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**State Secretariat for Education,
Research and Innovation SERI**

News	ERI Policy	Education	Higher Education	Research and Innovation	Publications and Services	SERI

Focus › Research and Innovation › Research and Innovation › Support Initiative Personalised Medicine

‹ Research and Innovation

Research and Innovation

Promotion Policy

Swiss Quantum Initiative (SQI)

Support for international research cooperation initiatives

Promotion Instruments

Overview of Research Infrastructures

Swiss Roadmap for Research Infrastructures

Support Initiative Personalised Medicine

National Support Initiative 'Personalised Medicine'

==Personalised medicine requires large amounts of data to be linked and analysed in order to adapt diagnoses and therapies to individual patients==. In order to make this data available within the healthcare system at the quality needed for research and innovation, a sustainable infrastructure and harmonisation of the different types of data and information systems are required. This is where the federal government's national support initiative 'Personalised Medicine' plays an essential role.

Precise Data for Precision Medicine

Claudio Molina, Celerato

Life Science Industry Meets Data Science

05.09.2024
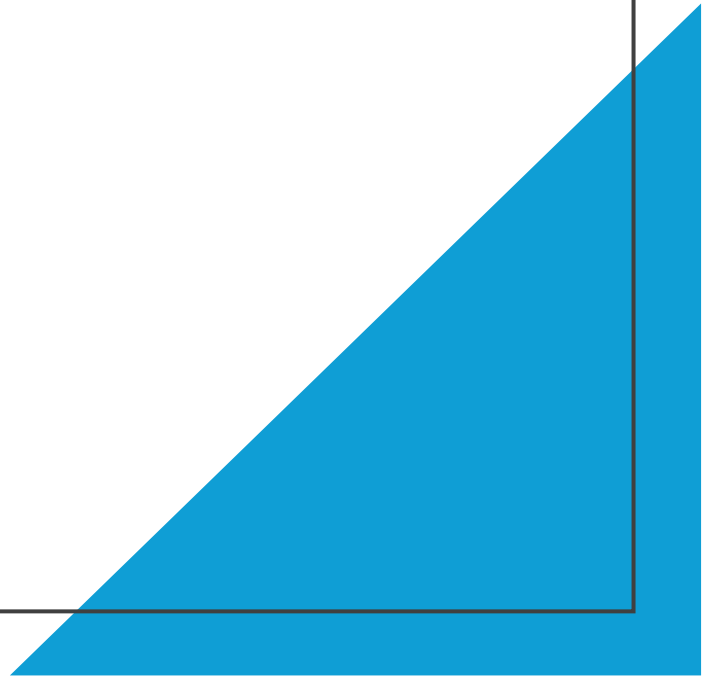
Celerato

- **Our origin**: **PATHOLINK (interoperability research project)**

- **Our 'alma mater'**: **USZ**

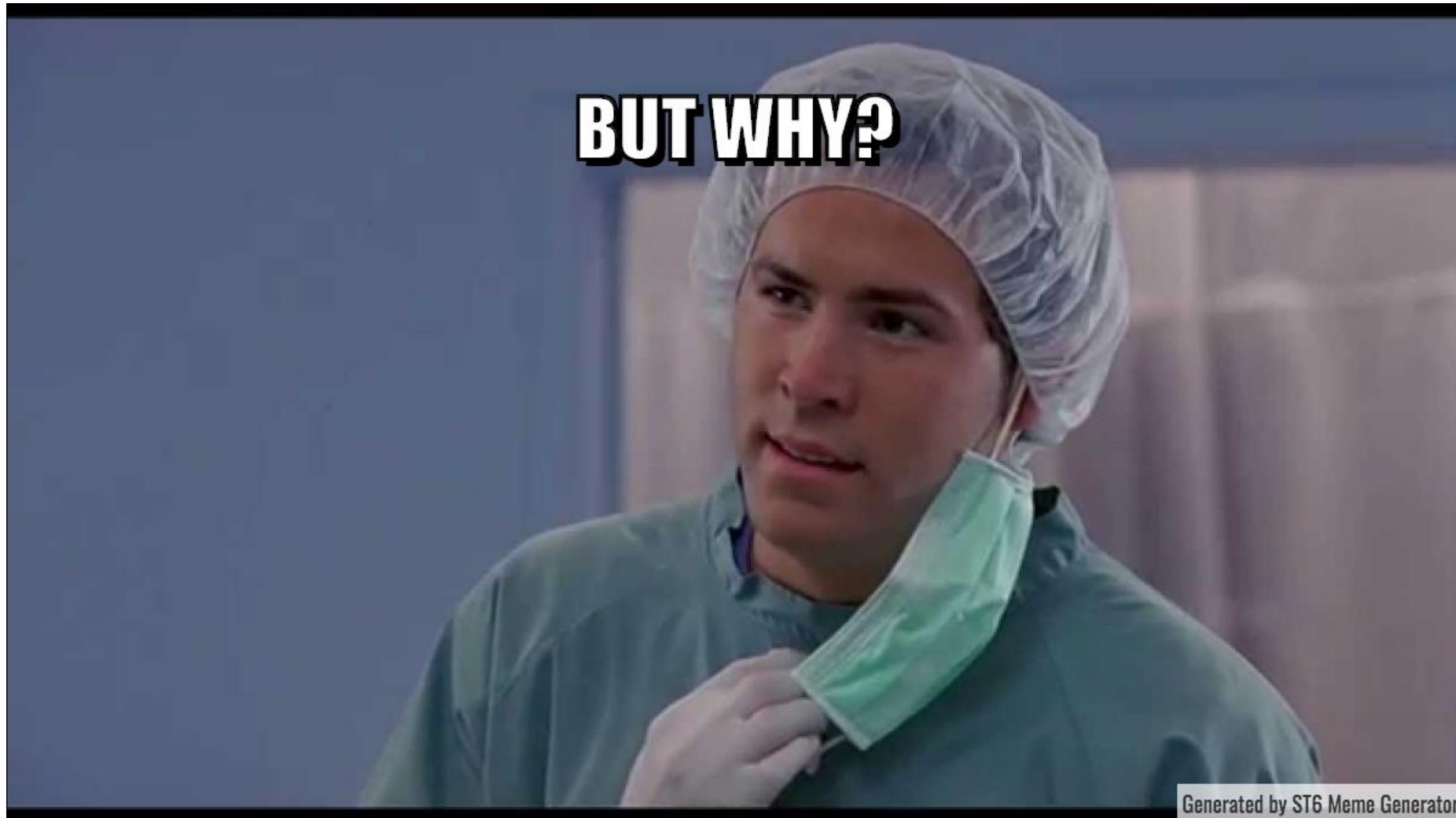- **Our product**: **SynReport**

- **Our goal**: **digitization of medical reporting**

- **Our motto**: **Better Data Better Outcomes**

Standardisation matters

What is described here?

- «A ball-like structure with a woody projection»

- «An imperfect sphere with a waxy surface»

- «A roundish mass weighing about 300 g»

