

The Challenge – Lack of insights & data access to evaluate every stage of patient care delivery



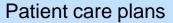


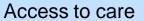


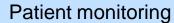




Diagnosis







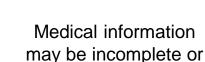




Based on an

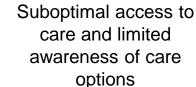
incomplete picture of

disease





out-dated





Delayed and incomplete picture of disease progression, treatment response and symptoms between clinic visits

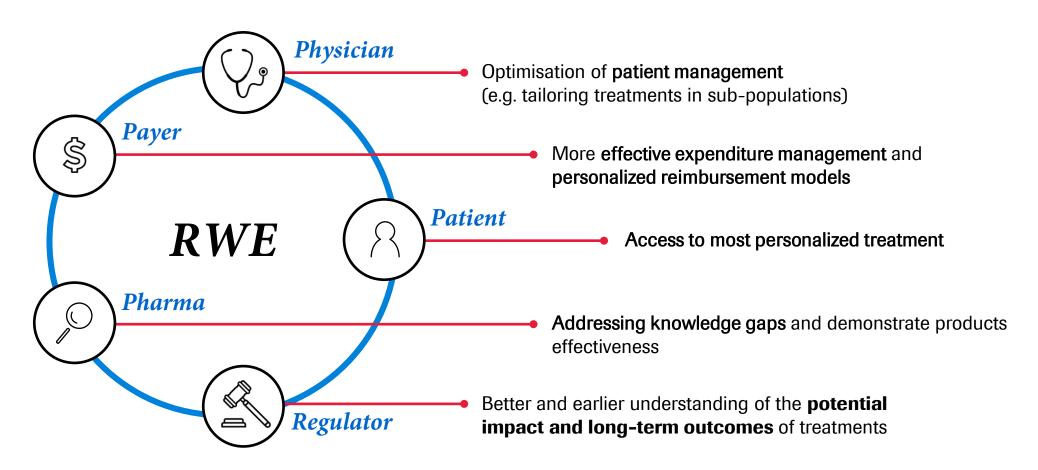
Implications of Healthcare Spending disconnected from Medical Value & Outcomes

- Up to 30% spend waste in Healthcare according to OECD
- Significant variances in healthcare outcomes between and within countries



Transformation of the Healthcare Ecosystem

Shifting from a **Cost-driven** to **Value-Based, Outcome-Driven Healthcare system**, based on a foundation of quality, accessible **real-world evidence** so that **all stakeholders can benefit.**





Benefits of a Health Data Strategy

Optimizing the patient journey, reduce unnecessary costs, sustainability



Early & accurate diagnosis

Deeper insights in a patient's disease

Timely diagnosis

Better **defined** populations

Better monitoring of disease or remission risk

Continuous and remote patient management







Tailored care plan

More **effective**, **efficient** decision-making

Patient **empowerment**

Better outcomes for patients

Reduction of unnecessary costs

Sustainability of the health system



Full access to optimal care intervention

Faster, better **decisions** on safety, efficacy & value

Integrated & personalised treatment options

European Strategy for Data





A pan-European and cross-sector strategy for data that aims to position the EU to:

'become a leading role model for a society empowered by data to make better decisions

– in business and the public sector'

THE VISION:

The EU will become an attractive, secure and dynamic **data economy** by:

- · setting clear and fair rules on access and re-use of data,
- investing in next generation **standards**, tools and **infrastructures** to store and process data,
- · joining forces in European cloud capacity,
- pooling European data in key sectors,
- creating EU-wide common and interoperable data spaces
- giving users rights, tools and skills to stay in full control of their data.

European Health Data Space

The creation of a European Data Space is one of the priorities of the Commission 2019-2025, including the health sector.

A common European Health Data Space will promote better exchange and access to different types of health da

A common European Health Data Space will **promote better exchange and access to different types of health data** (electronic health records, genomics data, data from patient registries etc.), not only to support healthcare delivery (so-called primary use of data) but also for health research and health policy making purposes (so-called secondary use of data).

