Data, not dogma:

How data analysis can supercharge evidence-based decision making

Dr Ann Aerts
Head Novartis Foundation
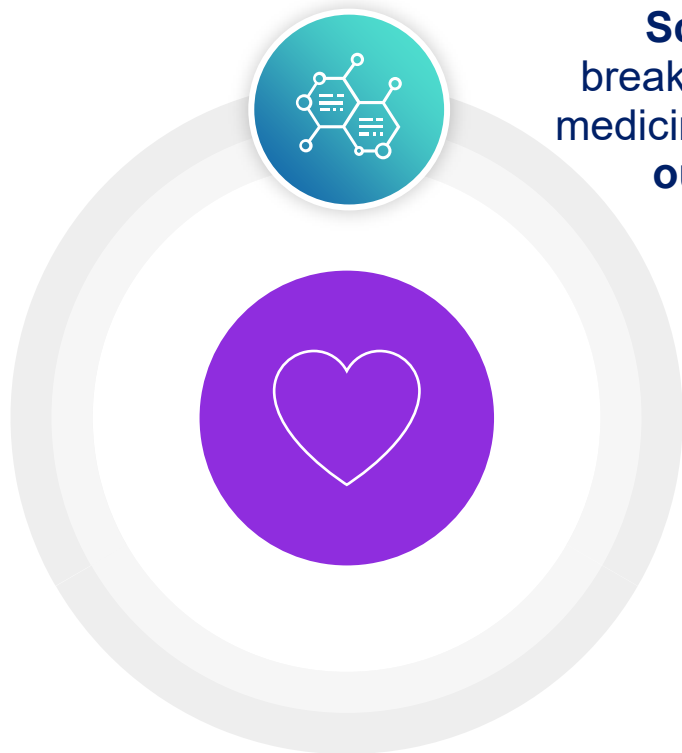
HMA/EMA Big Data Stakeholder Forum 2023
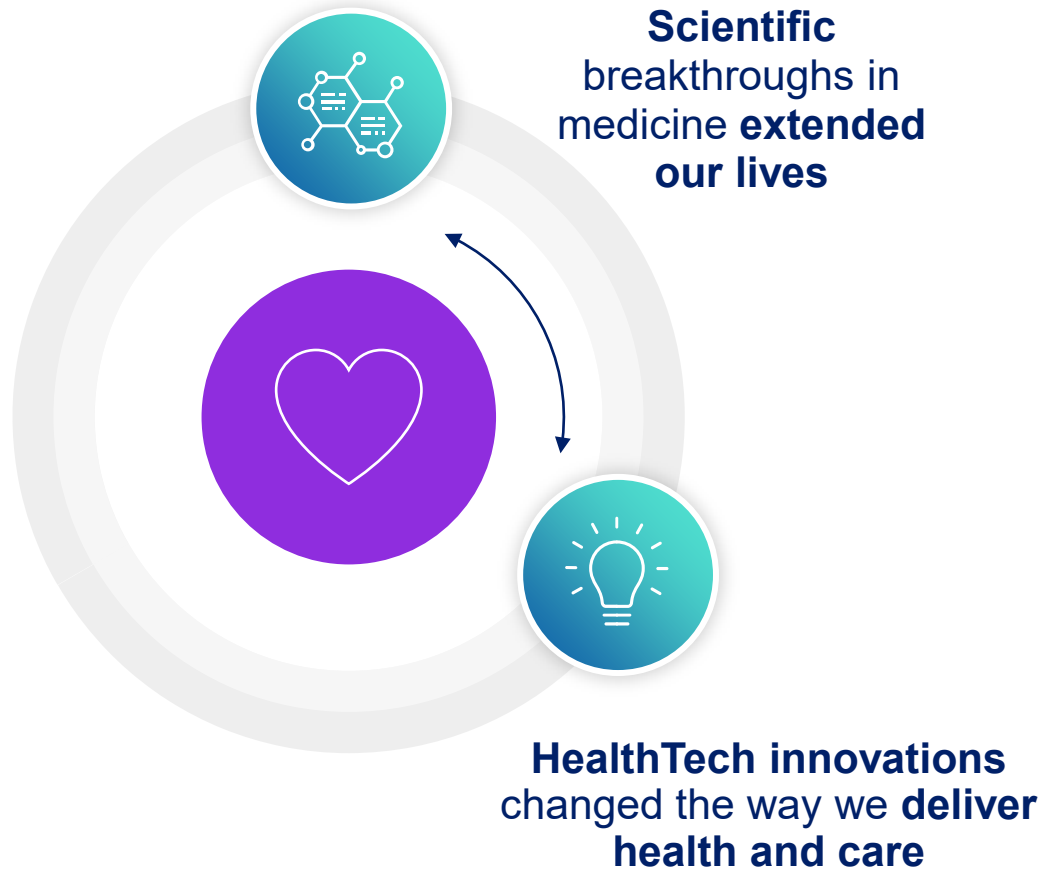December 4, 2023

