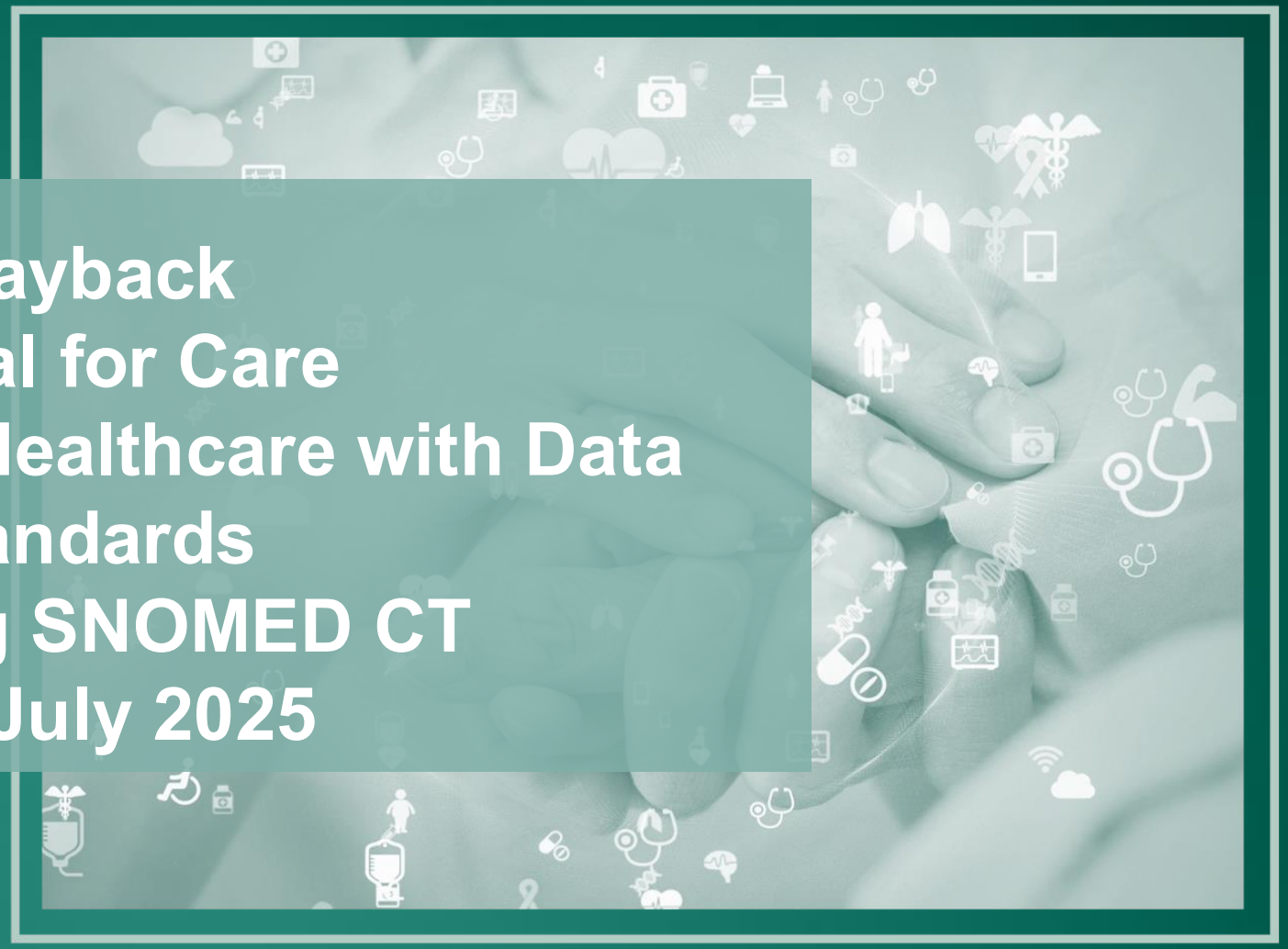
Playback
Digital for Care
Transforming Healthcare with Data Standards
including SNOMED CT
16th July 2025



Empowering People. Connecting Lives.

Opening Remarks

Speaker:

Theresa Barry
Data & Clinical Terminology Architecture Lead, HSE

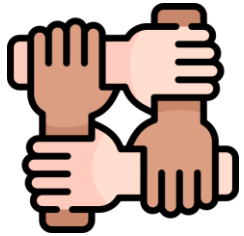
Inputs from the Audience : March Playback session

Q1 – What would you like to know more about? (Top 6)

- Data Quality
- Data Standards
- Data Governance
- Health Information Bill
- Data Dictionary
- EHDS

Q2 – Would you like more information on HSE specific projects? (Top 3)

- Shared Care Records
- Community Connect
- HSE Health App



Q3 – Is there any other topic or project you would like more information on? (Top 6)

- AI
- Data Harmonisation
- Data Governance
- Incorporating IHI in pre-existing systems
- PPS requirement for hospitals
- Data Quality

Recording of session : [Playback Digital For Care Transforming Healthcare with Data Standards including SNOMED CT 27th March]

Agenda for July Playback Webinar

Short session Webinar

Session duration: 1 hr, 10 AM-11AM

Session	Duration	Speakers
Hear from CDAO *1. Data Strategy & AI Strategy*	*15 mins*	Tom Laffan
EHDS and MyHealth@EU	*15 mins*	Eamonn Coyne
MyHealth@IE: HSE App & NSCR	*15 mins*	Kathryn Kissane
Central Terminology Service & *Data Dictionary Update*	*10 mins*	Theresa Barry
Closing Remarks	*5 mins*	Theresa Barry

Hear from CDAO

Data Strategy & AI Strategy

Speaker:

Tom Laffan
Chief Data and Analytics Officer (CDAO) , HSE

Digital For Care for Ireland 2030 – Data Strategy and Artificial Intelligence (AI) Strategy Updates

The framework sets out how the future of healthcare will harness the power of data, digital technology, future technologies, and innovation, to widen access to health and social care services, provide improved, affordable, and equitable care, better patient safety and boost productivity.

In **development** this Data Strategy will position Data as the cornerstone of our operations, empowering us to make informed decisions, optimise patient care, and drive innovation across our services.

In **Draft**, the DoH and HSE have jointly commissioned AI for Care which outlines the vision for AI in the health service and opportunities for AI deployment over the next five years.

In **Draft**, an AI implementation framework for implementing AI projects with robust governance and regulatory adherence specifically to the EU AI Act.

Data Strategy - DRAFT

Approach:

- A use-case based approach has been taken: stakeholders have outlined strategic objectives and priorities where data-related challenges have impacted the ability to achieve these.
- Stakeholders consulted to date have included Regional leadership at REO and IHA level, leadership across central enabling functions, leadership of selected digital programmes, teams across a broad range of focus areas for the HSE such as workforce planning, disability services and organisational culture, and HSE teams that have a current role in data management. External bodies such as DoH, DCEDIY, HIQA, HRB, MHC, IPPOSI and NOCA have also been engaged.
- A review of legislation has been completed to assess the impacts of current and planned legislation

The current draft of the strategy outlines **four strategic pillars** focussed on:

Data Governance and Management

Culture and Capability

Insights, Efficiency and Productivity

Research and Innovation

- For each pillar, a set of use-cases are outlined, in addition to a **set of commitments** that will be delivered to simultaneously develop the capability of the CDAO office and address these use cases.
- An indicative timeline for delivery of the commitments is outlined in the strategy showing delivery in year 1 to 2, year 3 to 4, and from year 5 onwards.
- A **data management plan** is being developed in parallel with the data strategy to outline how these commitments can be met, and an analytics operating model will be created to ensure effective governance, resources and processes are in place.
- A **data architecture design** is being developed in parallel with the Data Strategy

Data Strategy – Patient Journey (DRAFT)

The **patient** journey illustrated below demonstrates the future state data-driven and supported management of patient care, highlighting some of the ways this Data Strategy's commitments will enable and improve integrated care delivery. Improved data integration, interoperability and multidisciplinary care collaboration are enhanced by technology and patient self-management using digital tools.

Patient Journey

1. Mary attends her GP with abdominal pain
2. Mary provides her Personal Public Service Number (PPSN)
3. Mary's GP orders diagnostic imaging and blood tests, tagging her order to her IHI
4. Mary provides her PPSN on arrival to the ED, which allows the hospital staff to access all of her medical history
5. All documentation related to Mary's care journey is stored in her Electronic Healthcare Record (EHR)
6. Mary is discharged home and her GP and the National Shared Care Record (NSCR) supports the continuity of her care in the community

Strategic Pillar		**Culture and Capability**	**Governance and Management**	**Governance and Management**	**Governance and Management**	**Insights, Efficiency and Productivity**
HSE Data Strategy Enabler		Strive to develop a culture in which everyone takes ownership of the quality of the data they record, such as the PPSN	Collaborate with national programmes to identify and support data requirements (e.g. integration of the IHI)	Transitions of care are supported by the collection of the PPSN between care settings, building trust in data and supporting patient safety	Large transformative programmes such as the EHR are engaged with to identify and support data requirements	Leverage the standardised data that will become available as national digital programmes progress
Impact on Patient Outcomes and Experience		Using the PPSN to accurately locate an IHI ensures the correct assignment with the correct IHI, **promoting patient safety**	IHI integration improves patient safety through improved accuracy in patient identification, **improved patient care** and reduced duplication	Enhanced integration leads to reduced manual efforts/workarounds, which facilitates improved **decision making**	The EHR improves the quality and efficiency of care, reduces medical errors, **enhancing patient safety**. It streamlines workflows, improve communication, and facilitate improved data management	A centralised data model with agreed interoperability standards to support integration of patient records across care settings will enable **better patient care and ultimately outcomes**

Data Strategy – Healthcare Professional Journey (DRAFT)

The illustration below captures some of the ways in which a digital enabled healthcare service allows **staff** to provide high quality care services to patients in an efficient and holistic manner by leveraging a data driven approach to healthcare delivery. Information is shared between care providers in various settings, leading to better informed decisions, improved patient outcomes and the ability to build trust in the quality of our data.

HCP Journey

1. Mark is a cardiologist, reviewing a patient at the local Chronic Disease Integrated Care Hub
2. Upon presentation, the patient registers their details including their PPSN
3. Mark accesses the patient's medical history and notes via the NSCR
4. Mark refers the patient for diagnostic investigations
5. Upon return to the Integrated Care Hub the patient provides their PPSN and all patient information can be viewed on the NSCR
6. Mark is empowered to utilise cardiovascular registries to enhance clinical decision making and enable personalised care

Strategic Pillar	**Culture and Capability**	**Governance and Management**	**Governance and Management**	**Insights, Efficiency and Productivity**	**Research and Innovation**
HSE Data Strategy Enabler	Strive to develop a culture in which everyone takes ownership of the quality of the data they record, such as the PPSN	Design and implement a centralised data model with interoperability standards	Collaborate with national programmes to identify and support data requirements (e.g. integration of the IHI)	The ability to analyse integrated data sets is available, increasing productivity and efficiency across the system	Identify and establish the data capabilities required to support development and management of registries
Impact staff experience	Using the PPSN to identify a patient, healthcare providers can accurately match information across different systems and services, **improving efficiency and reducing errors**	Integrated platforms lead to improved communication and coordination, streamlined workflows, enhanced patient outcomes, **and greater job satisfaction for HCPs**	Integrated IHI allows for **seamless referrals** and consultations between different providers, simplifying the process for both the HCP and the patient	Integrated systems optimise the use of system resources by **improving patient flow** and reducing unnecessary administrative burden	Facilitate **improved management and care** for patients with Chronic Diseases via proactive management

AI Strategy and Implementation Framework

The development of an AI Strategy that sets the vision for AI and strategic priorities, the strategic roadmap of opportunities for AI deployment across the health service over the next five years, and critical success factors to activate and achieve our vision.

The development of a supporting AI Implementation Framework to outline how to execute the AI Strategy and provide a framework for implementing AI projects with robust governance and regulatory adherence specifically to the EU AI Act.

