Singapore. My heartiest congratulations to MSD and your partners on this significant milestone!
2. Since 2009, MSD and Singapore have built a successful partnership to improve healthcare outcomes globally. Over this period, MSD has invested over US\$240 million in research activities in Singapore, and MSD's work in drug discovery here has not only advanced scientific knowledge but also contributed significantly to the growth of Singapore's biomedical sciences research ecosystem.
3. For example, MSD has been working with the Agency for Science Technology and Research on early drug discovery since 2014. Together with A*STAR's Bioinformatics Institute, Institute of Molecular and Cell Biology and the p53Lab, MSD embarked on a series of collaborations to explore the design rules for macrocyclic peptides to enable entry to cells as a potential therapeutic modality.

This collaboration resulted in several patents and over 14 publications in leading journals including a 2024 publication in Nature Communications.

4. In addition, MSD has been collaborating with the Singapore General Hospital and National Cancer Centre Singapore to better define a consensus molecular classification of Colorectal Cancers, to identify effective treatment approaches for patients with this common type of cancer.
5. I am pleased that from next year, TMRC will be further deepening its partnership with Singapore through the launch of a Talent Accelerator programme. This initiative will train up to 30 researchers and scientists in areas such as discovery and development of Precision Medicine, utilizing AI/ML to deliver novel therapeutics. These researchers and scientists will acquire valuable experience and skills, and very importantly, will have the opportunity to work with diverse teams in MSD's research labs globally.

Singapore's commitment to biomedical research

6. We value MSD's expanded partnership as we continue to build further on the strengths, vibrancy and richness of the research and innovation ecosystem in Singapore.
7. The Singapore government has made sustained investments in R&D over the last decades. For the current 5-year Research, Innovation and Enterprise (RIE) 2025 plan, the government had committed S\$25 billion for the period 2021 to 2025. This year, we provided a top up of S\$3 billion to RIE2025 towards supporting national R&D priorities in areas such as advanced manufacturing, sustainability, the digital economy, and healthcare.
8. This morning, I would like to share 2 areas of focus which are relevant to the 2 key themes of today's symposium – precision medicine and harnessing AI for drug discovery.

Precision Medicine

9. Firstly, on Precision Medicine. Singapore has made good progress in implementing our National Precision Medicine Strategy.
10. The cornerstone of this effort is the Precision Health Research, Singapore or PRECISE programme. Working closely with the SG100K initiative, PRECISE is on track to complete whole genome sequencing of 100,000 healthy individuals and exomic sequencing of 50,000 individuals with specific diseases by next year.

This cohort represents one of the most deeply characterised multi-ethnic Asian whole genome databases

11. Our National Precision Medicine programme is an integral part of the wider Asian biology and disease strategy, which Singapore has been developing as a key differentiator of our biomedical ecosystem and with the goal of addressing major health challenges, needs and opportunities in multi-ethnic Asian populations.
12. Please let me illustrate briefly with some recent initiatives. This year, the National Research Foundation funded a new National Initiative in RNA Biology and its Application. This major basic research programme would among other things, investigate the impact of RNA variants on biology and disease in our local population. At the same time, good progress has been made in facilitating confidential, trusted and secure linkages to deidentified health and other key datasets. Finally, the National Research Foundation provided a new funding stream that incentivises and enables our 2 national specialist cancer centres, the Cancer Science Institute and other key clinical and research institutional partners to work much more closely together under the umbrella of the Singapore Translational Cancer Consortium. We have done the same for the 2 national heart specialist centres and research programmes under the umbrella of the Cardiovascular Disease National Collaborative Enterprise or CADENCE.
13. This overall effort is at an exciting phase with our research programmes increasingly working on a variety of clinical implementation programmes that address population health, precision medicine and value-based clinical issues. For example, PRECISE is working with the Ministry of Health (MOH) on a programme to proactively identify individuals with Familial Hypercholesterolemia and intervene early.

AI for Drug Discovery

14. Secondly, on AI for drug discovery. Singapore recently launched our second National AI Strategy (NAIS 2.0), which outlines our vision to build a trusted and responsible AI ecosystem to drive innovation and growth, with an investment of more than \$1 billion over the next five years.
15. As part of the strategy, we are redoubling our efforts to grow our talent pool in AI. This year, the National Research Foundation completed a study and conducted 15 workshops on AI for Science that involved a wide range of researchers from our community. From this consultation, we will be launching a new funding initiative early next year to promote and support the novel use of AI to significantly

accelerate and transform research. A particular focus will be to build up a strong critical mass of “bilingual” scientific talent – researchers who can bridge between AI technologies and domain expertise. In preparation for this, we have made further major investments this year to increase our compute capacity to support AI research and applications.

16. An example of how companies could tap on these efforts is Pfizer’s recent partnership with Singapore’s Ignition AI Accelerator, a collaborative initiative formed between NVIDIA, startup accelerator Tribe and the Digital Industry Singapore (DISG). This collaboration will leverage AI to transform Pfizer’s drug discovery and development processes.
17. In the context of these ongoing efforts, the topics that are being discussed in today’s symposium are very timely and useful. I am sure there will be many exciting and stimulating conversations and hope that these will spur further ideas for collaboration.
18. In closing, we very much appreciate MSD’s commitment to continued collaboration and innovation in Singapore and with Singapore partners. We look forward to many more years of productive partnership to deliver best-in-class and innovative products to combat global diseases. Once again, my heartiest congratulations to MSD!
19. Thank you.