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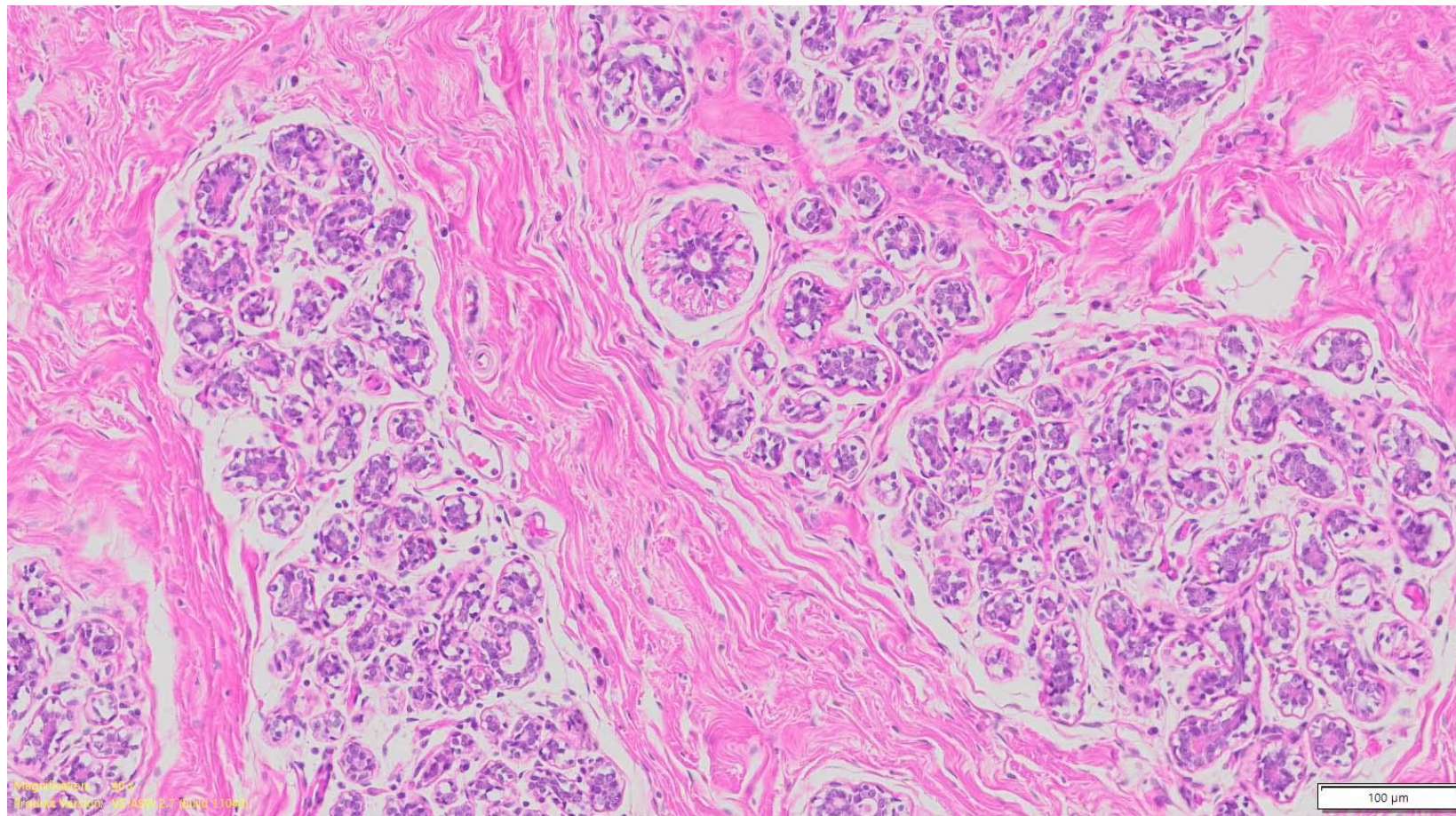
Standardisation

