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EPSO Conference Estonia

30 May 2024
Conference Programme Day 1
11:55 - 12:10

Precision Medicine in Singapore

Ms Elaine Teo
Director, Aged and Ancillary Services & Regulatory Transformations
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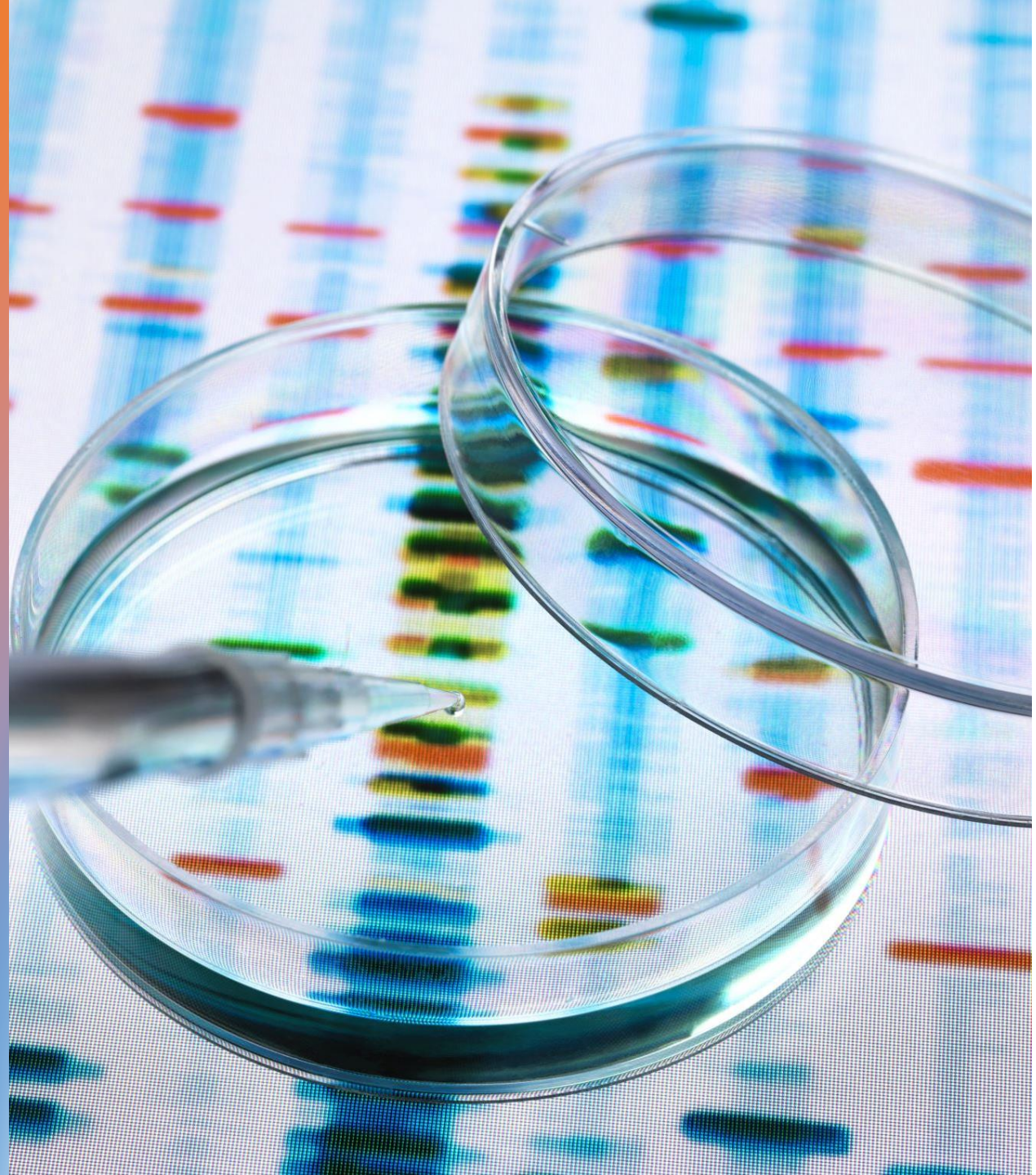
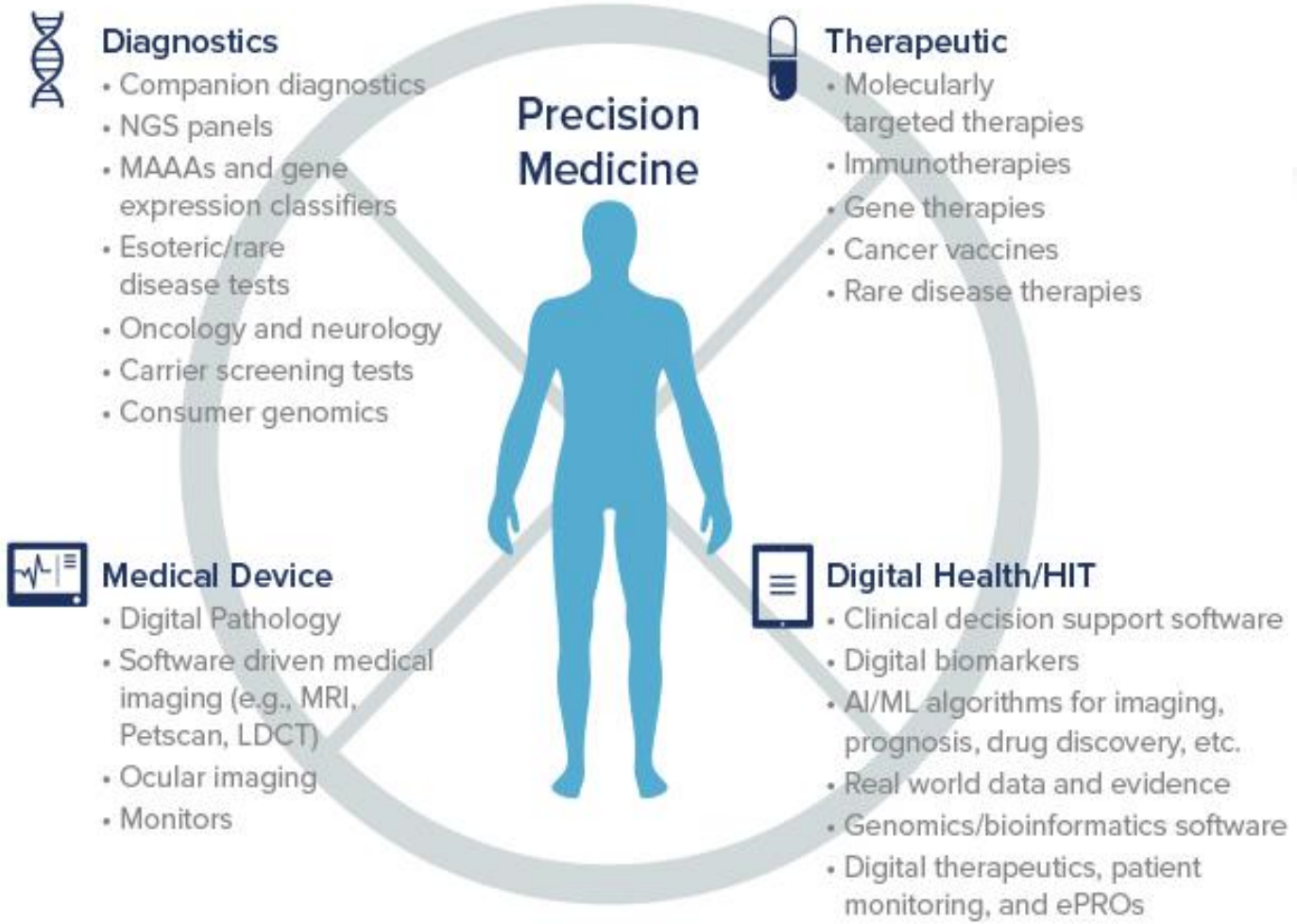


