Deloitte.

Health Data

A holistic approach to unlock the value of health data

The amount of health data has grown exponentially in the last decade. While the COVID-19 pandemic accelerated the capture rate and use of such data, all stakeholders in the health data ecosystem still struggle to design and scale their capabilities to unlock the full value of health data. In addition, the upcoming EU regulatory framework will add some more challenges, but also create many opportunities.

Health data is opening an avenue of new business opportunities. From 2010 to 2020, the volume of data and information created, captured, copied, and consumed worldwide increased by 40%, with an additional expected increase of 23% by 2025[1]. Accordingly, the installed base of storage capacity is also forecasted to increase, at a compound annual growth rate of 19.2% by 2025. However, only 2% of the data produced and consumed in 2020 was retained in 2021, and 97% of all data produced by hospitals remains unused.

While several initiatives are launched to support data sharing and its use in a regulated way (e.g., European Health Data Space), it is clear that managing and optimising health data in this rapidly changing environment is a complex topic. Growing the right proficiencies in this space is essential to success. Stakeholders in the health data ecosystem are facing a significant missed opportunity to leverage the vast amount of health data available, and insights that can be generated through it, to maximise value.

To unlock the full potential of health data, stakeholders must deploy a multidisciplinary approach.
To help you navigate through the rapidly evolving and challenging environment, this document provides an overview of the key elements to consider when strategically reflecting on how to maximise the value of health data.

More than **30%** of global data is generated by the Life Sciences and Healthcare Industry

and only **2%** of data produced is retained the following year[1]

Source:
1. Statista 2023, RBC Capital Markets 2022, MedTech Europe 2022

Defining Health Data

Data is seamlessly woven into every aspect of our lives. When used responsibly and to its full extent, data can bring incredible benefits to healthcare services, researchers, health suppliers, patients, citizens, and consumers. Yet, many organisations struggle to navigate the complex world of health data and to effectively use it to generate value.

What is Health Data?

We define health data as any personal data, at the individual or population level, related to the physical or mental health of a natural person.

This includes the data used for and resulting from the provision of healthcare services, which reveal information about that person's health status and other financial indicators (e.g. health insurance).

What Types of Data are Included?

To understand the value that health data can provide, it is important to first understand the many variables that are included in the definition.

We consider health data as a combination of two main categories:

1. *Traditional data* types which include data collected through health research, health services organisations and providers, and public health agencies.
2. *Expanded data* types which include environmental (e.g. transportation, climate, etc.), lifestyle and socioeconomic variables (e.g. education), as well as behavioural and social (e.g. wearable sensors) information.

Indeed, merging the expanded data types with the traditional data types increases the possibilities and value that organisations can generate.

What is the Current Ecosystem?

Organisations are operating in a vast and complex ecosystem of players producing, consuming, sharing, and regulating health data for various reasons. To unlock health data value, it is important to understand the roles of those actors and how they can impact your own journey.

We have grouped stakeholders in this ecosystem in 8 categories:
- *Individuals & Groups* which consist of citizens, customers, and patient organisations
- *Research & Academia* which consist of research institutes, universities, and registries
- *Life Sciences Industry* which consists of MedTech, biobanks, biotech, and pharma
- *Payers* which consist of insurances and sickness funds
- *Health Services* which consist of healthcare providers and institutions, public health agencies, and professional associations
- *Government* which consists of regulators, international organisations, and health agencies
- *Data and Information and Communication Technology (ICT) Industry* which consist of telecom, security analytics, and health data brokers
- *Others* which consist of transportation, food and beverage retailers, and energy

With the explosion of health data available and demand for transparency and ownership of their data by patients and end-consumers, many stakeholders struggle to truly define their role within this ecosystem and identify which strategic investment they should be making.

Health Data Ecosystem
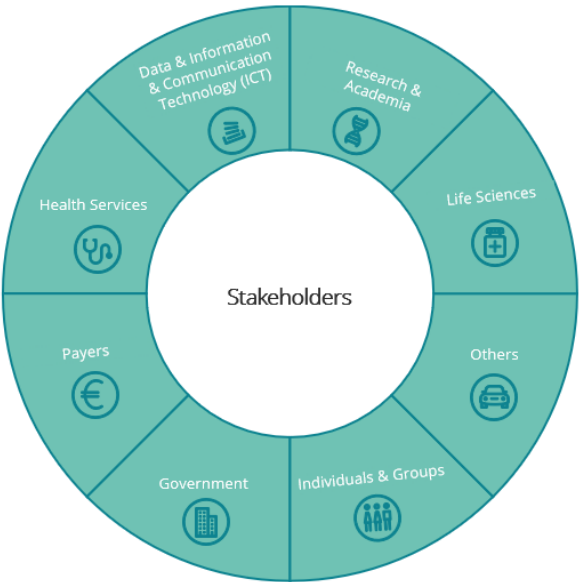
Health Data Types
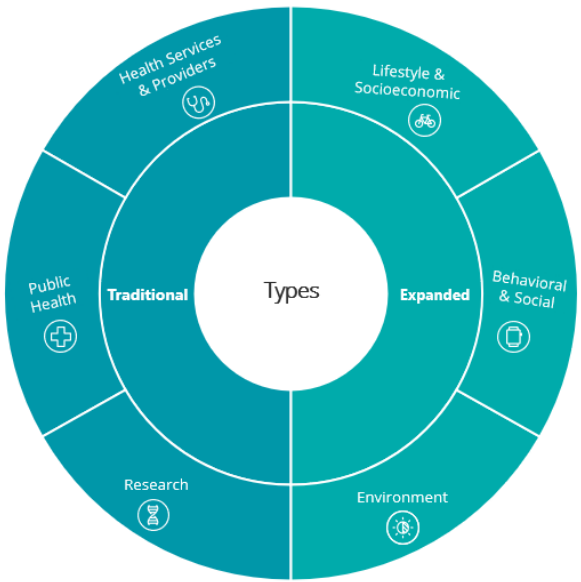
The Value of Health Data

