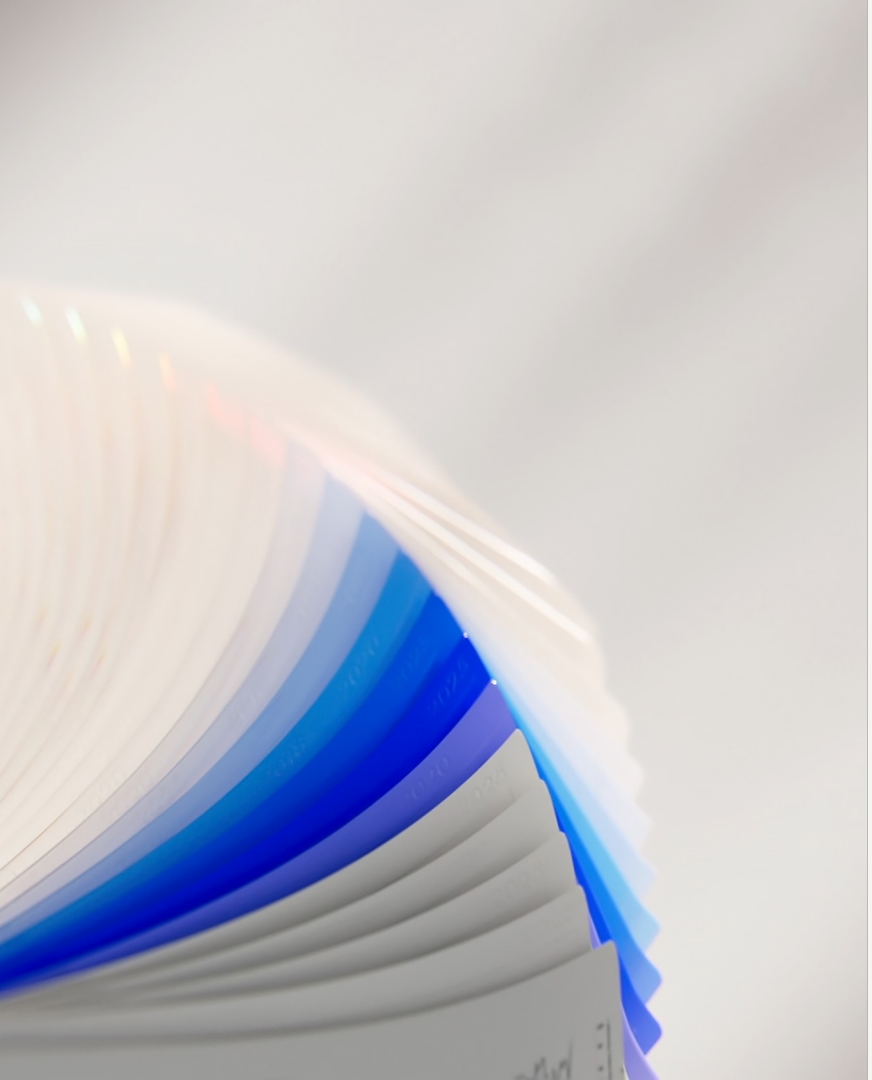


A pharma industry perspective:

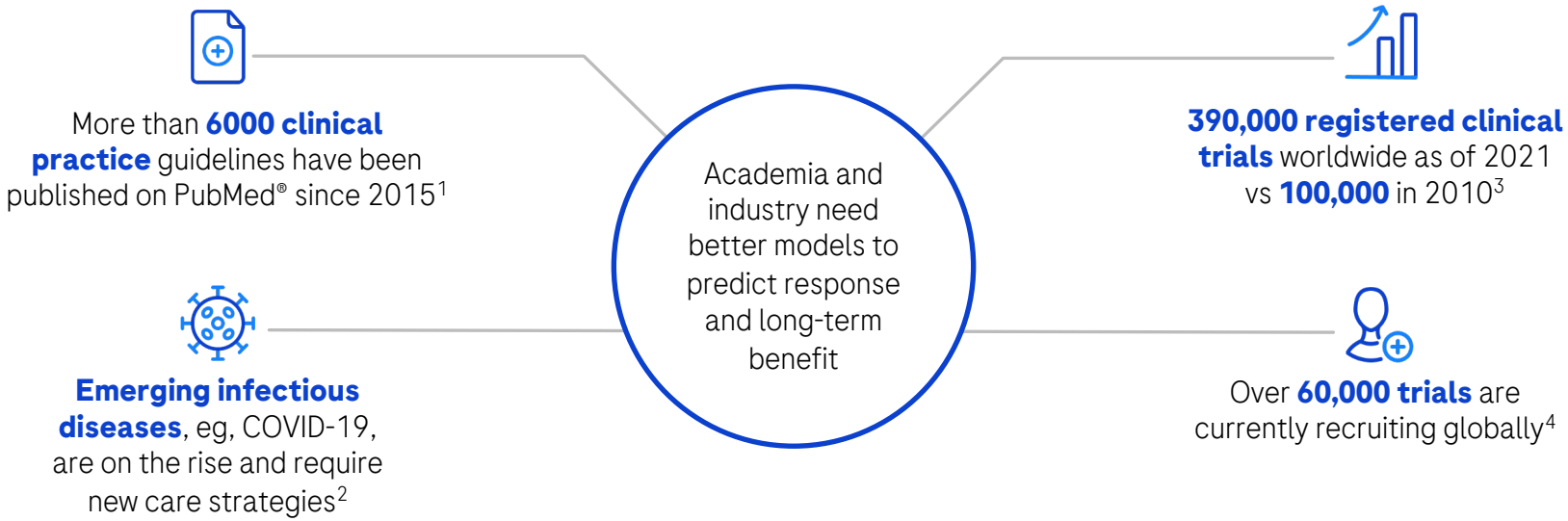
Real World Data to make personalised healthcare a clinical reality in Switzerland

Gerd Maass, Roche CEO Office

Second Joint Personalized Health Day Switzerland, 24 August 2022

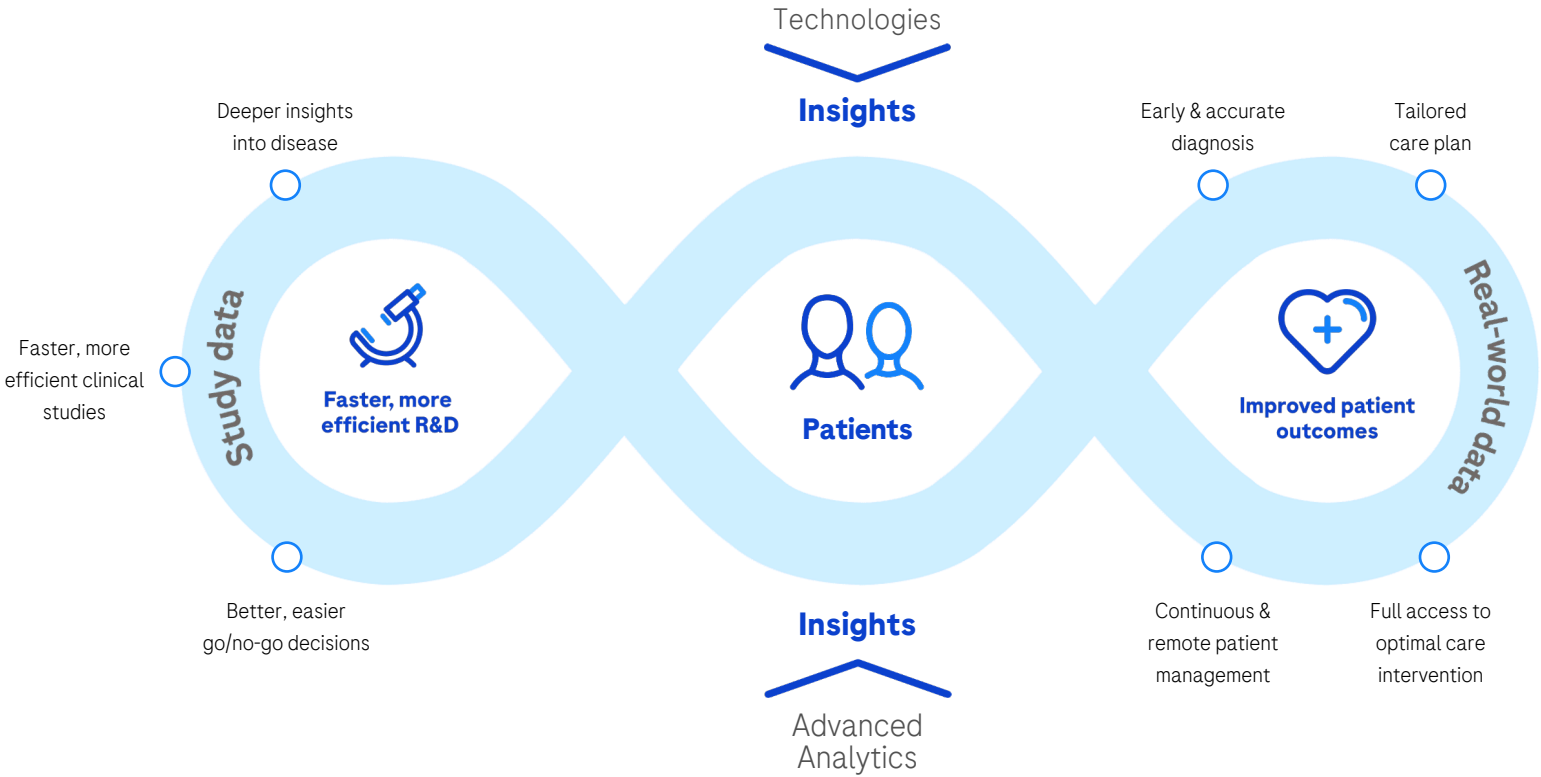
Every patient's disease journey is unique