Healthcare Drivers for Artificial Intelligence (AI)

Public Expectations and Engagement

- Citizen-driven values and recommendations for AI adoption (Citizen's Jury by IPPOSI)

Healthcare Service Needs

- Expanding population driving patient demand
- Increasing healthcare needs and service capacity must be managed

Resource Capacity

- Recruitment retention and challenges, staff burnout and admin burden
- Productivity and Savings Taskforce identified AI as a key enabler for productivity improvements

Healthcare Digital Transformation

- Digital health acceleration through Digital for Care – EHRs, HSE Health App, NSCR

Innovation Through AI

- Ambient listening technologies powered by AI in consultations
- AI-assisted robotics in surgery
- AI-powered chatbots and virtual assistants for patient engagement

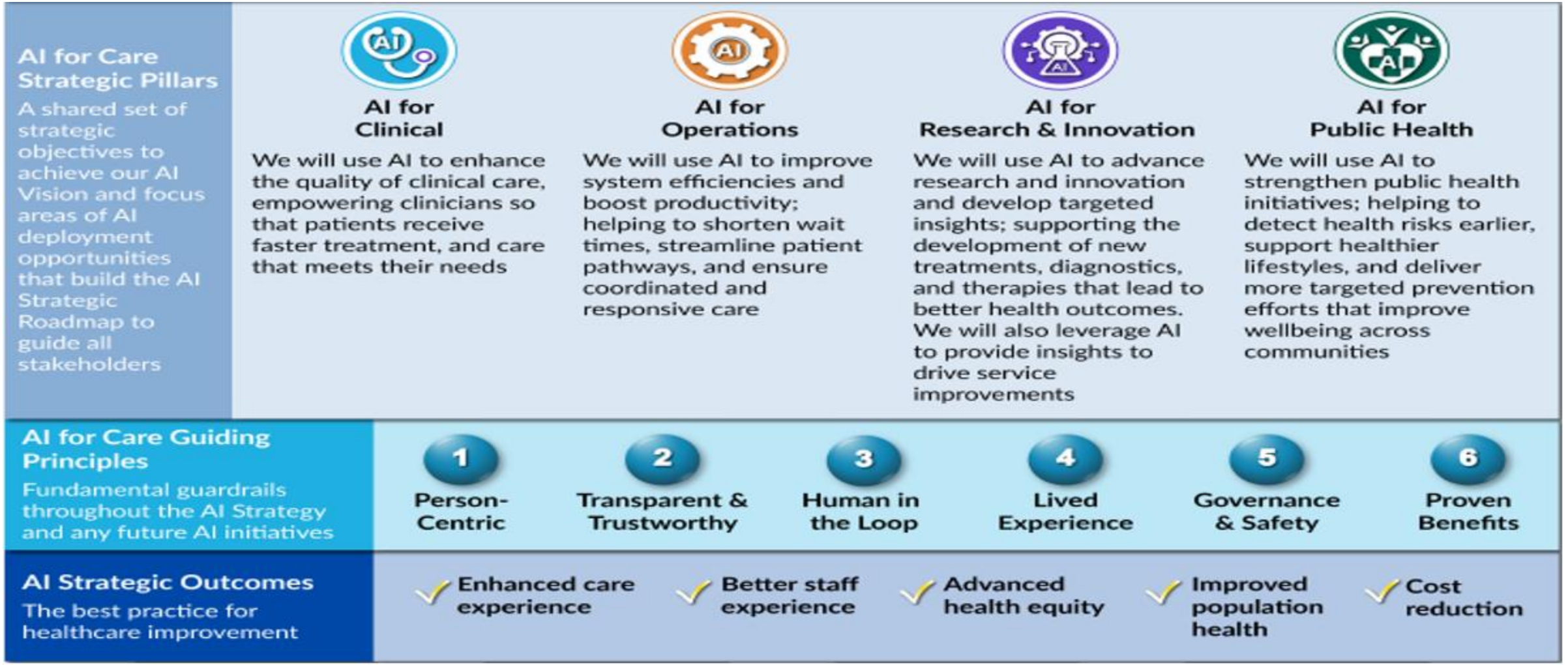
National & European Legislation

- EU AI Act
- AI – Here for Good
- HIQA National AI Guidelance
- DPENDR AI Guidelines

Global AI Ethics & Governance

- WHO Ethics and Governance of AI for Health

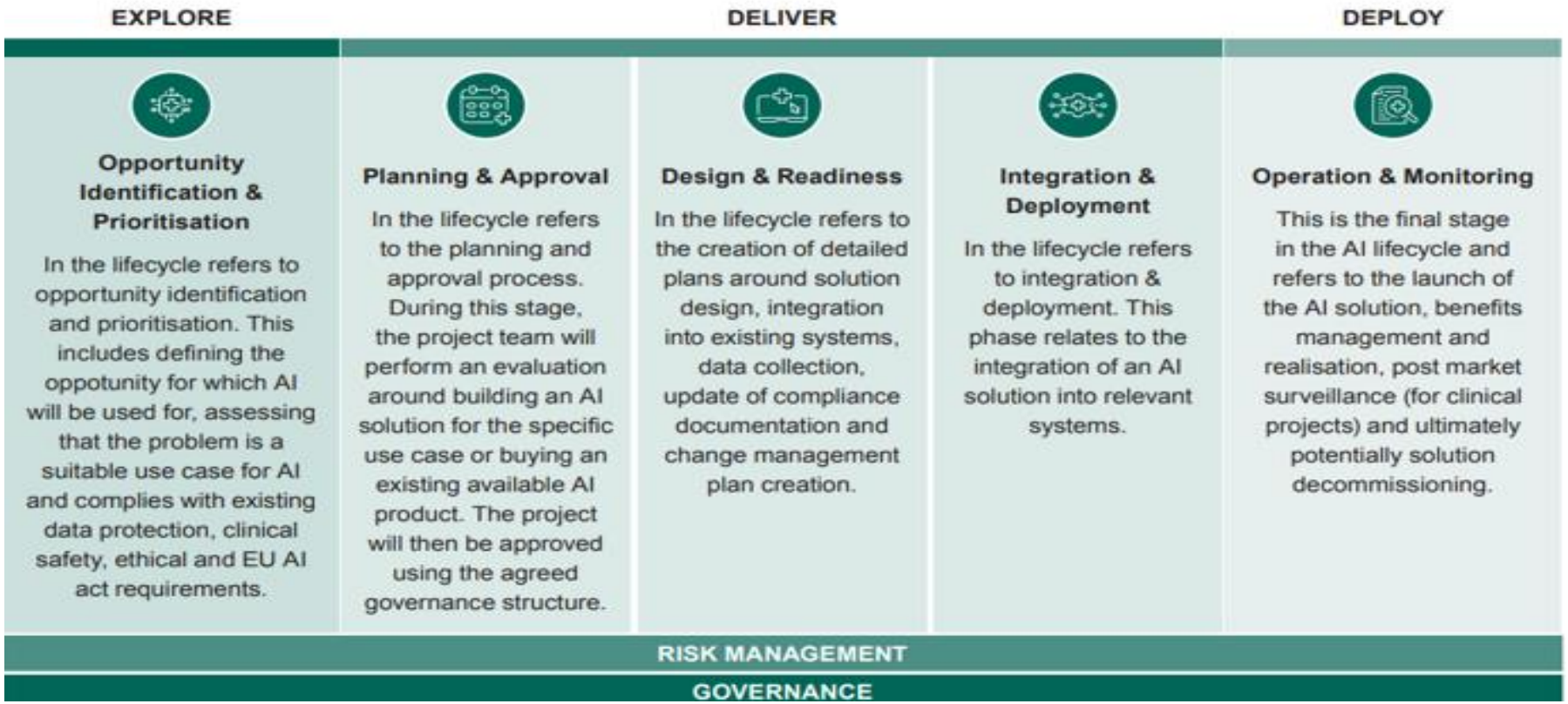
AI Strategy - DRAFT



AI Implementation Framework

A Responsible and Safe AI Implementation Framework

To ensure the safe and responsible implementation of AI projects, the framework sets out requirements for compliance with the EU AI Act, clinical safety, trustworthiness, and risk management. The framework outlines the compliance steps, which include evaluating AI use based on risk categories, conducting fundamental rights impact assessments, and registering AI solutions in an AI inventory.



AI Strategy and Framework - Partnerships

Partnerships are vital for the successful implementation of AI in healthcare. They bring together diverse expertise, resources, and perspectives, fostering innovation and ensuring comprehensive solutions.

Vendors

- The HSE will seek to leverage its existing partners' AI capabilities where appropriate and go-to-market to secure AI best-of-breed solutions where gaps are identified.
- AI vendors deliver advanced platforms that analyse healthcare data for actionable insights, improve diagnostics, personalise care, and ensure effective, secure solutions with ongoing support and updates.
- They provide advanced AI and machine learning platforms that can analyse vast amounts of healthcare data to generate insights, improve diagnostics, and personalise patient care.

Academic Partners

- The HSE will continue to partner with academic institutions and seek to publish academic papers on the outcomes achieved as part of individual healthcare AI projects to ensure the knowledge can be dispersed to other healthcare systems.
- Academic institutions and researchers drive innovation and provide foundational knowledge for developing advanced, evidence-based AI solutions, ensuring they are scientifically validated and enhance patient care and operational efficiency.

Patient Advocacy

- The HSE will continue to leverage its partnerships with patient advocacy and have patients with lived experience form part of AI project teams.
- Patient advocacy groups ensure patient needs and perspectives are central to AI solution development and implementation.
- Patient advocacy groups work with healthcare providers and AI vendors, and identify key areas for AI impact for patient journeys. Their involvement fosters trust and acceptance of AI technologies among patients, ensuring patient-centric solutions and successful adoption.

Regulatory Bodies

- The HSE will work closely with regulatory bodies to ensure that AI tools developed and deployed comply with healthcare standards and regulations.
- The regulatory bodies will provide regulatory oversight to ensure AI solutions and their deployment within the healthcare system meet legal requirements, fostering trust and reliability in AI technologies.

Thank You

An Roinn Sláinte
Department of Health

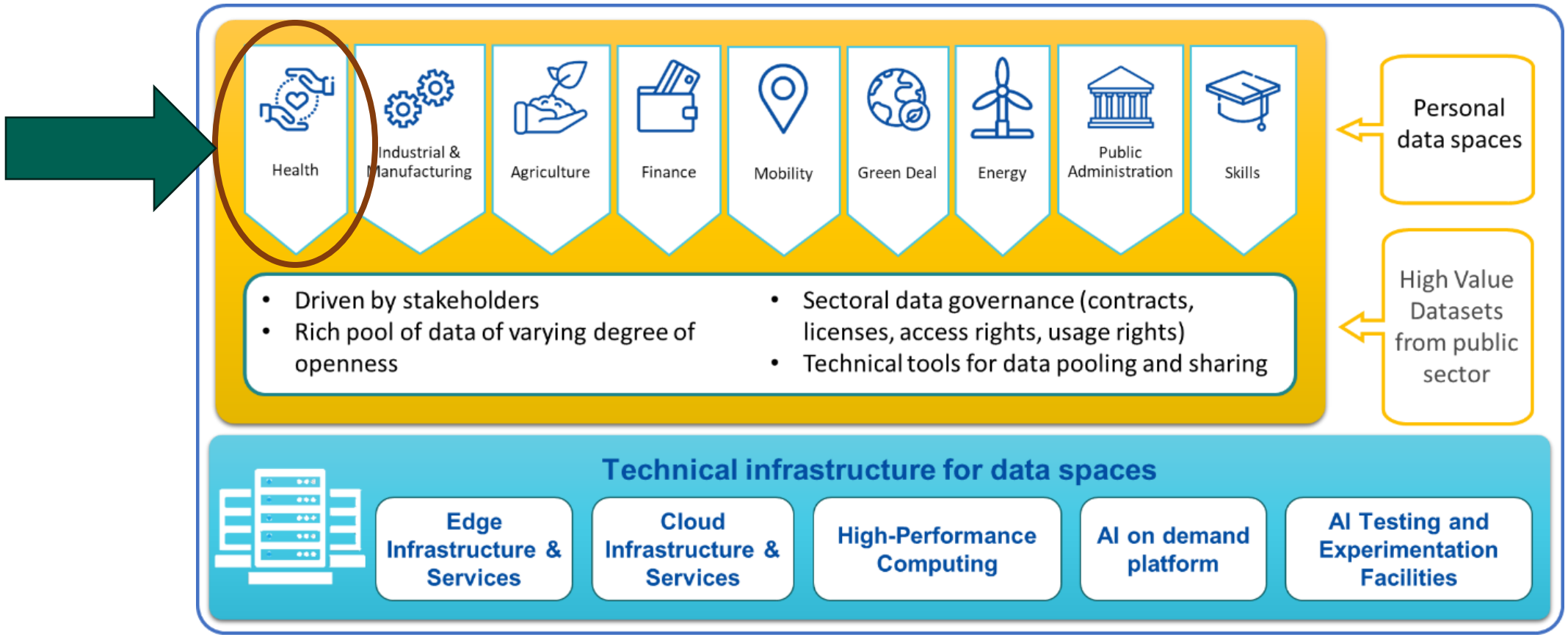
EHDS and MyHealth@EU Digital for Care Webinar 16th of July 2025

Presenter:
Eamonn Coyne
Role:
Digital Health Specialist, Assistant Principal, eHealth Unit DOH

Current MyHealth@EU eHealth Member State Expert Group Chair

The vision: *Common EU Data Spaces*

- The Common European Data Spaces will help unleash the enormous potential of data-driven innovation. Common European Data Spaces **will enhance the development of new data-driven products and services in the EU**, forming the core tissue of an interconnected and competitive European data economy. Health is the first of these sectors to be delivered.



