



Editor's Note

2023: A Year of Progress in Research, Innovation and Enterprise

Another great jolly season with much to celebrate for the remarkable progress made in Singapore's National Precision Medicine (NPM) journey! We invite you to join us in recapping the key highlights in 2023.

Most recently, the PRECISE-SG100K Study achieved two significant milestones –recruitment of 82,000 participants and sequencing 50,000 genomes. This mid-point achievement is testament to the tireless, collective effort of our partners and collaborators. Their unwavering passion, expertise and commitment in navigating complexities of the NPM journey have kept us on course. Additionally, their partnership and collaboration underpin our success and are instrumental in bringing us closer to realising better health outcomes for Singaporeans. We extend our heartfelt thanks to all NPM partners.

As we work steadily towards completing the PRECISE-SG100K Study, we have also made notable progress in the Research, Innovation and Enterprise spaces. The publication of SG10K Health findings in two journals, Nature Genetics and Nature Communications earlier this year provided insights into disease risk from genetic variations, drug reactions among different ethnicities in Singapore and hereditary genetic risks. Significantly, it also paved the way for further groundbreaking research in the ecosystem. We look forward to more publications to come in 2024!

Partnerships with clinicians in PRECISE's Clinical Implementation Pilots continue to make important strides on the innovation front, with over 2,000 patients managed. Their relentless efforts in continuously testing and refining various novel methods are not only commendable but also necessary for the smooth integration of genetic testing into Singapore healthcare system's clinical workflows.

In the enterprise domain, Boehringer Ingelheim became the first pharmaceutical partner to collaborate with PRECISE in our NPM journey. Building on this, we look to establish a consortium of like-minded pharmaceutical collaborators in the coming year to fuel medical breakthroughs and gain insights that can potentially redefine preventive health for Asian populations. We also made strides in our partnership with Illumina, expanding our collaboration into the software and AI spaces.

As we forge ahead with Phase 3 of the NPM strategy, it is increasingly clear that while we focus our efforts on achieving our goals, we need to also sustain the momentum started through talent development. That is why we curated discussion panels at conferences, supported two sessions of the Executive Certificate Programme in Clinical Genomics by the SingHealth Duke-NUS Genomic Medicine Centre, and sponsored promising candidates to pursue a Master of Science in Precision Health and Medicine at the NUS Yong Loo Lin School of Medicine. In addition, we hosted four educational outreach talks at the Science Centre, making genomics accessible to young minds.

Looking forward to fostering more enriching collaborations in 2024, we invite you to co-create the future of precision medicine with us!

Editorial Features

Research

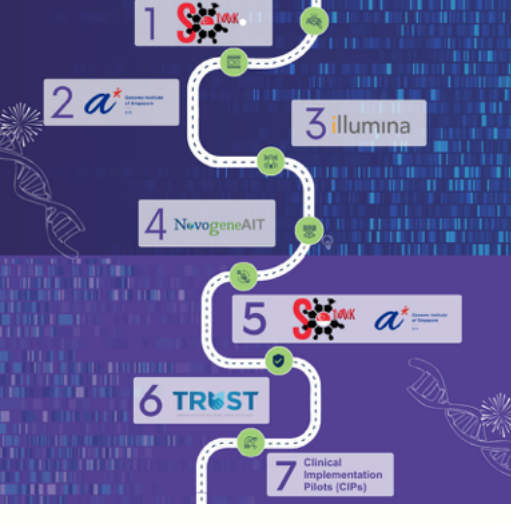


Driving the Engine of Discovery @ HELIOS

Over 80,000 30- to 84-year-old participants from different walks of life in Singapore have enrolled in the PRECISE-SG100K study since its rollout last December.

This recruitment milestone is made possible by the intrepid Health for Life in Singapore (HELIOS) team at LKCMedicine, under the leadership of Prof John Chambers, Chief Scientific Officer, PRECISE. Meet the team driving the recruitment phase of this large-scale study and find out how they did it.

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On the Road to Success with our National Precision Medicine (NPM) Partners

The road to success is paved with common purpose to advance the National Precision Medicine (NPM) programme—and teamwork between PRECISE and our network of academic, medical and healthcare, public research and industry collaborators and partners.