Conventional phase III studies no longer meaningful, true genotype-specific studies not yet feasible



1. PubMed.gov. Guideline search results. Accessed 29 July 2020. **2.** Baylor College of Medicine. Department of Molecular Virology and Microbiology. Emerging Infectious Diseases. Accessed 28 March 2022. https://www.bcm.edu/departments/molecular-virology-and-microbiology/emerging-infections-and-biodefense/emerging-infectious-diseases. **3.** Statista. Total number of registered clinical studies worldwide since 2000. Published online 21 September 2021. Accessed 28 March 2022. https://www.statista.com/statistics/732997/number-of-registered-clinical-studies-worldwide/. **4.** Clinicaltrials.gov. Locations of recruiting studies by location. Accessed 28 March 2022. https://clinicaltrials.gov/ct2/resources/trends#LocationsOfRecruitingStudies.

Data-driven personalised care is the confluence of science, technology and care delivery, with patients at its centre



Technology creates opportunities for data-driven healthcare

Implementation very challenging

		Implementation in CH
Patients are becoming more educated and empowered	Increased willingness in sharing and accessing health data[1]	
Novel technologies are increasingly used to track and monitor health	Research organisations gain new tools to gather real-world insights into disease management	
Our ability to harness and utilise health data is improving	Providers can integrate health data into decision making to deliver tailored care	
New partnerships between academia/ administration and healthcare industry	Policymakers know that health data can drive improved care delivery while lowering costs	

Already a reality — *Not yet adopted*

1. Pletscher *et al*, Swiss Med Wkly 2022

CellPress

Cancer Cell

Commentary

The Tumor Profiler Study: integrated, multi-omic, functional tumor profiling for clinical decision support

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https://doi.org/10.1016/j.ccell.2021.01.004