The legal enablement:
What is the European Health Data Space Regulation?

EHDS in a Nutshell –what is it about?

1. Primary use = use of data for the delivery of healthcare
   * Improving patients' access to their health data;
   * Ensuring seamless exchanges for continuity of healthcare.

2. Secondary use = use of data for research and public interest purposes
   * Making data available for research, policy-making etc. in a safe and secure way.

3. Requirements for electronic health record (EHR) systems
   * Creating a single market for electronic health records systems, supporting both primary and secondary use.

The building blocks: *How will EHDS be supported?*

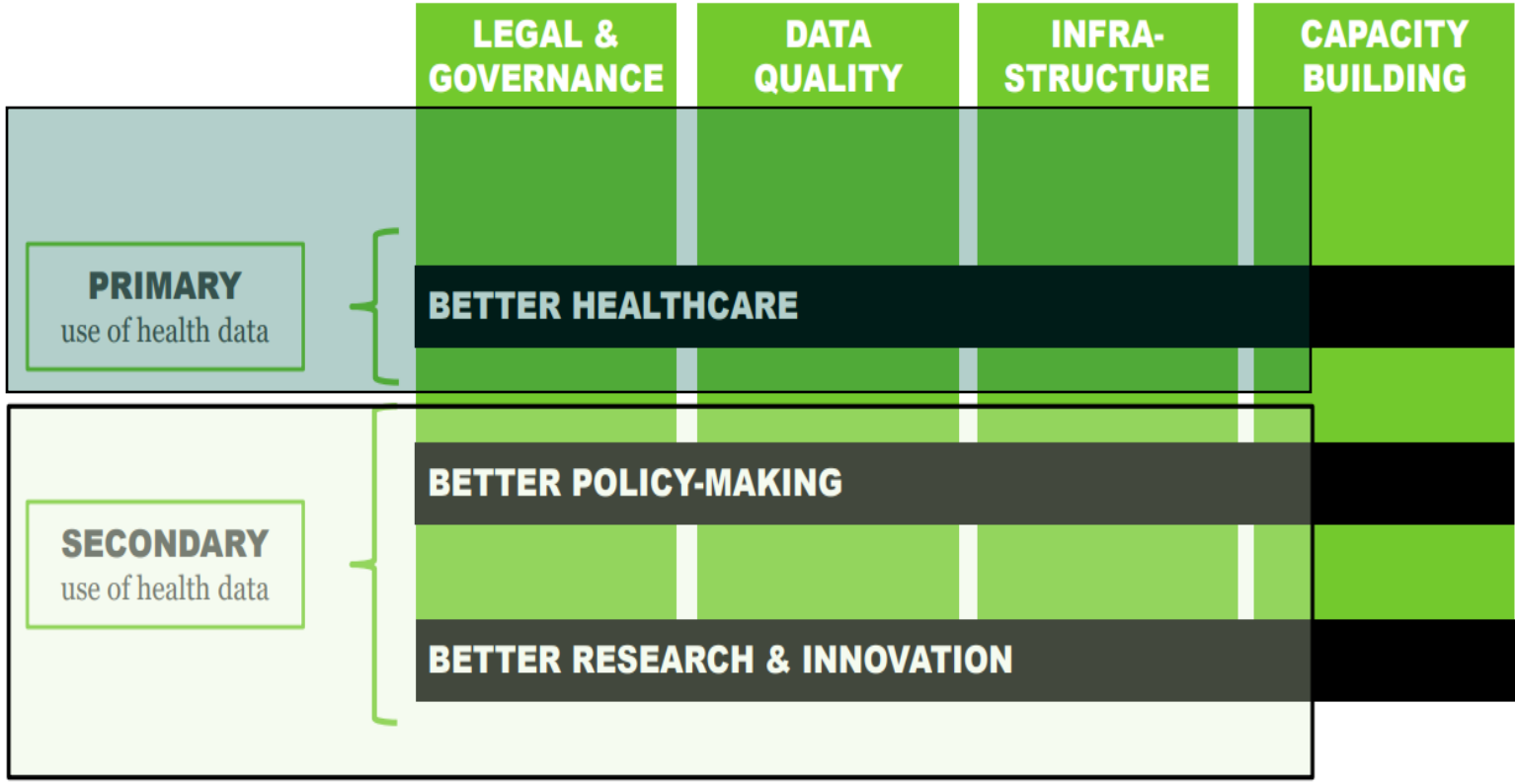
- **Two infrastructures will support access to electronic health information**

MyHealth@EU

standardised and interoperable Electronic Health Records within the EU.

HealthData@EU

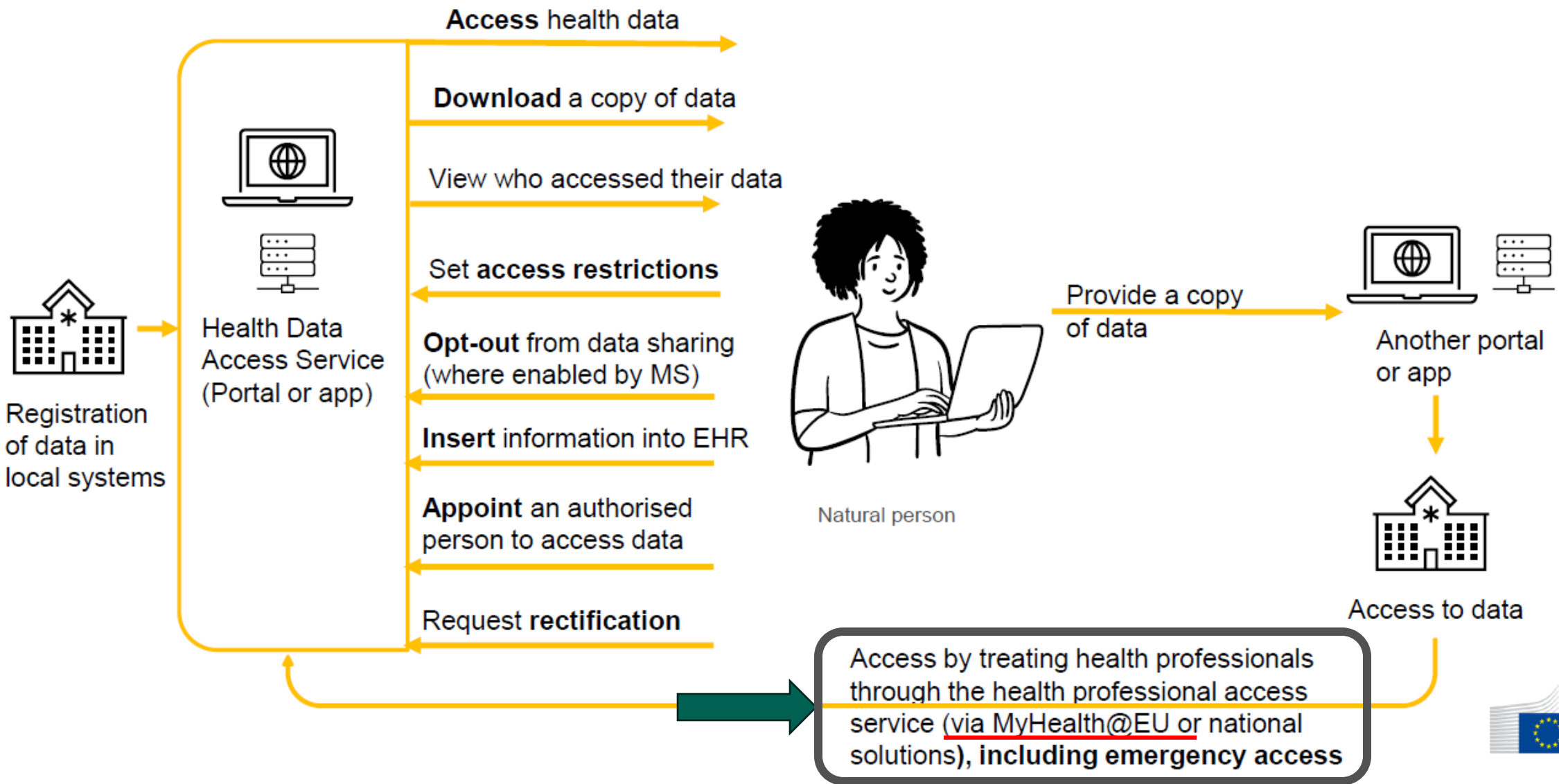
A consistent, trustworthy and efficient set-up for the use and re-use of health data



Through **MyHealth@EU** – each person will have access to their personal health records for medical treatment (in Ireland and the EU).

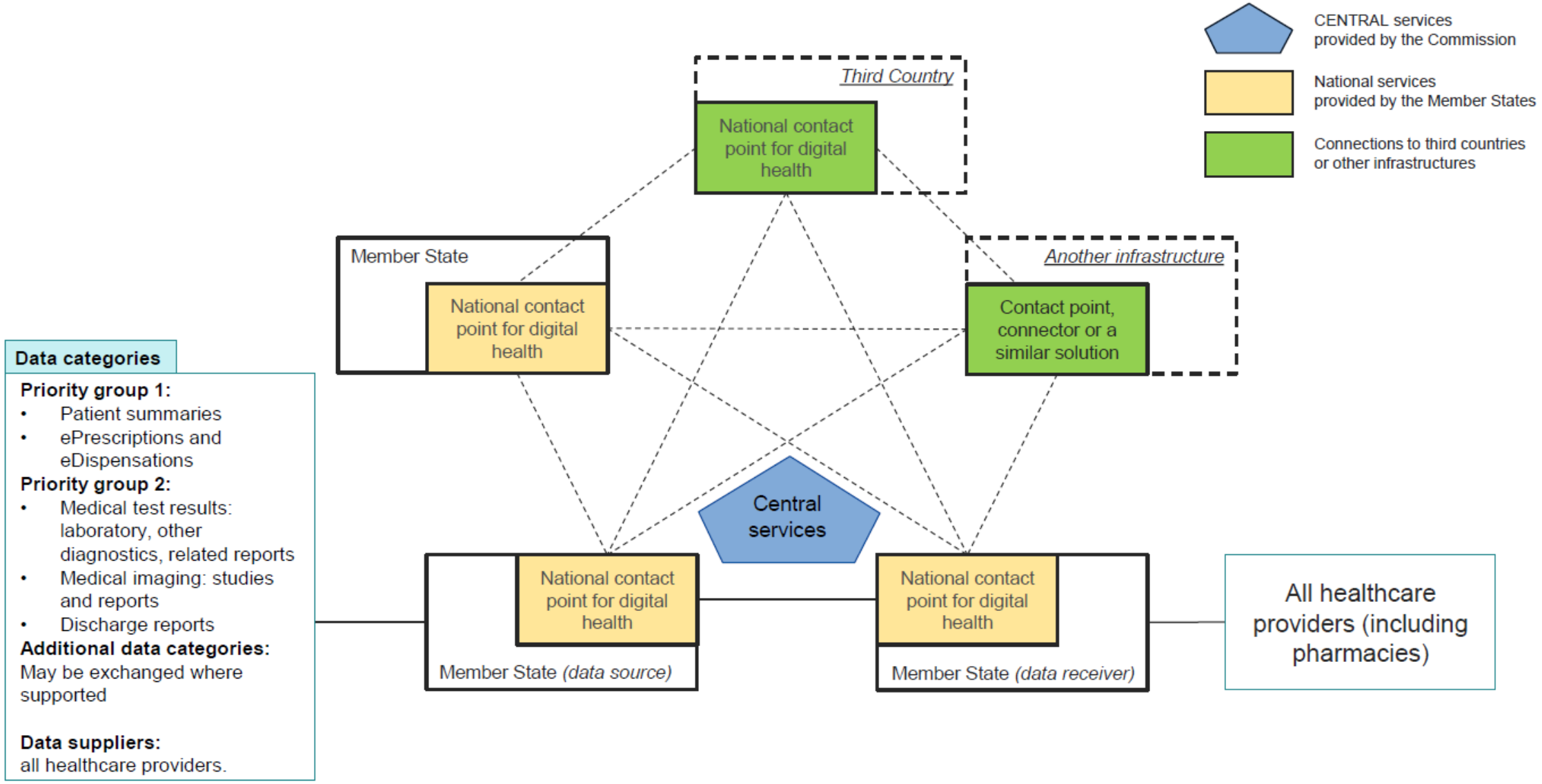
Through **HealthData@EU** – access to health datasets for public interest uses.