From developing genomic sequencing infrastructure and capabilities to supporting genetic data collection, storage and processing for disease studies, check out each partner's role in shaping the future of personalised medicine here.

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Innovation



PRECISE Clinical Implementation Pilots

Five Clinical Implementation Pilots (CIPs).

Five clinical areas: Breast Cancer, Hereditary & Familial Cancers, Familial Hypercholesterolemia, Primary Glomerular Diseases and Pharmacogenomics.

- What does it take to incorporate genetic testing into clinical pathways?
- How can we leverage genetic testing to improve patient outcomes?
- Can we keep per capita cost sustainable while optimising experiences of healthcare providers and patients?

Interdisciplinary teams of passionate scientists, clinicians, researchers and economists seek to find answers to the above questions through championing the implementation of precision medicine workflows into Singapore's healthcare system.

In this series, read about their research motivation, their proposed solutions and their progress to date.

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At a Glance: A Snapshot of NPM Phase 1 and Phase 2

Find out why the SG10K Health findings is especially meaningful for Asian populations in this infographic.

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Find out what the PRECISE-SG100K study sets out to achieve and how 100,000 genomic datasets can potentially improve future health strategies.

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Enterprise



Boehringer Ingelheim Partners PRECISE to Transform Healthcare and Improve Patient Outcomes

The partnership between Boehringer Ingelheim and PRECISE is set to energise Singapore's precision medicine research, innovation and industry collaboration in data science. It will also address the Asian genomes database diversity gap, enabling the development of treatments for all ethnicities worldwide.

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PRECISE Highlights

- 1 PRECISE at Precision Public Health Asia Conference 2023. Read more about the panel and the post conference report.
- 2 PRECISE at Singapore Week of Innovation and Technology (SWITCH). Read more about the panels from SWITCH Beyond as well as at the CRIS booth.

Genomics and Health News

- 1 Your genes can affect how you react to specific drugs and diseases →  
The Straits Times
- 2 Is personalised health based on genetics? →  
The Straits Times Health Check Podcast
- 3 Exploring The Future of Healthcare →  
I Saw the Science (ISTS) - blog by Science Centre Singapore
- 4 PRECISE x Science Centre: Understanding Genomics Forum →  
I Saw the Science (ISTS) - blog by Science Centre Singapore
- 5 I Saw the Science Asks: Genomics →  
I Saw the Science (ISTS) - blog by Science Centre Singapore

Save the Date

PRECISE-IHCC Conference 2024  
“From Cohorts to Clinics: The New Landscape to Global Healthcare”

21-23 August 2024

This three-day conference, jointly organised by Precision Health Research, Singapore (PRECISE) and the International Health Cohorts Consortium (IHCC), will feature renowned speakers from global precision medicine programmes and initiatives. They will share about the latest developments in this evolving field.

Bringing together the scientific community, clinicians, and patients, this conference looks to engage thought leaders, policymakers, biotechs and researchers in the field of precision medicine on topics ranging from integrating scientific advances into patient care to reshaping the modern healthcare landscape.



About PRECISE:

NPM Phase II aims to transform healthcare in Singapore and improve patient outcomes through new insights into the Asian genome and data-driven healthcare solutions. In NPM Phase II, PRECISE will collaborate with Singapore research and clinical partners, including the Agency for Science, Technology and Research (A\*STAR), Lee Kong Chian School of Medicine, National Healthcare Group, National University Health System, National University of Singapore, and SingHealth Duke-NUS Academic Medical Centre to study the genetic makeup of 100,000 healthy Singaporeans and specific patient cohorts. The genetic data will be integrated with detailed lifestyle, environmental, and clinical data to yield rich insights into factors that contribute to Asian diseases and conditions.

Additionally, NPM Phase II will enhance the breadth and depth of the Precision Medicine-related industry by attracting and anchoring overseas companies in Singapore, while yielding new opportunities for home-grown companies. To enhance and accelerate the precision medicine sector, PRECISE works in close collaboration with A\*STAR, the Biomedical Sciences Industry Partnership Office, and the Economic Development Board to catalyse the next phase of growth for Singapore's healthcare and the biomedical technology industries.

For more information, please visit [www.npm.sg](http://www.npm.sg)