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Universitätsspital Basel

USZ Universitäts Spital Zürich

SIB Swiss Institute of Bioinformatics

Universität Basel

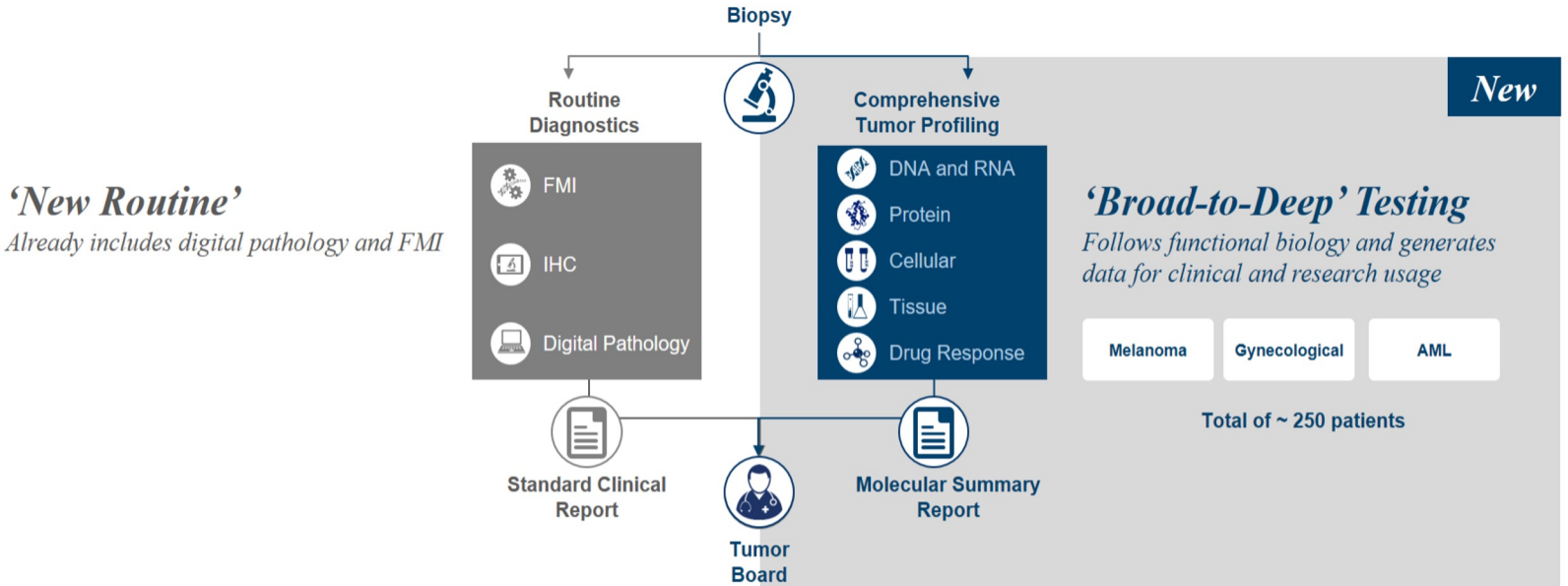
Roche Diagnostics

FOUNDATION MEDICINE

Roche

Irmisch *et al*, Cancer Cell 2021

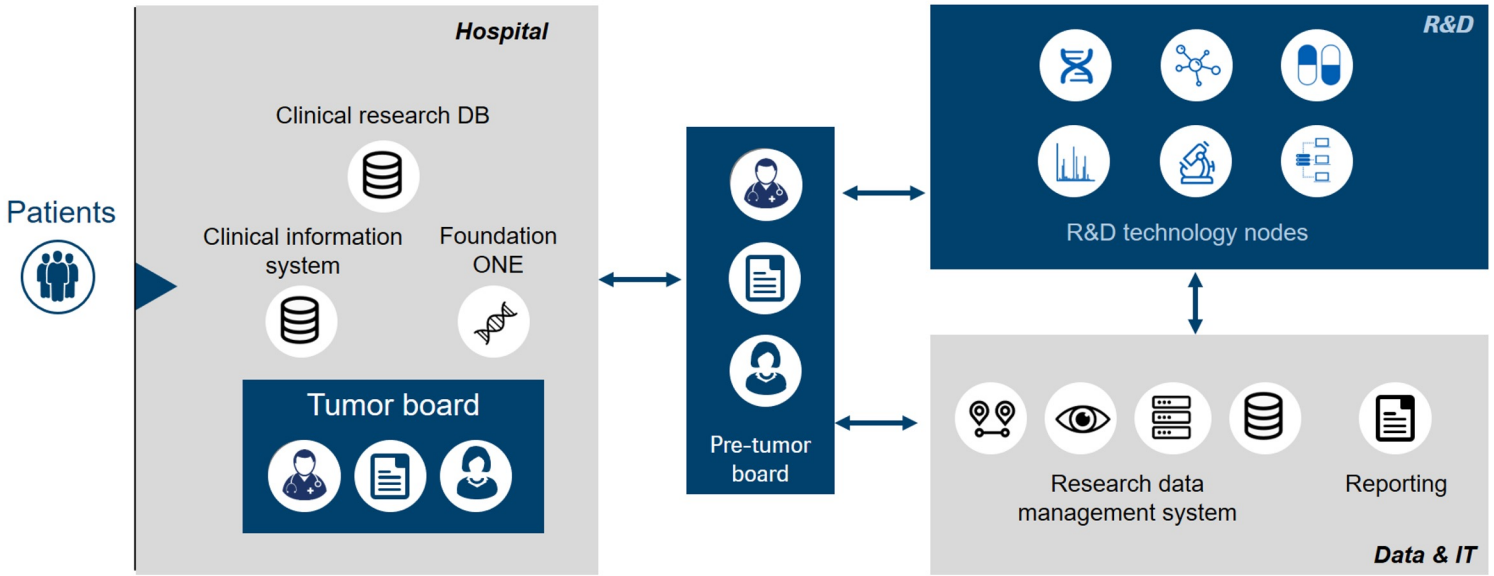
Program Overview



*Development of an unprecedented comprehensive **tumor profiling / translational research** approach*

Data Flow

A clinical data ecosystem across institutions



Learnings from multi-stakeholder projects

Combining clinical science, data science and real world patient care is novel and complex

Equal partnership between academia and industry key to success

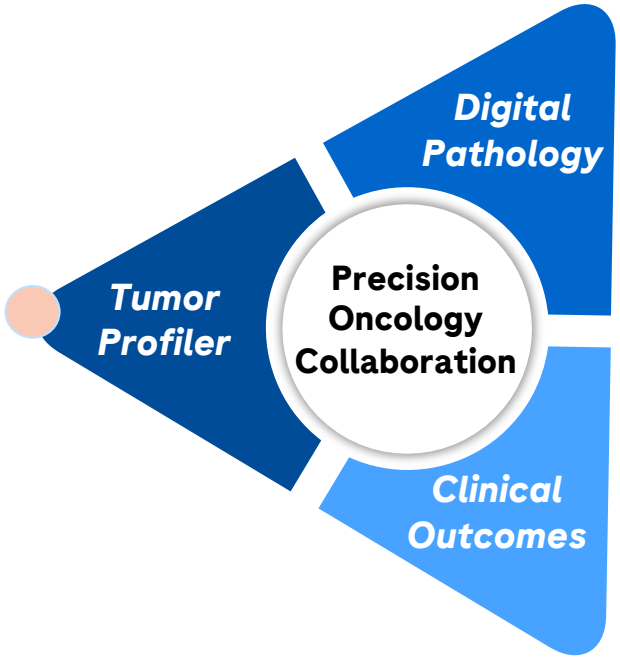
- Aligned behind patient-centric goal
- Mindset based on reciprocity
- Prioritizing and making trade-offs on joint objectives

Current healthcare delivery in Switzerland is a hurdle for state-of-the-art, data-driven biopharma research

- Fragmented healthcare environment, and lack of national health data solution (e.g. EPD)
- Limited incentives to track & share healthcare data
- Limited awareness, understanding, and frameworks on Secondary Data Use (SDU)

Patient-centric collaboration between academia and industry more important than ever