EHDS: *Rights of natural person in Primary Use*

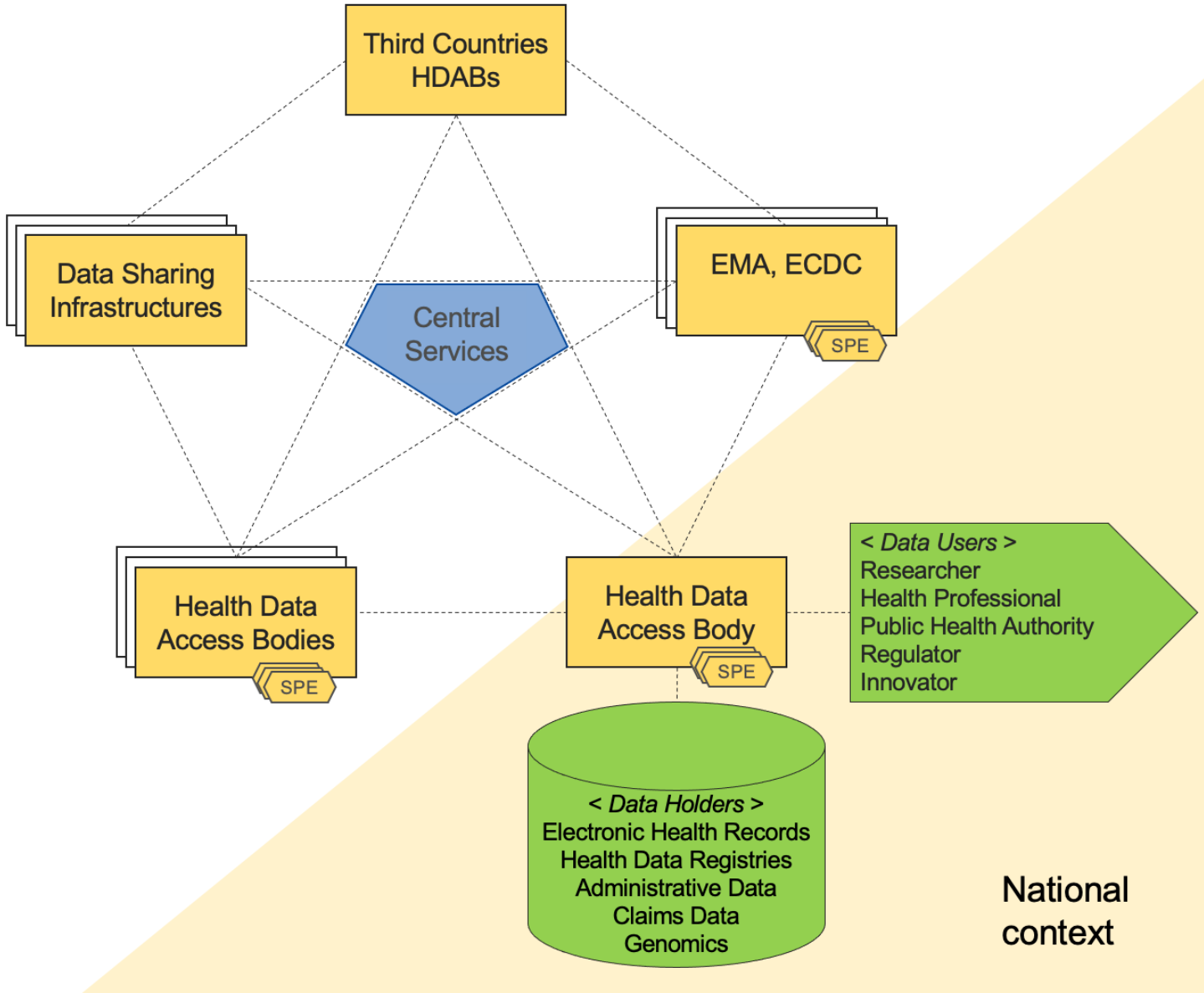


European Commission

MyHealth@EU High level architecture



HealthData@EU High level architecture



Is MyHealth@EU being used now?:

Collaborative work, years in the making!

MyHealth@EU under Cross-border Healthcare Directive

- Voluntary system for exchanging patient summaries, prescriptions and dispensations (= first group of priority categories)
- **15 countries** live with at least one service, up to **10 more** expected to go live with first service(s) this year

Evolution of MyHealth@EU for the EHDS

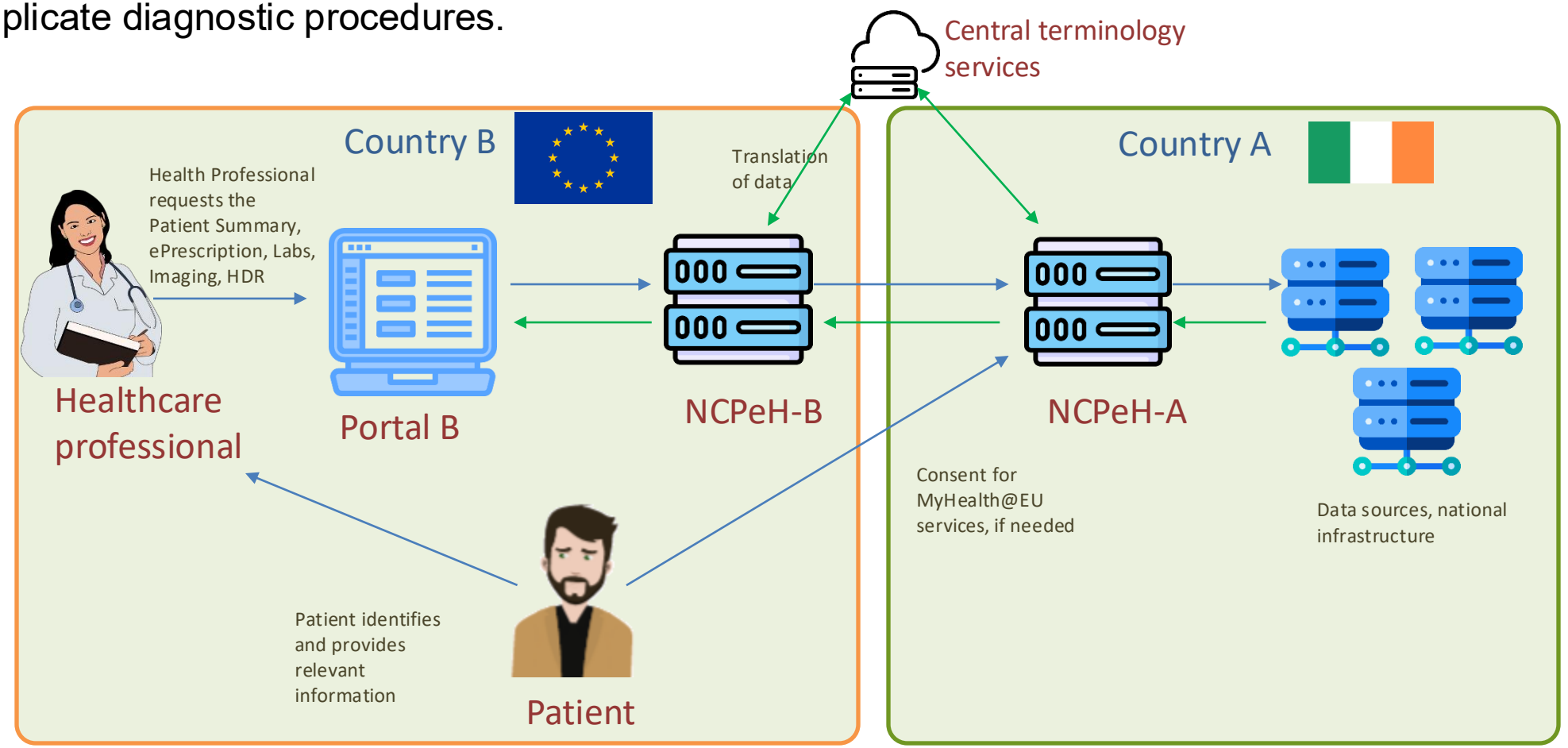
- Voluntary => mandatory
- New services
- New data categories

European Commission

How MyHealth@EU works:
MyHealth@EU built on eHDSI

My health @ EU
eHealth Digital Service Infrastructure
A service provided by the European Union

- The current MyHealth@EU infrastructure connects Member States National Contact Points for eHealth (NCPeH) giving **healthcare professionals access to the patient's data** via a Portal.
- The health data is returned and displayed in the portal to the healthcare professional in their own language thereby **enhancing the patient's treatment**. **Reducing the potential for clinical errors** and duplicate diagnostic procedures.



Country B
country of treatment.

Country A
country of affiliation.