Precision Medicine in Singapore: An Introduction

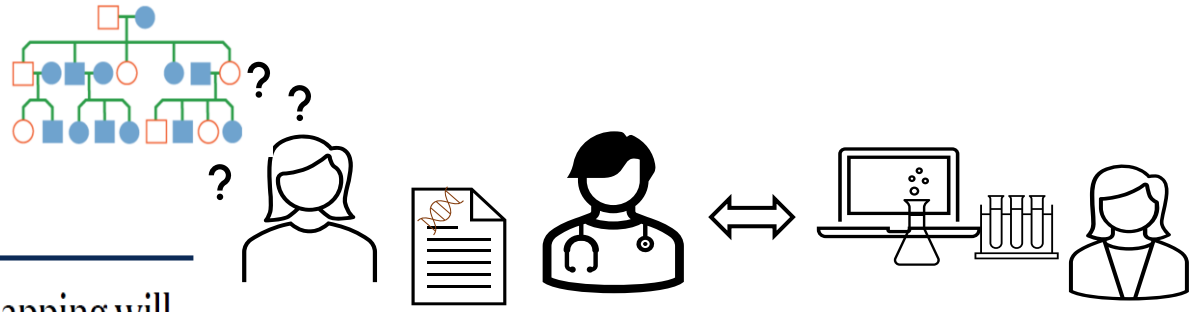
A video on Singapore's three-year plan to sequence 100, 000 whole genomes of the Singapore population for better disease prevention, treatment and management.

[PRECISE] Singapore's National Precision Medicine Strategy (youtube.com)

Precision medicine interventions are expected to become more widespread in the coming decade…



Genetic diagnosis and Genetic testing – what's the problem?



THE STRAITS TIMES

Forum: Concerns over how SG100K DNA mapping will affect S'poreans

UPDATED MAY 31, 2022, 01:00 AM

The SG100K population study will sequence and analyse the whole genomes of 100,000 Singaporeans to create a database that will be a rich resource for purposes such as identifying whether a person is at risk of developing a chronic disease, and developing new treatments (100,000 S'poreans' DNA, genes to be mapped for database, May 27).

But I wonder how beneficial genome sequencing and precision medicine will be to the average Singaporean.

Knowing more about one's genomic data may seem attractive, but what if, for example, a person learns that he could benefit from a certain targeted treatment but is unable to afford it? Is that worse than not knowing?

Also, will learning that he is at high risk of developing a chronic ailment cause a person to become more stressed and result in worse health outcomes?

And could employers and insurers use this information against individuals in the future?

The possibilities of the database in the hands of companies and corporations are infinite.

Grace Chua Siew Hwee

Pitfalls in clinical genetics : Singapore Medical Journal

January 2023 - Volume 64 - Issue 1

Failure to recognise that the patient is at risk
Failure to refer the patient to a relevant specialist
Inappropriate tests
Inadequate provision of information to patient
Lack of informed consent
Inadequate information provided to the laboratory
Wrong test specimen sent
Laboratory-related issues
Variant calling-related issues
Incorrect interpretation of test results
Variant of uncertain significance
Negative test reports
Inappropriate use of data
Inadequate risk-of-recurrence counselling
Inadequate 'risk mitigation' strategies
Provision of appropriate or wrong treatment
Disclosure to next of kin
Disclosure to minors
Disclosure after death
Failure to communicate results and share information with other clinicians involved in the care of the patient
Insufficient time to deliver complex care

Our regulatory response aims to promote innovation while mitigating the risks of genetics & genomics testing services

Code of Practice

Clinical Genomic & Genetic Testing Services

Clinical Laboratory Genetic Testing Services

Regulatory Sandbox

Engaged private providers to promote compliance to the Code of Practice

Regulation under the Healthcare services Act

Clinical Genomic & Genetic Testing Services

Clinical Laboratory Genetic Testing Services

Data privacy and security

Personal data protection Act

Health information Bill

Competency framework for health professionals

Moratorium on genetic testing with insurers

Consumer and stakeholder education on non-clinical genetic testing

Bioethics Advisory Committee

National advisories on ethical and responsible use of genomic data

Four ways policy makers can advance Precision Medicine

World Economic Forum, Mar 7 2022

Engage the market

- Governing bodies must work with industry to maximise the public benefits of precision medicine. This vital line of communication accelerates innovation by ensuring that bold ideas fit within safety standards imposed by regulatory agencies, before companies set on product development and testing.

Build on good practice

- Projects that incorporate the public into the research process tend to align best with community needs.

Think holistically

- Governments aiming to develop and maintain precision medicine must take a holistic perspective, monitoring each step from beginning to end. This will help them to identify weaknesses that may require attention and investment, and also protect against disruptions in the precision medicine pipeline.

Evaluate & learn

- Effective governance of precision medicine is a balance between promoting innovation and preventing unnecessary risk. Governments must continually evaluate this balance either through periodic auditing or maintaining a direct line of communication with innovators, constituents, and other stakeholders. Iterative improvements based on key learnings can help policy keep pace with rapid technological advancements.

Thank you.