What is the value of Health Data?

Health data brings value across the ecosystem in a variety of ways, some more easily quantifiable than others. We defined a combination of four types of value generation:

- **Economical**: Impact on cost savings and/or revenue generated. *For example, Life Sciences companies who conduct clinical research, identify new disease risk factors, and develop new treatments and therapies; healthcare organisations who reduce costs by identifying inefficiencies and developing more effective treatment strategies; or companies creating new business models directly monetising health data, AI models, etc. (e.g., data brokers)*

- **Clinical**: Impact on care delivery and patient outcomes. *For example, healthcare organisations who improve diagnoses and develop personalised treatment plans for patients based on their unique characteristics and medical history; or researchers who develop personalised medicine, support early detection of diseases, and design more effective treatments*

- **Personal**: Impact on individuals when leveraging their own health data. *For example, citizens who become empowered to manage their own health; patients who can make more informed decisions about their health and better manage their personal care plans; healthcare organisations who support and personalise the experience of patients through innovative solutions (e.g., virtual care such as telemedicine and remote patient monitoring)*

- **Societal**: Impact on public health and policy decisions. *For example, governments who can help identify health disparities and inform strategies to address them; regulators who can inform policies to improve quality of care, reimbursement schemes, etc.; agencies who can better inform the public and ultimately improve population health*

> "*Data value is task-specific (…) value is not meant to be an intrinsic value for a piece of data; **it isn't permanent and persistent**. For predicting diabetes, patients' blood sugar levels will be more valuable than their blood pressure. For predicting heart disease, that value proposition might well flip*"
>
> *Stanford University Human-Centered Artificial Intelligence, 2021*

Can the value of Health Data be quantified?

Quantifying the value of health data as an intangible asset within an organisation proves extremely challenging. The value of health data depends on the benefits and advantages that can be derived from collecting, analysing, and utilising this data. It is hence very specific to the use case, consumers, competitors, business model, etc. on which said value is estimated.
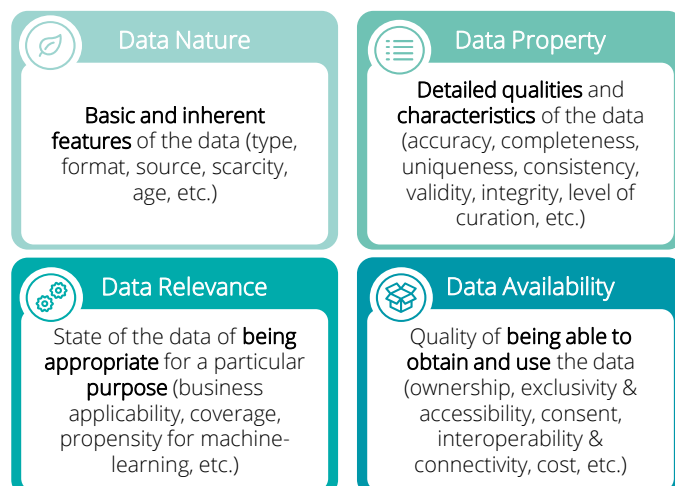
What drives the value of Health Data?

In addition to the use case for which health data is being used, we have identified four main characteristics that can increase or decrease the value that can be realised from health data.

Data Nature
Basic and inherent **features** of the data (type, format, source, scarcity, age, etc.)

Data Property
Detailed qualities and **characteristics** of the data (accuracy, completeness, uniqueness, consistency, validity, integrity, level of curation, etc.)

Data Relevance
State of the data of **being appropriate** for a particular **purpose** (business applicability, coverage, propensity for machine-learning, etc.)

Data Availability
Quality of **being able to obtain and use** the data (ownership, exclusivity & accessibility, consent, interoperability & connectivity, cost, etc.)

Need for a Multidisciplinary Approach

What Challenges are Clients Facing?