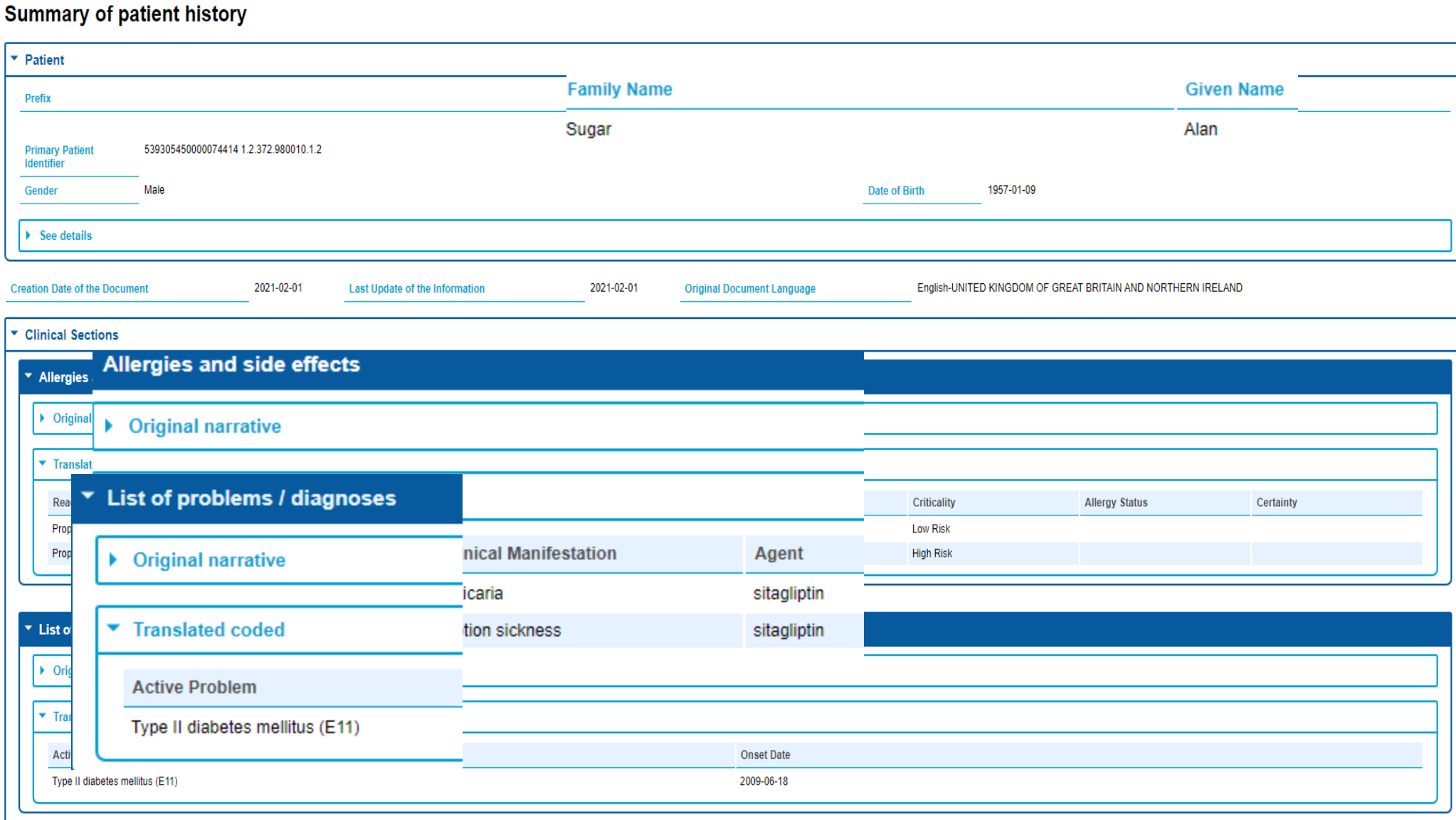
How MyHealth@EU works:

MyHealth@EU built on eHDSI

Here you can see how a **healthcare professional can access healthcare data in real time**.

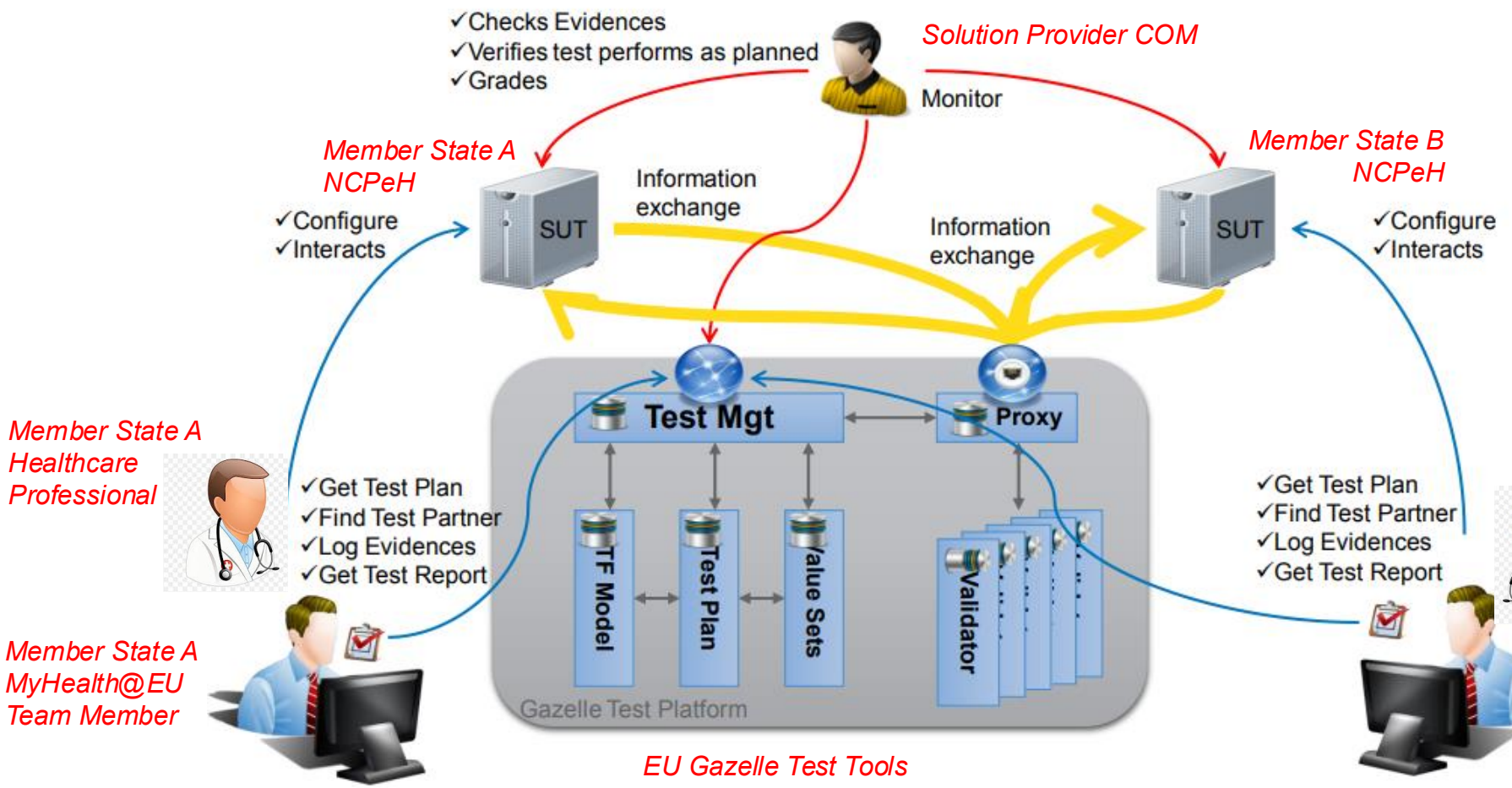
The Patient Summary Gives the Healthcare professional access to:-

- ✓ Patient Demographics.
- ✓ Allergies
- ✓ A List of Current Medical Conditions
- ✓ A History of Medication
- ✓ Implanted Medical Devices
- ✓ Surgical History



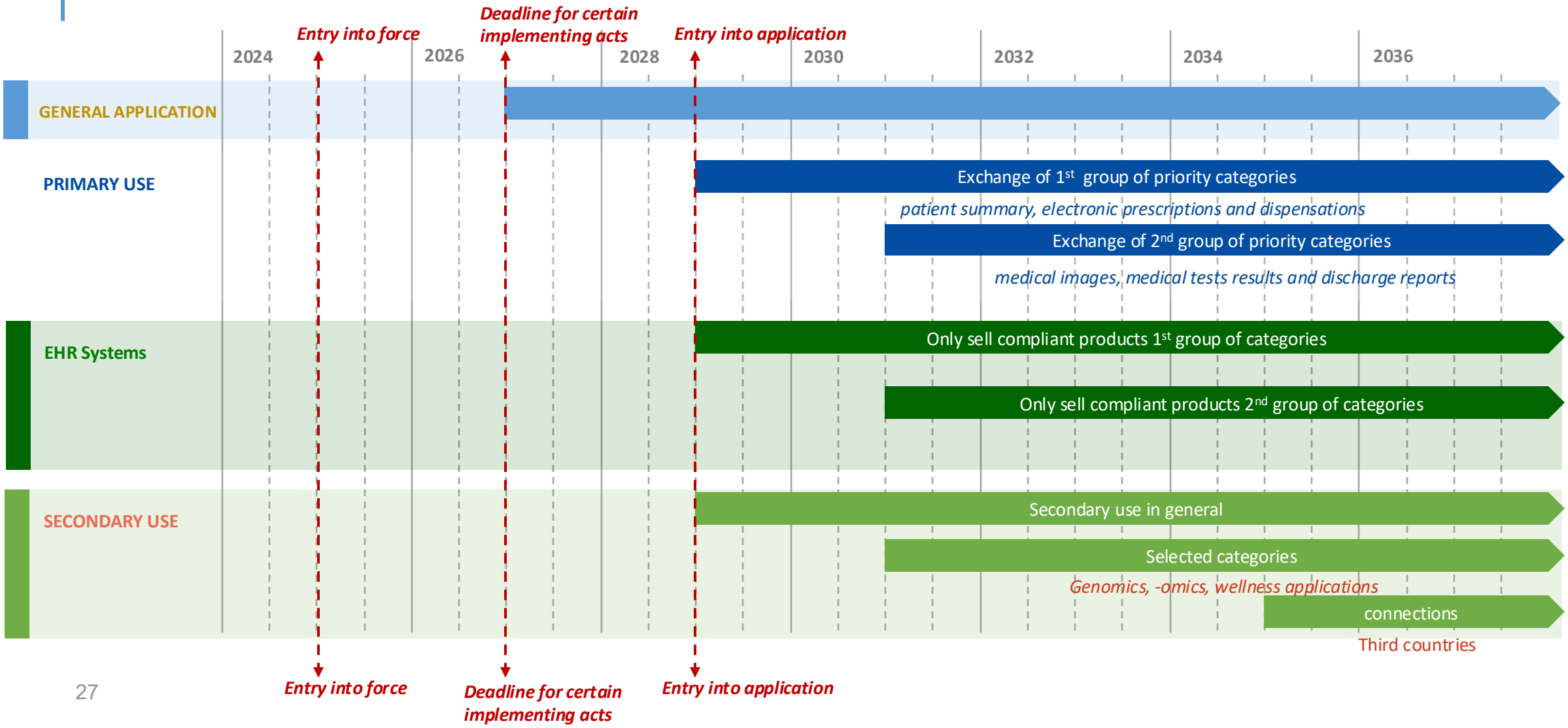
MyHealth@EU:
How do we know it works?

Projectathon (interoperability) Testing Sessions!