- Ensures completeness

- Ensures consistency

- Reduces errors and misinterpretations

- Prerequisite for structured data

Structured data

Structured data vs Unstructured data
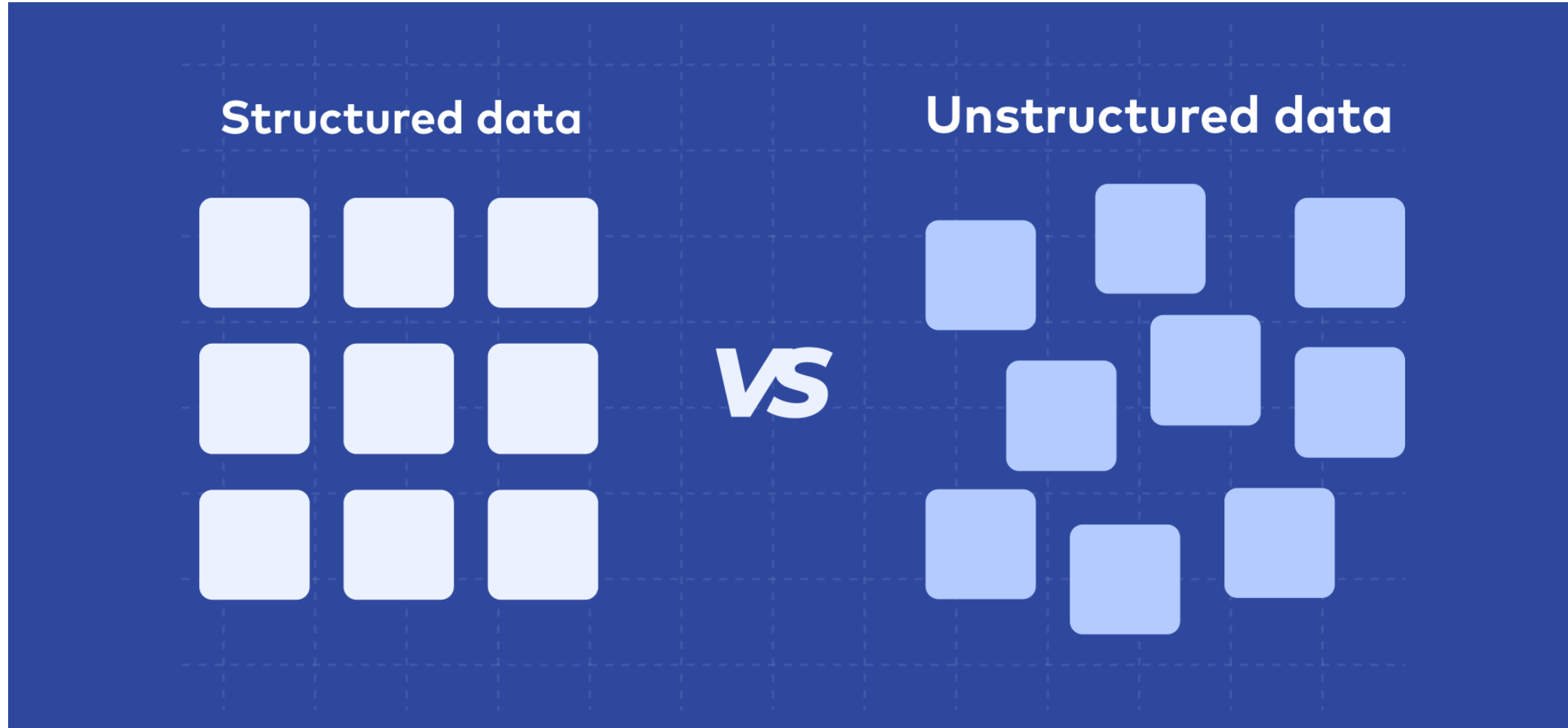
Structured data