Strategic BluePrint for a National Health Data Strategy



Health Data Strategy

Use Real-world Evidence to optimize patient outcomes, achieve greater cost effeciency by evolving laws, systems, care pathways, and reimbursement

ACCESS TO AND USE OF DATA

Advance legislation and projects that enable access to and use of meaningful data at scale

ACCEPTANCE OF SOLUTIONS

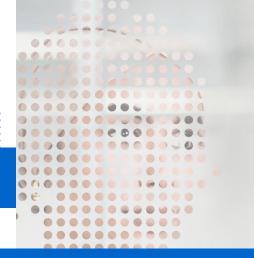
Accelerate regulation, approval, and access to personalised healthcare innovations

Data Policy		Regulatory Policy	Access Policy
Legal & regulatory frameworks for data collection & sharing	Investment in interoperable data technologies (systems, methods & infrastructure)	Regulatory & clinical guidelines / policies	Innovative / adaptive reimbursement models & resource allocation
A.Legal basis, standards and codes of conduct	A. Infrastructure for data collection, housing and sharing	A. Acceptance of RWE* in regulatory approval	A. Acceptance innovative & adaptive reimbursement frameworks based on RWE
B. Data ethics	B. Data quality standards and attributes	B. Digital Dynamic Labeling/ Dynamic Regulatory Assessments/ Cloud submissions*	B. Health system funding , accessibility & adoption
- Privacy & Security - Artificial intelligence	C. Interoperability – Map existing data sources and establish database interfaces	C. Advanced diagnostics*	C. Advanced diagnostics*
		D. Digital Health Intervention*	D. Digital Health Intervention*
	D. Global Data Flows – increase collaboration and exchange of data across borders	 Software as medical device (SaMD) Digital/novel endpoints Digital therapeutics Clinical decision support (CDS) 	 Software as medical device (SaMD) Digital/novel endpoints Digital therapeutics Clinical decision support (CDS)

^{*} Artificial intelligence/machine learning is being explored as a way to support the above priorities

Data quality & interoperability

FAIR Principles should be used when evaluating data



~ 0 0 0 0 0 0 0 0 0 0 0 0 0

 $oldsymbol{F}$ indable:

All data must be catalogued and annotated with descriptions that enable easy search to identify what data is available and where the data is located.

Accessibility:

Data access should aspire to be seamless with appropriate restrictions by user, retention and legal compliance requirements.

Interoperability:

Data sharing infrastructure should be, to the extent possible and permissible, interoperable and based on industry standards to allow for diverse stakeholders with different organisational data/IT systems to contribute to and benefit from the data ecosystem with a reasonable level of investment/effort.

Reusability:

Data should be collected in a manner that supports lawful and sustainable sharing or reuse.



Government/Pharma Collaboration – Healthcare companies can offer value & expertise into National Health Strategies and Programs PRESS RELEASI



Total Croatia News | Zagreb, July 18, 2019

Government Gives Go-Ahead for Personalised Medicine in Oncology

Personalised Medicine in Oncology project: establish a national laboratory for personal medicine diagnostics, a national Molecular Tumour Board (MTB) and the Croatian Oncology Database to systematically capture clinic-genomic data

CO-CREATE CO-BENEFIT **CO-INVEST** Joint effort **Croatian Health Insurance Fund** For patients establishing national-level funding Rapid access to CGP and personalised treatments between Roche for CGP & MGTOs for metastatic & Government of For Croatian healthcare system cancer patients Croatia Investment in additional expertise and resources needed to make PHC a reality Roche investing in genomic profiling lab & Croatian Oncology For industry Database Generation of high quality clinico-genomic data, with the potential to inform the impact of PHC through publications, guideline updates and policy changes

Romania – Example of incorporating Personalized Healthcare & Data Strategy into National Health Strategy