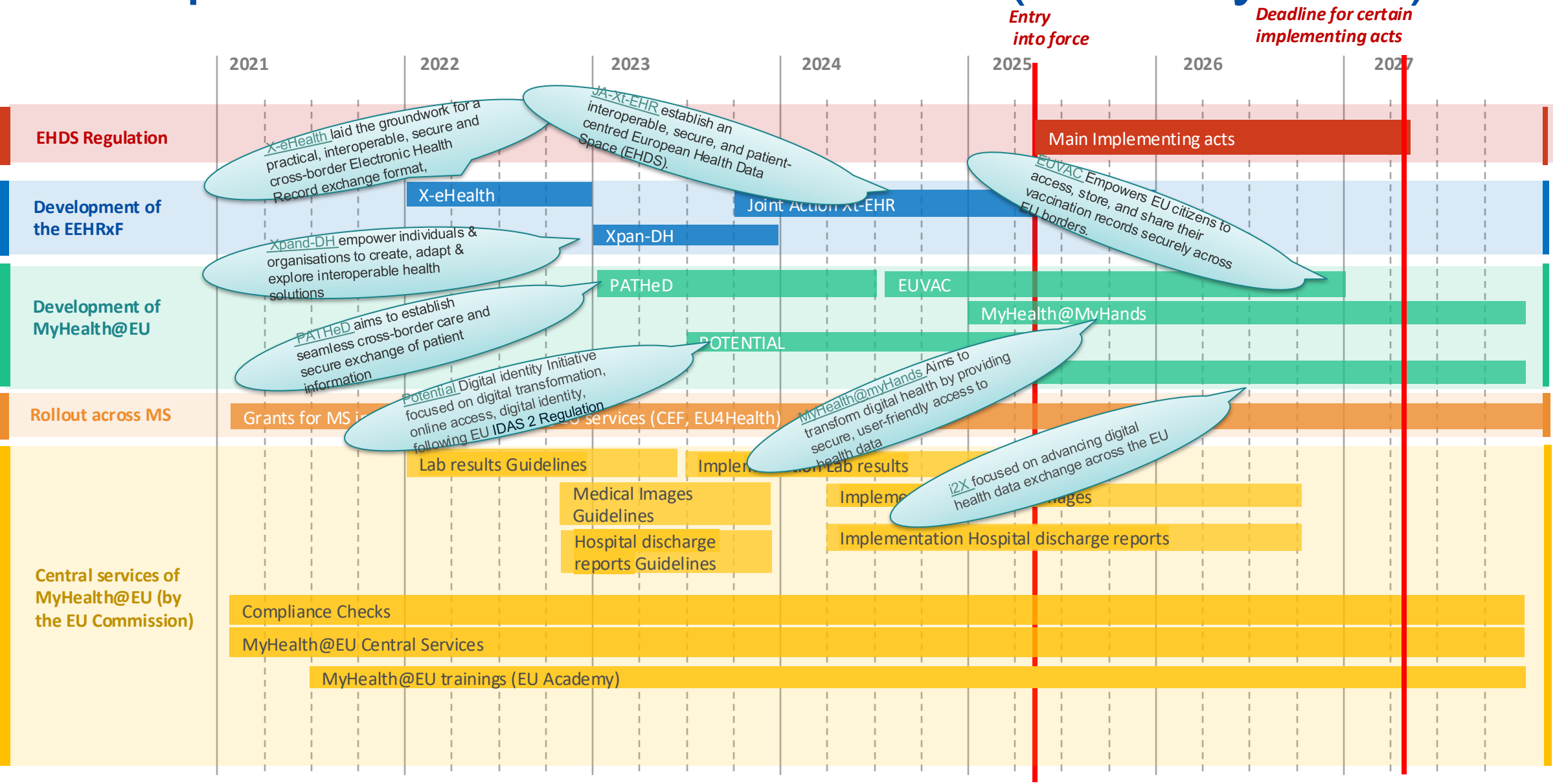


- ✓ Three test sessions per year
- ✓ Run for 5 weeks
  1. Registration and Connectivity 2/3. Conformance Testing 4/5. Functional E2E Testing
- ✓ Continuous improvement and testing of Open NCP Artefacts and Member States NCPeH
- ✓ Member States working collaboratively to deploy the MyHealth@EU services

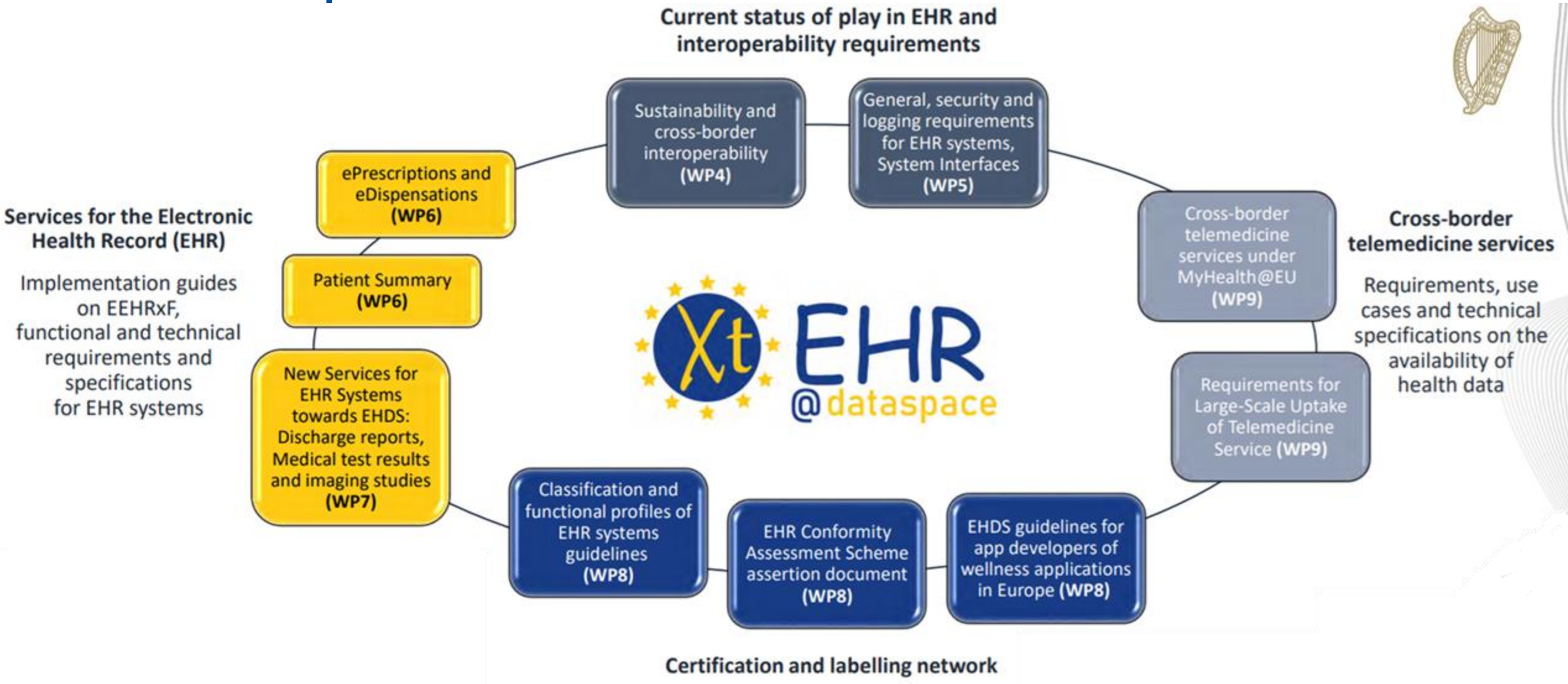
EHDS – Overall timeline for application



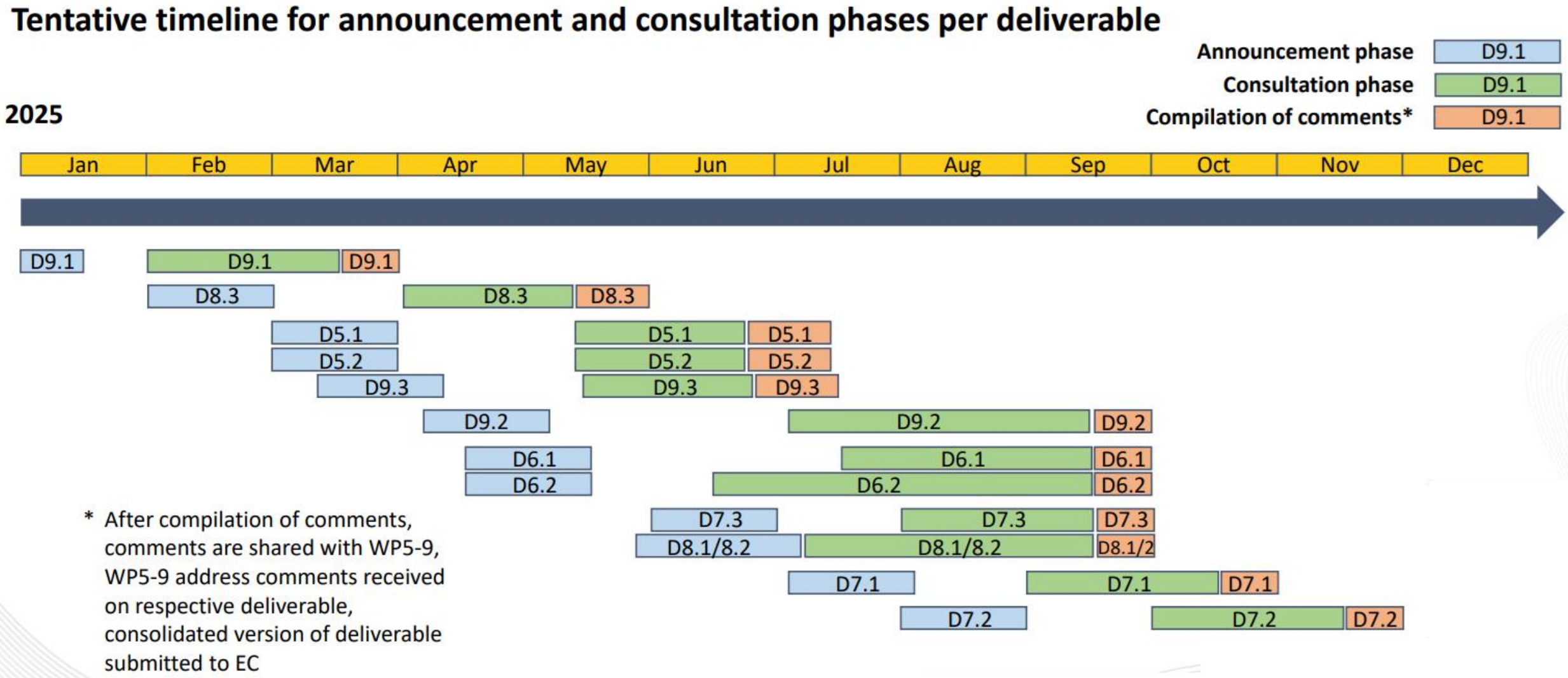
Implementation of the EHDS (Primary Use)