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The convergence of science and technology

Scientific breakthroughs in medicine **extended our lives**

The convergence of science and technology

Scientific breakthroughs in medicine **extended our lives**

HealthTech innovations changed the way we **deliver health and care**

But, we need to go one step further

20% of our health is shaped by the healthcare we access

80% are driven by the conditions in which we are born, grow up and age

The impact of these determinants on our health leads to startling inequities:

11-year lower life expectancy for a child born in a city area with one ZIP code, as compared to a child born in another area of the same city

We need to challenge this reality and decipher what truly drives our health

1. Hood, C. M., K. P. Gennuso, G. R. Swain, and B. B. Catlin. 2016. County health rankings: Relationships between determinant factors and health outcomes. American Journal of Preventive Medicine 50(2):129-135. https://doi.org/10.1016/j.amepre.2015.08.024

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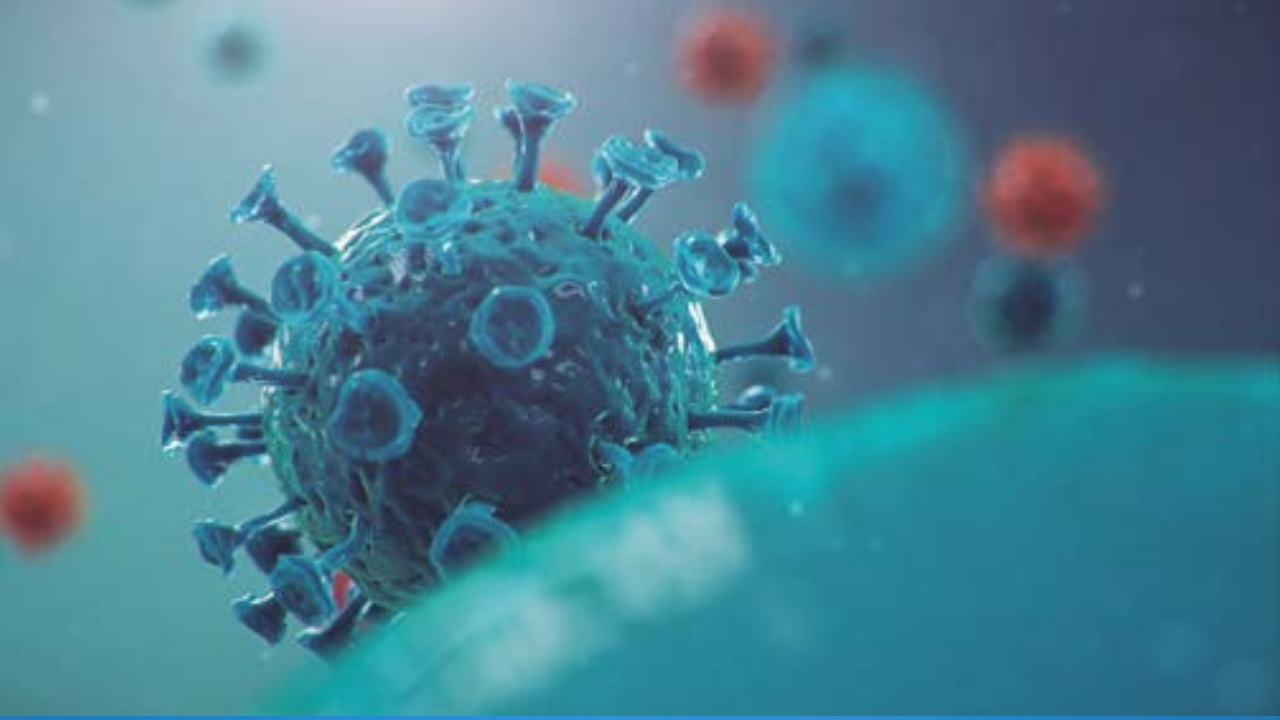
The convergence of science and technology
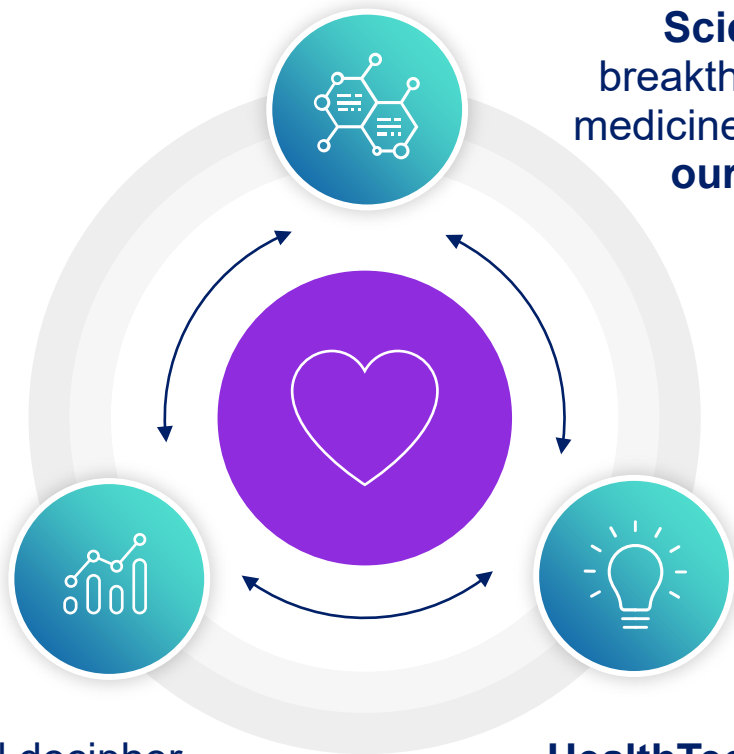
Scientific breakthroughs in medicine **extended our lives**