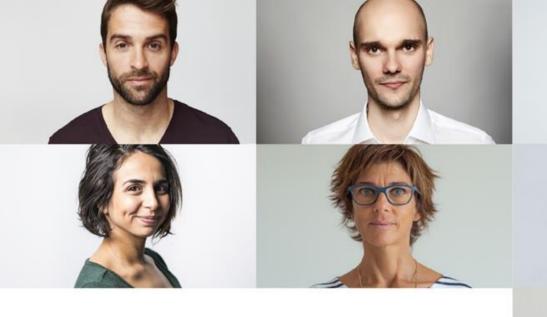




- Romanian government has **only basic health-related plan** in place
- Romania formed a multi-stakeholder working group to developing their
 National Health Strategy
- Industry experts, including Roche, contributed to the National Health Strategy
- As a result, Roche was given the opportunity to develop the Personalized Healthcare Chapter of the newly developed National Health Strategy

Putting the Building Blocks of a Healthcare Data Strategy Together

What if... we could accelerate Healthcare Transformation through the benefit of more collaboration and partnership between Government and key public/private stakeholders & experts?





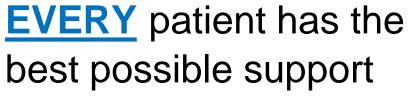




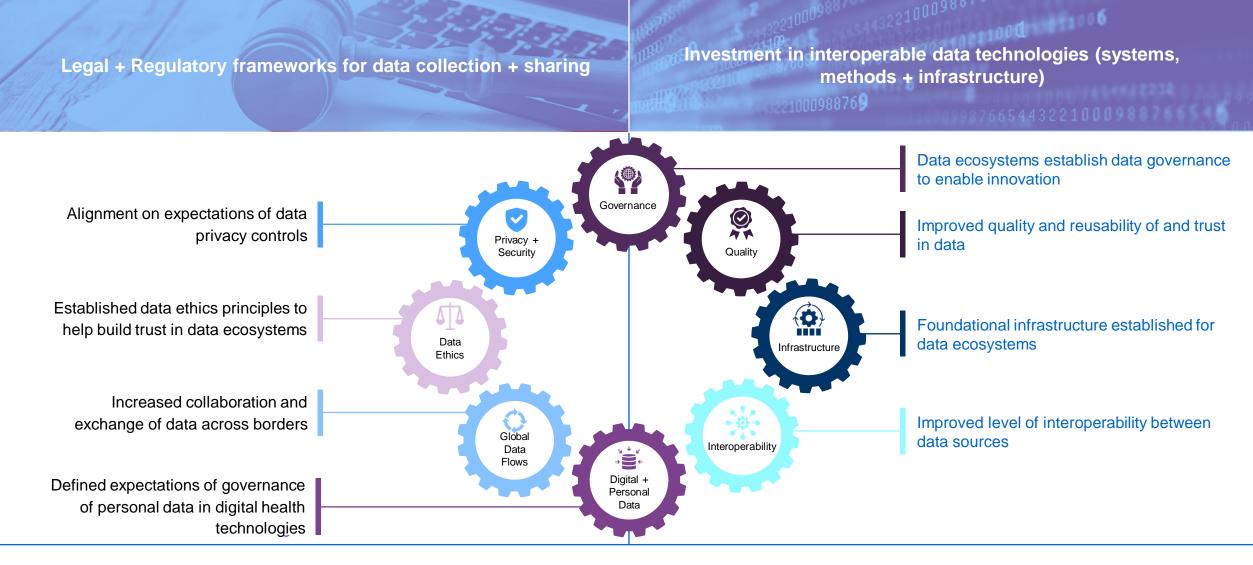






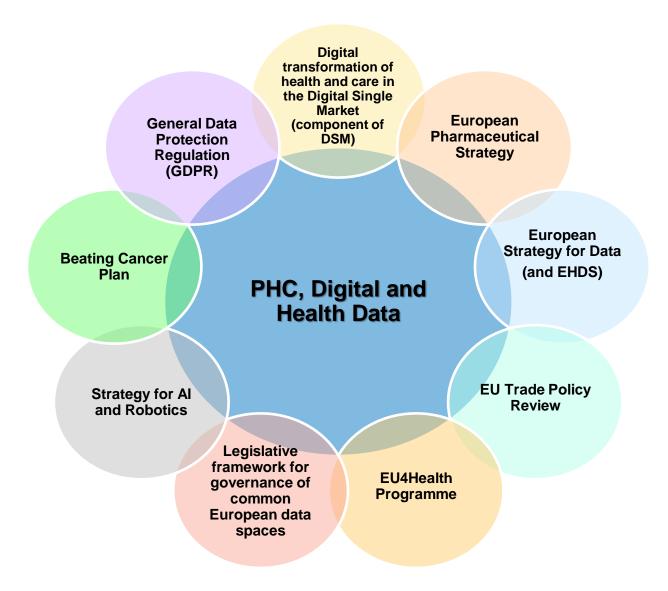


Key Components of a Health Data Strategy



Personalized Healthcare, Digital and Data are a Key Component of Many Commission Initiatives and Programs