- Enables <u>interoperability</u>

- Enables <u>integration of data</u>

- Facilitates <u>quality management</u>

- Facilitates <u>research</u>

- Facilitates <u>training and integration of AI</u>

Interoperability

"Interoperability is the **ability** ... **to exchange data** accurately, effectively, and consistently, **and to use the information that has been exchanged**." (Dogac et al., 2007)
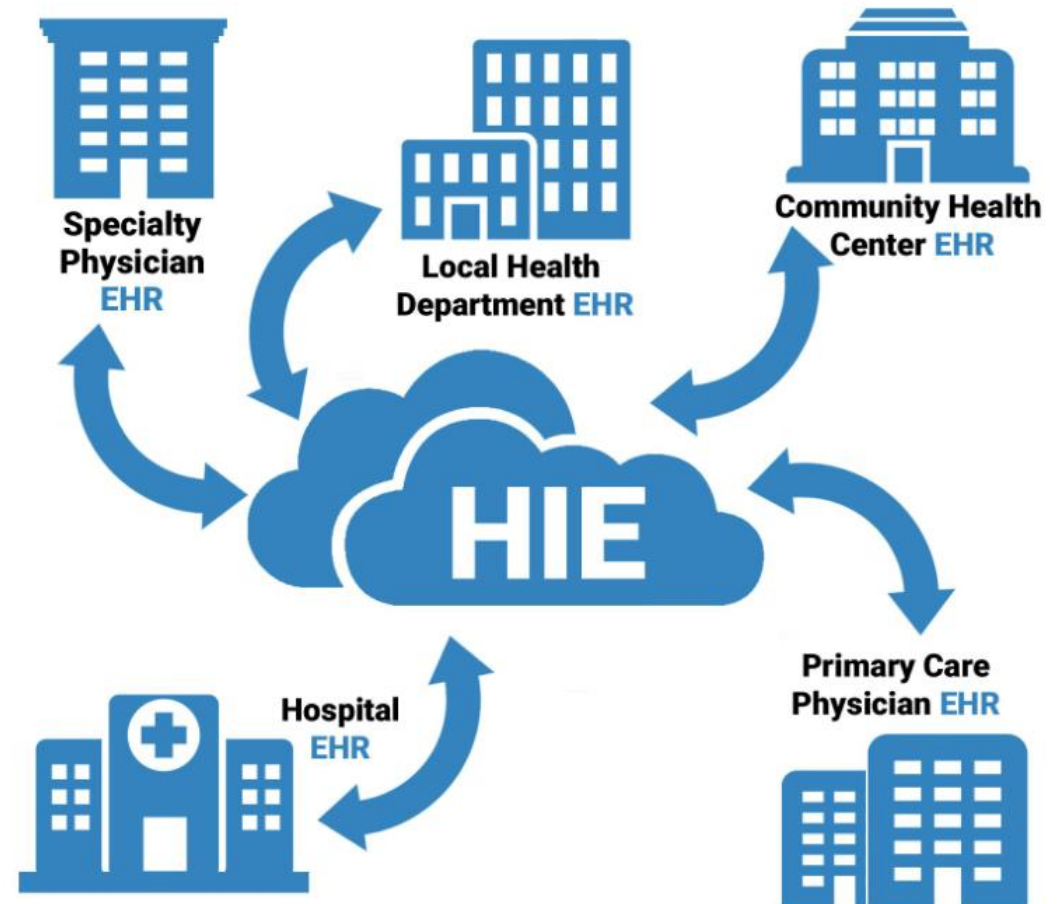
Interoperability
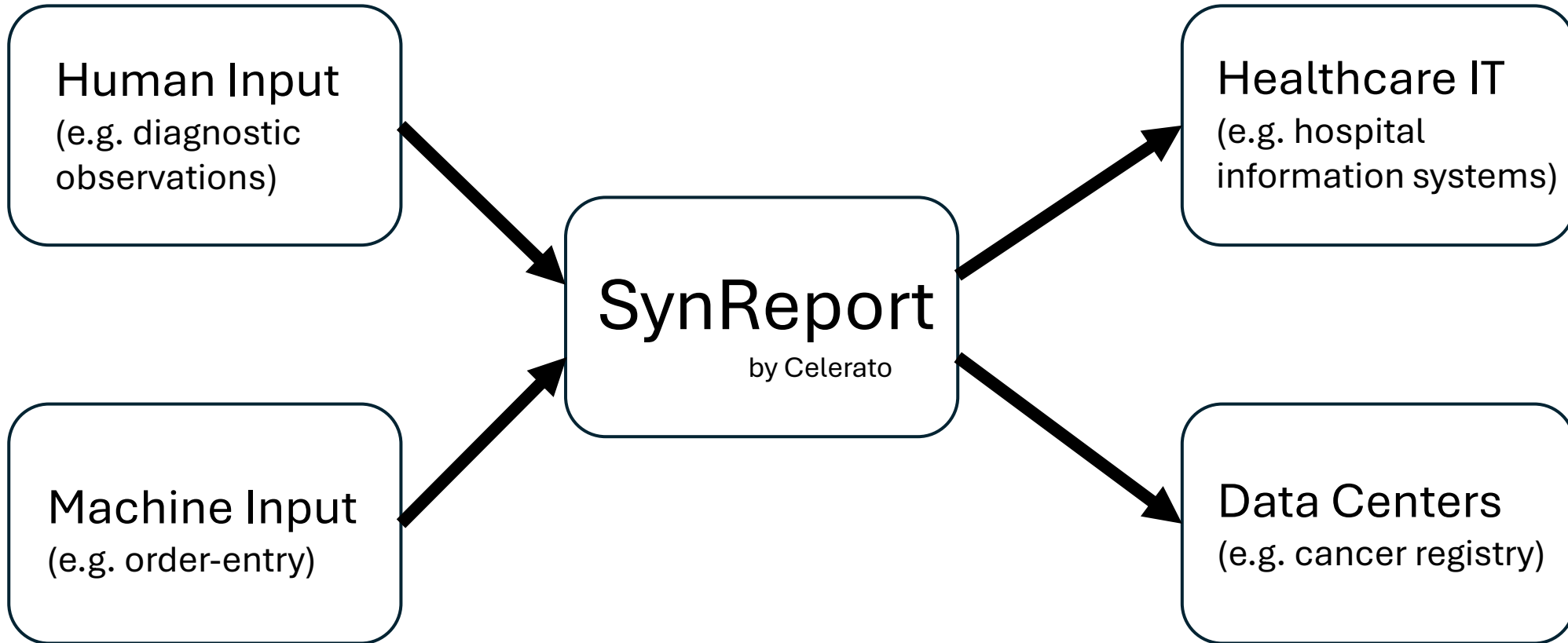
Data integration