New projects emerged from Tumor Profiler



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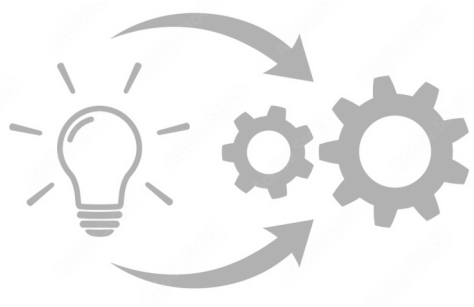
Academia-Industry collaboration to co-develop Digital Pathology algorithms for more efficient R&D

Academia-Industry Real World Data collaboration to enable:

- Structured comprehensive collection of clinical outcome data
- Sustainable scaling of Molecular Tumor Board

Important factors for success

Patient-centric multi-stakeholder collaboration



Mindset and political will that enables health system change

(e.g. common data standards, incentivizing *collection of structured data,* broad adoption of EPD*)*

Speak with one voice across stakeholders to jointly advance the health system

Doing now what patients need next

Data-driven healthcare

Electronic patient dossier (EPD) – experience from other countries

Improving legal frameworks (EPD legal revision)

- Transition from “opt in” to “opt-out” model
- Clarification of legal insecurities concerning Secondary Data Use (SDA) of anonymized data

Creating financial incentives

- Reimbursement of hospitals and doctors only upon introduction of EPD
- Reimbursement of digital solutions (e.g. clinical decision support)