Data & AI will decipher what drives **population health and inequity**

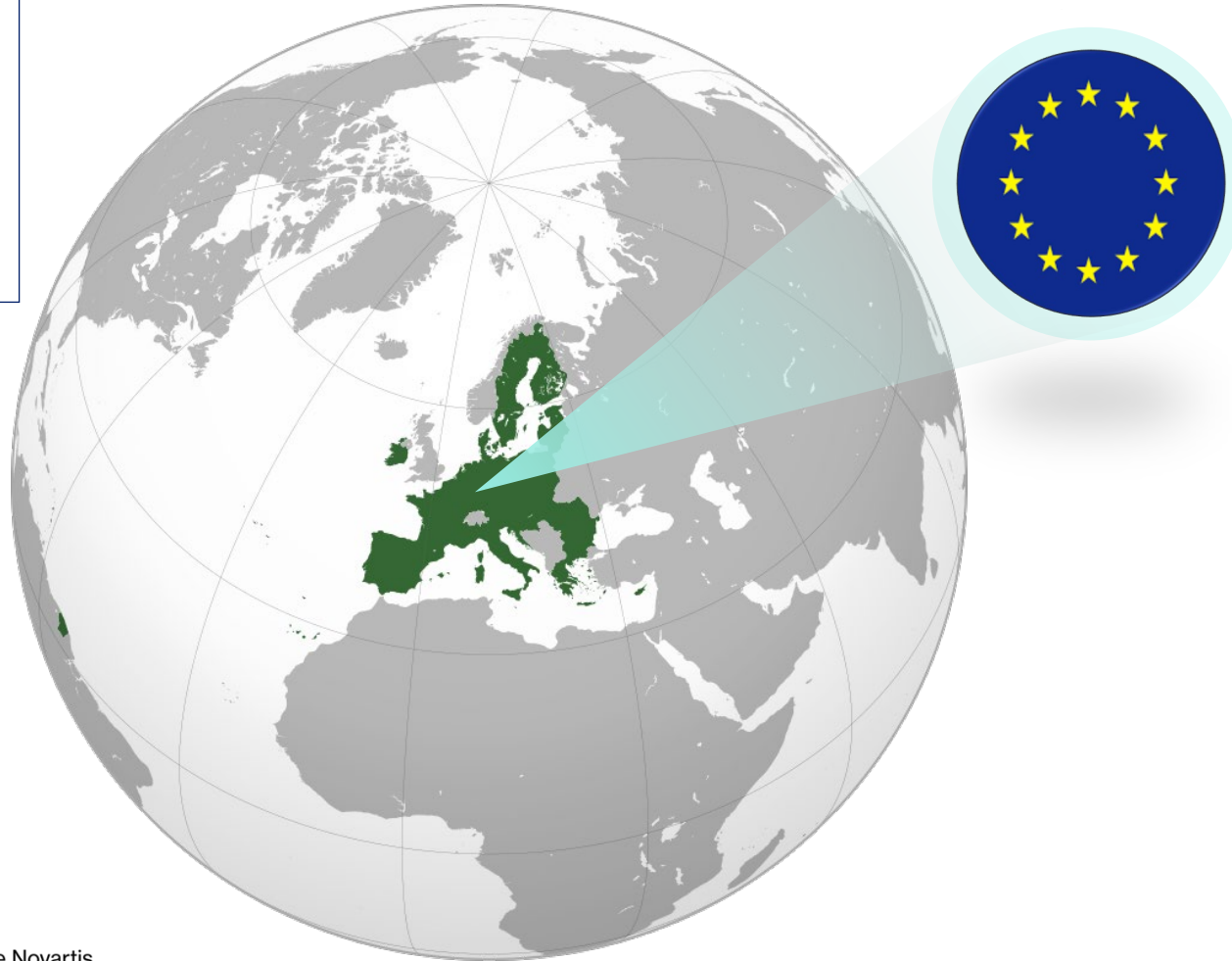**HealthTech innovations** changed the way we **deliver health and care**

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Cardiovascular disease
The leading cause of death and disability globally

Globally
1 out of 3
deaths

37%[1]
of all fatalities

translating annually to
1'800'000 deaths

190'000
pre-mature deaths (< 65y)

direct costs (USD)
300 billion

Given the significant advances in its medical care, why does CVD remain the largest health burden globally?

Current health systems are **reactive care systems**, waiting for people to get sick

Need to transform into proactive, predictive, ultimately **preventive health systems** that keep people healthy

AI4HealthyCities

AI4HealthyCities
Deciphering underlying drivers

Cardiovascular health & **Health inequities**

Translation into **action and policy**

Improve the heart health of **populations at large**

Lausanne

Basel

Lisbon

New York

Helsinki

Singapore

Data driven insights can make resource allocation more efficient and choose interventions that have the **greatest impact on the health of the largest number of people**

Easier access to fresh produce and opportunities for physical activity

Better public transportation

Air quality improvements

AI4HealthyCities requires data and strong Public-Private Partnerships

Pool resources and expertise to generate data driven insights that can redesign population health roadmaps with an equity lens

Design and test those innovative population health roadmaps and catalyze the paradigm shift from *healthcare* to *health*

Weill Cornell Medicine

NYU SCHOOL OF GLOBAL PUBLIC HEALTH

and

Microsoft AI

NYC Health

Pooling and analysing **data from health and health influencing sectors** to identify most impactful social determinants of health

Commit to **translating data insights into action and policy** for improving heart health at population-level

Adaptive regulatory review?

Weighing risks and benefits

Without stiffening innovation

Agile and iterative

Not a one-size-fits-all
(generative vs. predictive)

Tailored regulation, considering potential for reimagining health and care

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Seize the opportunity of living in a data- and tech-driven era to transform health systems

Generalize data-driven decision making for planning and policy making in health

Use the power of data, tech and AI to **strengthen drivers of population health and narrow health inequities**

Particularly in the EU, harbouring 11 of the 25 globally most innovative countries![1]

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No Data No Health

Thank you

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