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PRECISE-Illumina project to monitor long-term health outcomes of Singaporeans

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Unique large-scale population study will yield insights into Asian-specific diseases, improving population health, patient outcomes, and innovations in the local biomedical technology industry



Precision Health Research, Singapore (PRECISE), the central entity implementing Singapore's National Precision Medicine (NPM) strategy, and Illumina, Inc, a leader in genomics technology, have announced a strategic partnership to sequence and analyse 100,000 Singaporean whole genomes (SG100K), to create for the first time, Southeast Asia's most comprehensive consented population study.

Precision Medicine has been identified by Singapore's Ministry of Health as one of the potential innovative approaches to transform healthcare and address healthcare challenges, and also by the National Research Foundation, Singapore (NRF) as a strategic goal of the Research, Innovation and Enterprise (RIE) 2025 plan to transform and protect the health of Singaporeans. PRECISE, funded by NRF, collaborates with Singapore research and clinical partners to implement and coordinate this effort nationally.

The SG100K project, supported under Open Fund – Large Collaborative Grant1, will involve 100,000 consented Singaporean participants, comprising Chinese, Malay and Indian, representative of 80% of the populations across Asia.

SG100K involves multiple research and clinical partners such as medical schools and healthcare clusters to monitor the long-term health outcomes of Singaporeans. It is considered as the region's leading precision medicine database, yielding deep insights into Asian genomic diversity and Asian-specific diseases. This allows Singapore to better understand key social, environmental, lifestyle and genetic factors associated with important diseases relevant to multi-ethnic Singapore such as diabetes, hypertension, cancer and others.

SG100K will also enable data-driven approaches to be adopted for improving population health and patient outcomes, revealing why some Singaporeans, but not others, develop certain diseases.