There are key strategic challenges to consider when leveraging health data. Highlighted below are some of the most common challenges organizations are facing today when it comes to setting a successful health data strategy:

Privacy & Ethical
Constraints due to international and national privacy protection laws and regulations, such as the European Union General Data Protection Regulation

Legal
Challenges due to inconsistent national strategies, policies, and enforcement as well as upcoming regulatory changes in the EU, as part of the EU Data Strategy

Ownership: Buy or Build
Unclear data ownership and usage rights (e.g. patients vs hospitals vs providers)

Interoperability
Lack of data interoperability capabilities and supporting regulations to collect, access, and share data

Costs & Contracts
Barriers to acquire data and to collaborate with third parties (e.g. data brokers)

Business/Commercial Strategy
Difficulty in quantifying and monetising the value of existing and required data assets

Data Quality & Maintenance
Poor data quality and investments in data management capabilities (e.g. platforms), leading to lack of reliability and lack of trust and transparency amongst stakeholders, resulting in siloed initiatives

What is Deloitte's Approach?

The challenges that clients face can be solved by collaborating closely within the ecosystem and by applying a multidisciplinary approach. Deloitte's multidisciplinary team of experts will support you in addressing health data challenges and determine with you the best avenues to capture the potential of health data.

Our approach includes expertise in 6 key areas:
1. *Legal, Public Health, Policy, & Regulatory* to advise on all legal and regulatory aspects related to health data
2. *Privacy & Security* to advise on cyber security and support cloud and software implementation from a risk, privacy, and compliance perspective
3. *Strategy* to advise and support on health data value creation and identify differentiating use cases
4. *Data Governance & Quality* to define operating models, tools, processes, roles, and responsibilities required to manage data and its quality across the value chain
5. *Data & Analytics Platform* to advise and implement a core data platform required to enable health data strategy and ensure interoperability with your ecosystem
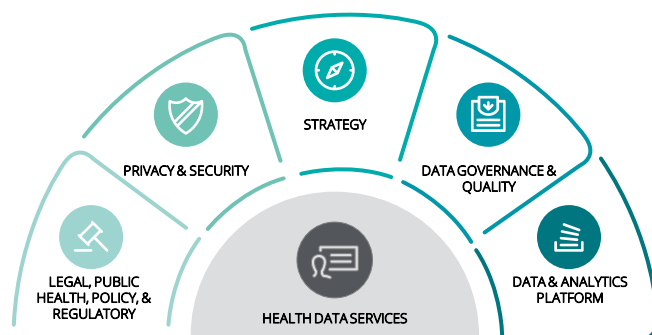
As health data continues to expand, it will become critical for organisations to invest in this space to grow market share and meet consumer needs. Through Deloitte's vast network, we connect many different disciplines to provide the knowledge, broad perspective, and inspiration that delivers breakthrough solutions.

References:
1. Statista (2022). *Amount of data created, consumed, and stored 2010-2020, with forecasts to 2025.* https://www.statista.com/statistics/871513/worldwide-data-created/
2. RBC Capital Markets (2022). *The Healthcare Data Explosion.* https://www.rbccm.com/en/gib/healthcare/episode/the_healthcare_data_explosion#content-panel
3. MedTech Europe (2022). *The Journey of Health Data in Medical Technologies.* https://www.medtecheurope.org/wp-content/uploads/2022/09/hd-factsheet-date.pdf
4. European Commission (2022). A European Health Data Space: harnessing the power of health data for people, patients and innovation. https://health.ec.europa.eu/system/files/2022-05/com_2022-196_en.pdf
5. EU Health (2022). *European Health Data Space Factsheet.* https://ec.europa.eu/commission/presscorner/detail/en/fs_22_2713

Contact

If you would like to learn more about this topic and how our Deloitte team can help you, please contact us

Authors

Ben Desmet
Director, Deloitte Consulting Belgium
Health Data Lead

bdesmet@deloitte.com
+32 496 72 77 42

Tom Van Wesemael
Partner, Deloitte Consulting Belgium
Life Sciences & Healthcare Leader

tvanwesemael@deloitte.com
+32 499 56 73 25

Xavier Thiry
Senior Manager, Deloitte Consulting Belgium
Health Data Expert

xavthiry@deloitte.com
+32 474 31 77 18

Sarah Haas
Manager, Deloitte Consulting Belgium
Health Data Expert

sarhaas@deloitte.com
+32 474 90 12 17

Additional contacts by expertise area

Wim Hermans
Partner, Deloitte Risk Advisory Belgium
Privacy & Security

whermans@deloitte.com
+ 32 496 57 41 60

Anne Massij
Partner, Deloitte Consulting Belgium
Healthcare Lead

amassij@deloitte.com
+ 32 475 74 55 26

Yves Toninato
Senior Director, Deloitte Consulting Belgium
Data Governance, Data & Analytics Platform

yvtoninato@deloitte.com
+ 32 496 57 49 70

Matthias Vierstraete
Director, Deloitte Legal Belgium
Legal, Policy & Regulatory - IP/IT Law

mvierstraete@deloitte.com
+ 32 473 56 94 70

Wim Naudts
Director, Deloitte Legal Belgium
Legal, Policy & Regulatory - Public & Regulatory Law

wnaudts@deloitte.com
+ 32 474 87 90 79

Laurine Vivens
Director, Deloitte Consulting Belgium
Public Health Expert

lvivens@deloitte.com
+ 32 475 80 28 38

Deloitte.