Data integration

Without data integration
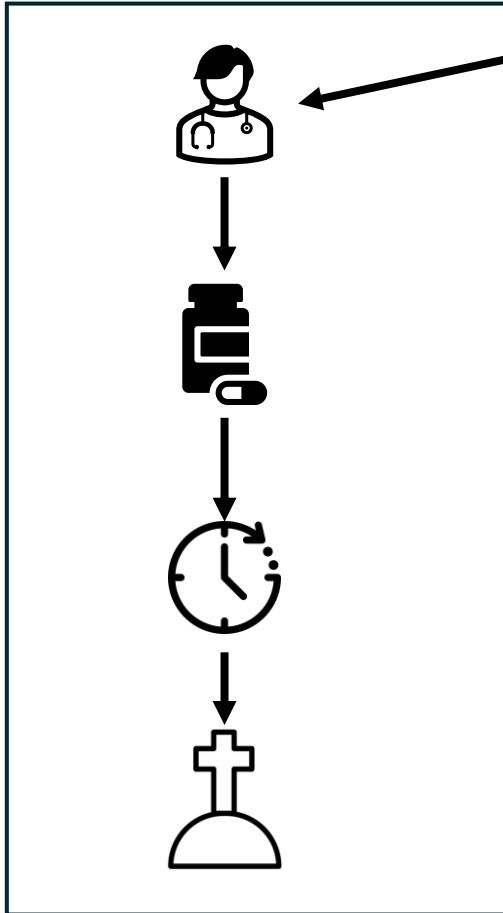
With data integration
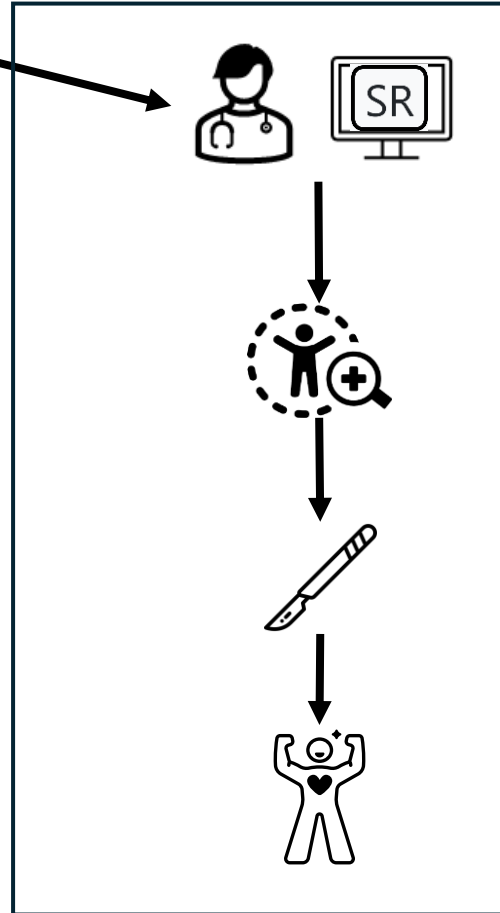
Quality management