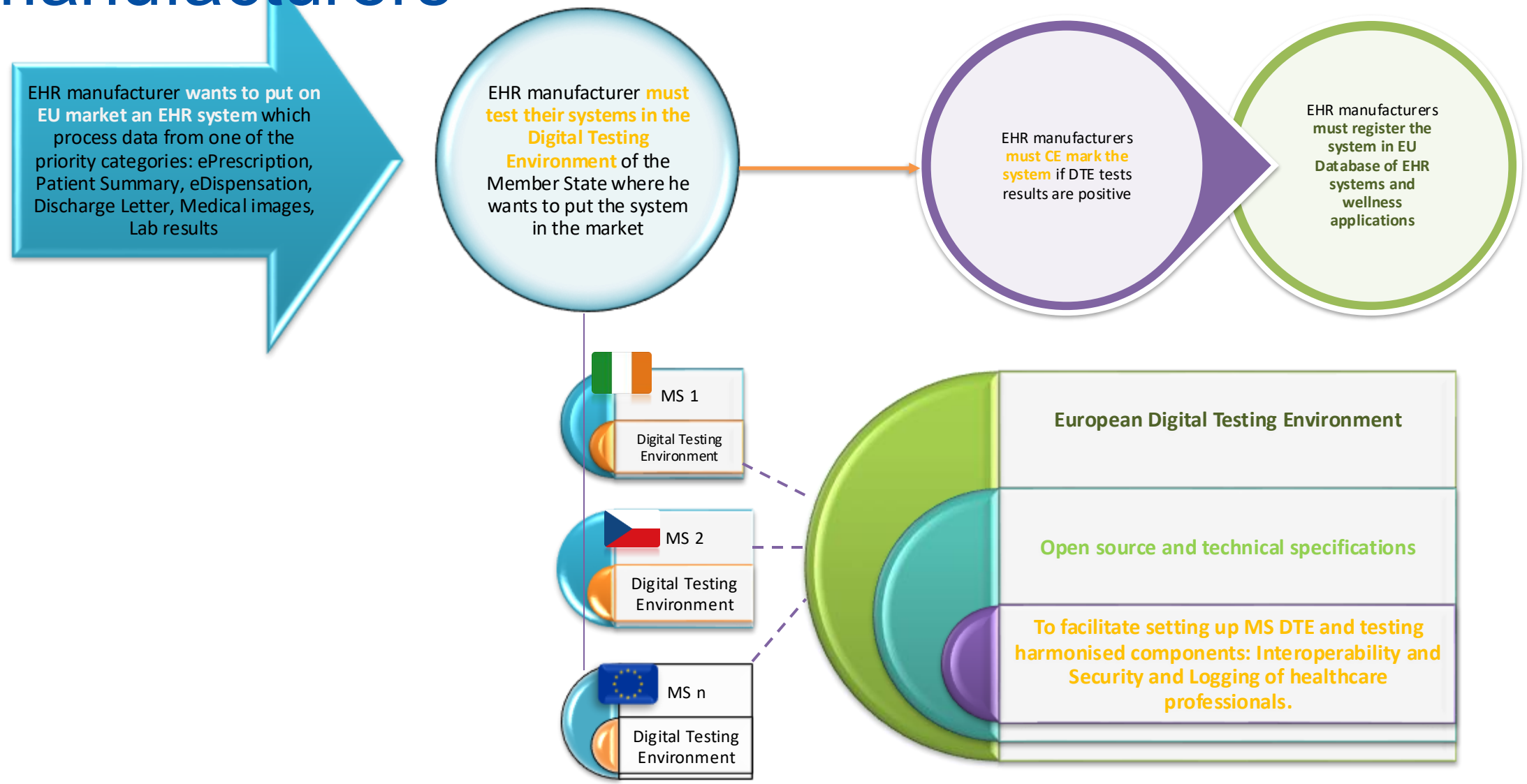
Xt-EHR Expected Outcomes



Xt-EHR deliverables consultation periods



New responsibilities of the EHR systems manufacturers



- With thanks to **Natalia Zylinska Puta (COM)** for the slide ☺

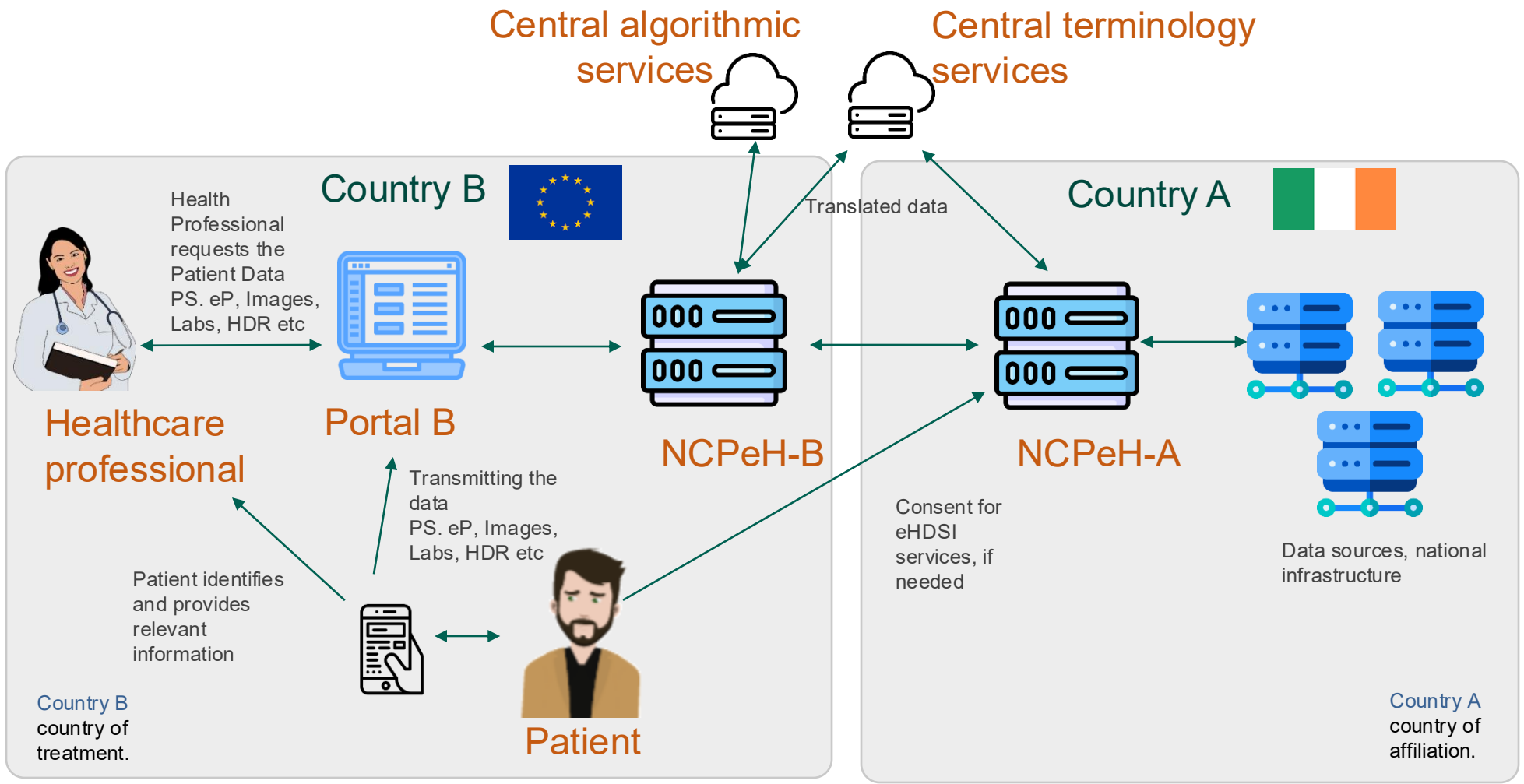
Next steps…

- Ensure the Irish feedback and comments captured are included during the consultation period of these Xt-EHR deliverables which will be used to inform the Implementing Acts.

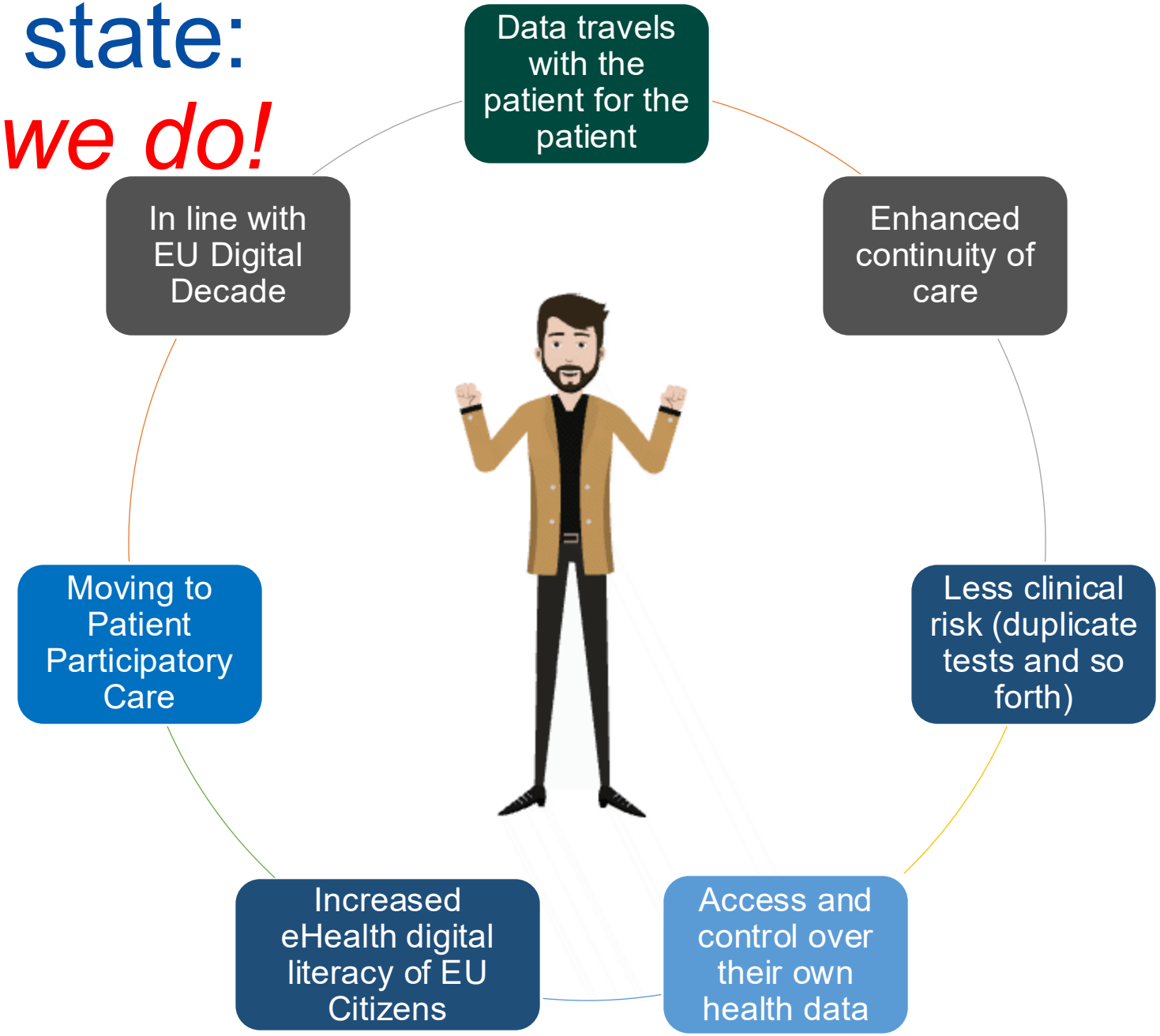
  Currently this is being done with targeted Irish stakeholder consultation based on the relevant stakeholders identified through the Digital for Care conference/webinars lists…

MyHealth@EU: *Future State*

A fully **interoperable future state MyHealth@EU landscape**.



Future state:
When we do!



Additional practical EHDS information…

- https://health.ec.europa.eu/latest-updates/frequently-asked-questions-european-health-data-space-2025-03-05_en

- **Thank you / Go raibh maith agat!**

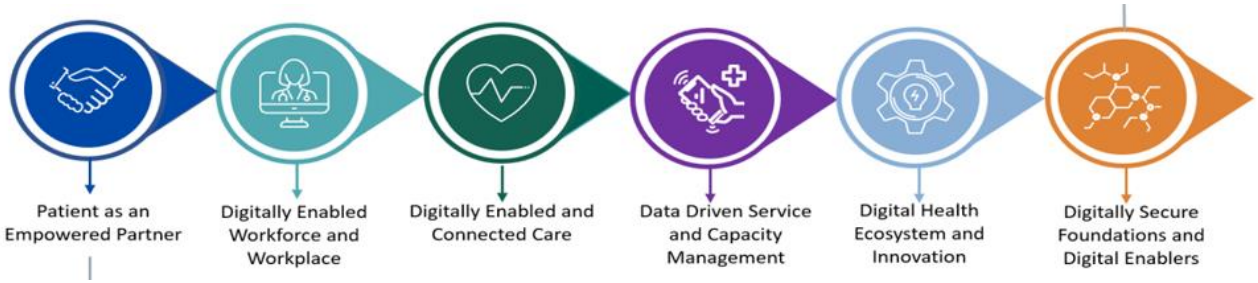
  - eamonn_coyne@health.gov.ie

MyHealth@IE:
HSE App & NSCR

Speaker:

Kathryn Kissane
Deputy Delivery Director,
Engagement & Delivery,
Standards & Shared Care Records,
HSE

MyHealth@IE Programme



Vision

To enable the sharing of standardised, interoperable digital health records for both healthcare professionals and citizens, nationally and across borders. We aim to enhance the clinician and patient experience to enable improved clinical decision-making and self-management of healthcare.

Products

HSE App

A secure mobile App to give patients access to their own health information and to make it easier to manage their own health care.

National Shared Care Record

A digital record of a patient's key healthcare data aggregated from various electronic data sources and settings and presented to clinicians, patients and carers in a secure and structured way.