EU Environment: Healthcare Policy Outlook 2020-2021













2nd half 2020

1st half 2021

2nd half 2021

1st half 2022

2nd half 2022

EU Pharma Strategy adopted (Q4 2020)

EU Pharmaceutical Strategy implementation

Revision of OMP and Pediatric Regulation (exact timing TBC)

HTA Regulation finalised (exact timing TBC)

EU Strategy for Data Released Feb 2020

European Strategy for Data and European Health Data space design and implementation

EU Beating Cancer Plan adopted (Q1 2021)

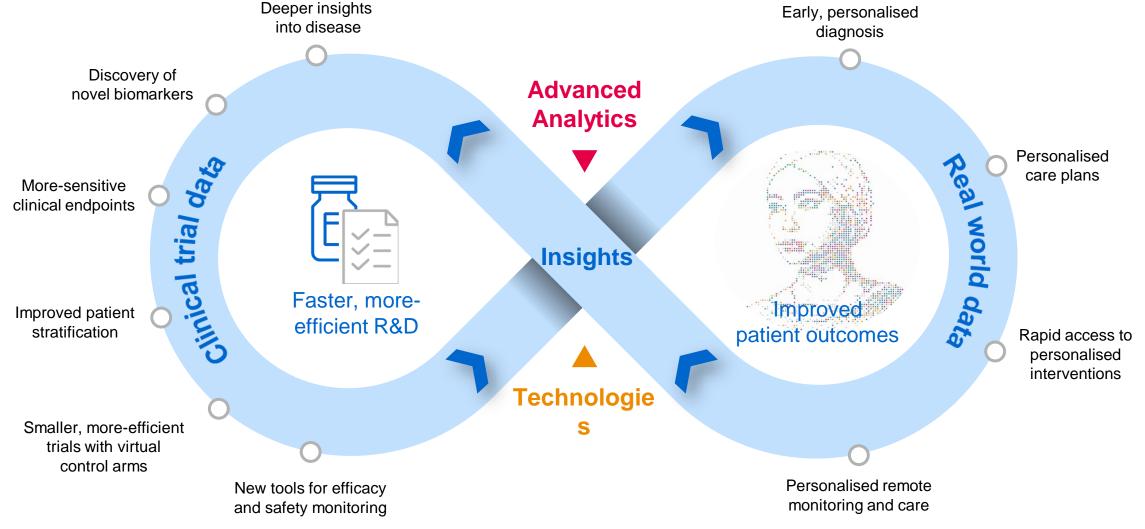
EU Beating Cancer Plan implementation

Conference on the future of Europe (healthcare at the forefront in light of COVID-19

Health Innovation PPP Legislative Process

Data, technology and analytics can provide insights to accelerate R&D and improve patient outcomes





Why is interoperability important in healthcare?



Healthcare data are typically **fragmented** and **aggregated** in unconnected silos¹



Interoperability breaks
down these silos so that
data can flow freely
across healthcare systems¹



Without the free-flowing movement of health information, value is lost within the system²



Interoperability enables more-effective use of data, technology and analytics in clinical research and clinical practice^{1,2}

Electronic health records	Genomic data	Imaging data	Clinical trial data
Mobile health apps	Wearable technologies	Clinical decision support	Advanced Analytics

1. HIMSS. Digital Health: A Framework for Healthcare Transformation. 2020. White Paper. Link. (Accessed 18 June 2020); 2. Lehne M et al. NPJ Digit Med 2019;2:79

Veeva ID: M-XX-00001820 Date of preparation: June 2020