Gyn Statistik
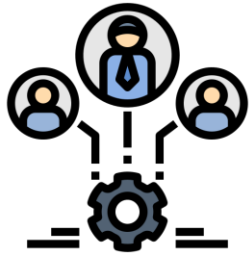
Laden der Daten kann bis zu 1 Min dauern
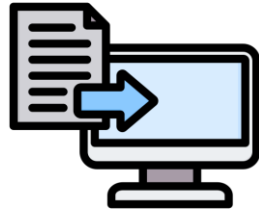
Kategorie: Ärzte/innen▾

	TOTAL	NO	NBE	ASCUS	LSIL	ASCH	HSIL	KARZINOME	ASC/SIL Ratio
	170	121	5	42	18	6	1	3	2.53
	460	345	8	101	24	8	11	7	3.11
	161	62	9	78	30	7	8	1	2.24
	3	3	0	0	0	0	0	0	0.00
	118	65	7	46	16	6	9	0	2.08

Research

Dedicated research	Post-hoc data extraction	Structured reporting
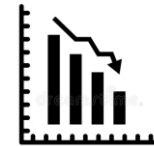
Lower Cost

Research

AI integration
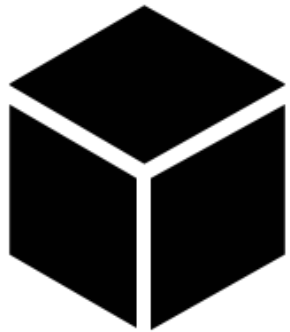
Training data

Dev. guidance

SynReport

AI tools

AI integration

Basic approach

Invasive lobular carcinoma

vs.

Advanced approach

Suggestive of invasive lobular carcinoma:
- Dyscohesive cells
- Low nuclear grade
- Low mitotic count
- ER positive
- HER 2 negative

AI integration

Training data

Dev. guidance

SynReport

AI tools

Second opinion

SynReport (Input)

SynReport (Output)

Diagnostic summary

Simple hysterectomy specimen

Endometrioid carcinoma, high grade

Tumour site: uterine fundus

Myometrial invasion present

Focal lymphatic invasion present

Margins tumour-free

TCGA-based molecular classification (2013): CNL/NSMP

FIGO stage (2023): IIC

Pathological Staging (TNM 8th Edition): pT1b high grade L1 V0 Pn0 R0

ICD-O 3.2: 8380/3 C54.1

Specimen Information

Operative procedure: simple hysterectomy

Specimen submitted: cervix

Microscopic Report

Histological tumour type: endometrioid carcinoma

Proportion of solid non-glandular, non-squamous growth: 6-50%

Severe cytological atypia: present in the majority (>50%) of cells

Histological grade: high grade

Tumour site: uterine fundus

Microscopic extent of invasion

Myometrium: involved: 50 % of myometrial wall thickness invaded

Cervical stroma: no involvement detected

Uterine serosa: no involvement detected

Lymphatic and blood vessels: focal lymphatic invasion present

Perineurium: no invasion identified (Pn0)

Microscopic margins

Status: tumour-free

Paracervical soft tissue margin: no involvement detected, distance of tumour to closest margin: 20 mm
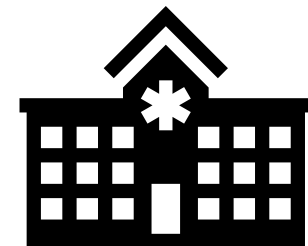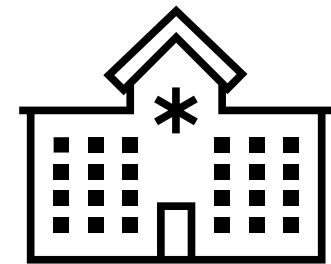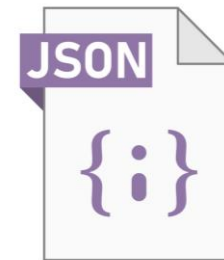
Ectocervical/vaginal cuff margin: no involvement detected, distance of tumour to closest margin: 20 mm

Distant metastases: cannot be assessed

Ancillary Studies

Mismatch repair (MMR) immunohistochemistry: MMR proficient

P53: physiological expression

JSON

HL7® FHIR®

Celerato

BETTER DATA - BETTER OUTCOMES

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