MyHealth@EU

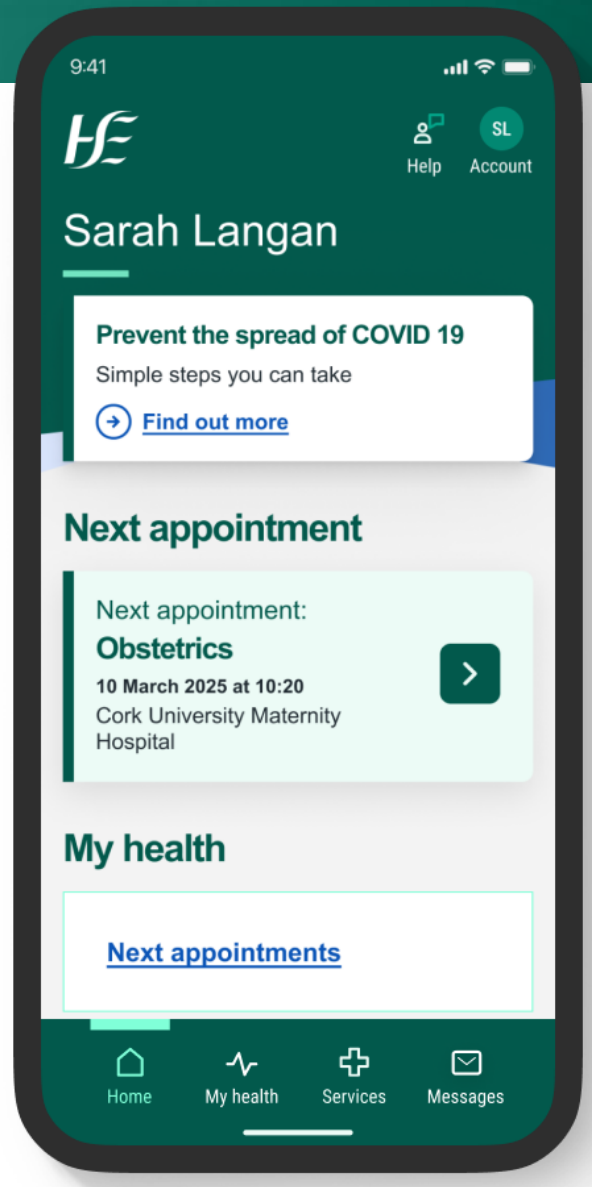
Enabling exchange of digital health records between EU member states.

The MyHealth@IE products are being delivered incrementally in an agile manner.
This means that as user identified digital data becomes available to the products, it can be made available to the user.
Some patient groups will have access to data faster than others based on data quality and availability.

HSE App Update

One of the key initiatives under the Digital for Care Framework is the delivery of the HSE Health App

- The first version of the App gives users secure access to certain health information, COVID-19 and flu vaccination records, digital medications lists, medical cards and EHIC cards, all in one place.
- Expectant mothers are now also able to see some of their antenatal hospital appointment information in the App:
  - Appointment date and time
  - Clinic speciality
  - Clinic name, address and eircode
  - Clinic phone number and email address (where available)
- A target for 2025 is to display all Acute and Community Patient-Facing outpatient appointments made in iPMS in the App.



Services in the App now, and Services to come

3 Major Releases yearly, with additional functionality added in each

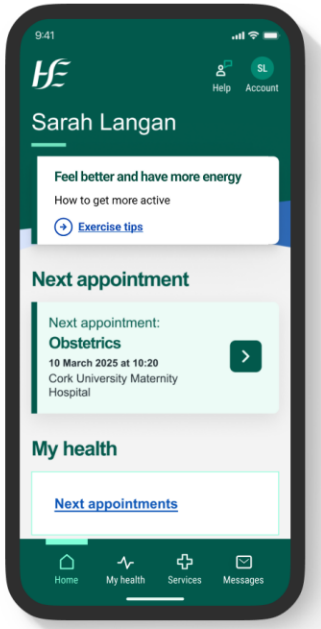
2025 - First public release

- myGovID integration
- IHI integration
- Certain Maternity appointments
- Self-declared medications
- European Health Insurance Card, Medical Card, Long-term Illness Card, Drug Payment Card, GP Visit Card
- Covid and flu vaccinations
- Urgent and emergency care signposting
- Health A to Z
- Support from HSE Live

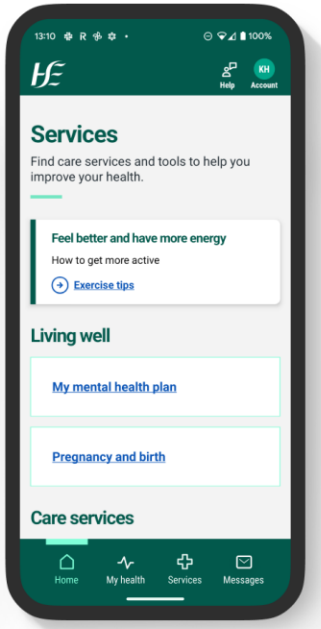
Sample future features

- **Rollout of other appointments**
- Telehealth appointments
- Notifications, alerts and reminders
- Chat with HSE Live
- Maternity care support
- Pre and post-appointment advice information and support
- Quit (smoking cessation) service
- Chronic disease management
- Cancer self-care recovery support
- Diabetes self-care support
- Physical activity self-care service
- Wait times for urgent care
- Wait times for scheduled care

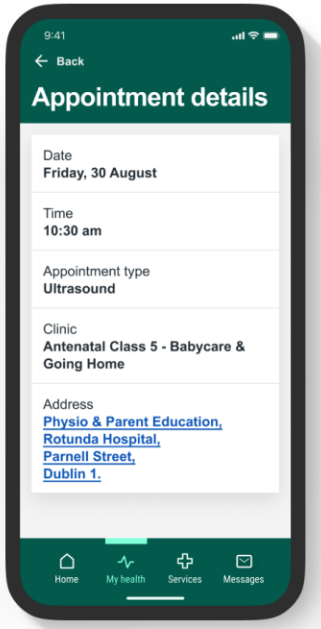
Screenshots of Current App Features



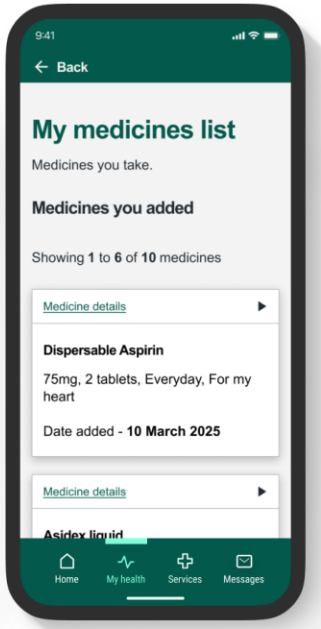
Easy to use, all your information in one place



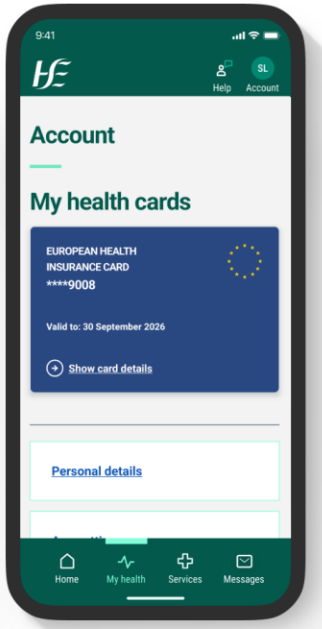
Health, wellbeing and services information



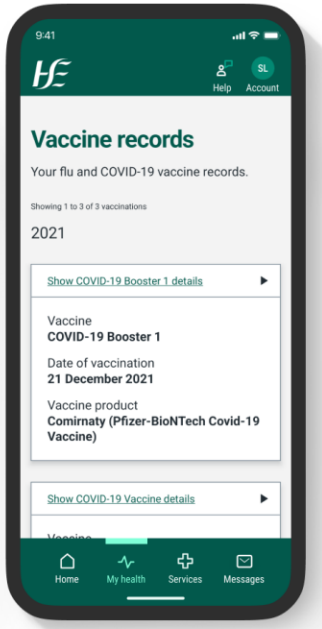
Appointments, starting with maternity



Self declared and reimbursed medications



Digital cards like the EHIC and Medical Card



Covid and Flu vaccine records

Security and Privacy by Design

Security and privacy have been at the centre of all design decisions throughout the development of the app

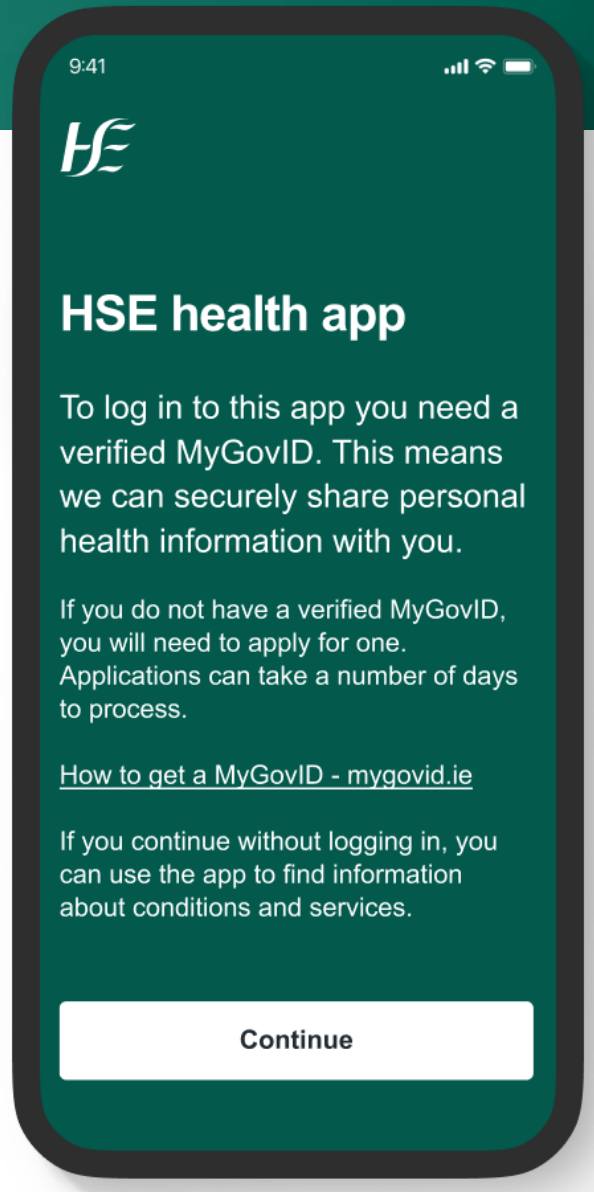
- Access using verified MyGovID to make sure the right person gets the right information;
- Data protection and privacy best practice, including consultation with Data Protection Commission;
- Continuous security testing, auditing, monitoring and assurance.

Trusted content

We heard often that the information provided was valued because the HSE is a trusted source of public health information.

"It's accurate information because it's from the HSE"

"The biggest value of the app to me is having all my health information in one place and being able to access it easily"



National Shared Care Record (NSCR) Update

- A Shared Care Record brings together healthcare information from various sources such as hospitals, GP practices, and Community care into a single place, making them available at the point of care and self-care.
- The result is a longitudinal record of key data covering the provision of care from primary to secondary and community care.
- The NSCR will help support compliance with the EHDS Regulation, and to meet Ireland's obligations under the EU Digital Decade.

"Patient at the centre"

A Shared Care Record is NOT an Electronic Health Record (EHR). It does not allow for adding or editing healthcare data, nor provide the level of detail that would be in a patient's paper chart.

NSCR Discovery Phase

- **6 week Discovery Phase completed** across four key workstreams: User and Service Blueprint, Technology, Data, and Programme.

- **Broad range of representatives** including clinical (medical, nursing, HSCP, CCIOs etc.), National functions (including multiple Technology and Transformation teams) and patient representatives.

- The **Programme has now moved to the delivery phase**, with further engagement continuing to understand key changes, prepare locations for implementation and proactively support staff to adopt and benefit from the NSCR.

- **As the first location, Waterford and Wexford will be the key focus for this engagement, training and implementation preparation.**

Draft High-Level NSCR Roadmap 2025 - 2027

NSCR Solution

Patient Portal Configuration and Integration with HSE App

NSCR Go-Live

Clinical Portal Configuration and Integration of Initial Data Sources

Demo Environment
Q3 2025

Beta Go-live Q4 2025
Live Clinical Portal with initial data sets/sources

Release 2 *Release 3* *Release 4* *Release 5* *Release 6* *Release 7*

Additional Data Sets / Sources Integrated into NSCR for continued enhancement*

2025 | 2026 | 2027

NSCR Beta Go-Live

Professional User Onboarding

Remaining Professional Users Onboarded in Waves, by RHA

Q4 2025
Initial 500 Beta Professional Users Onboarded

Q4 2026
All Professional Users Onboarded

Patient Onboarding

Q3 2026
Initial Go-Live of Patient Portal including integration with HSE App

Q4 2026
Complete National Go-Live

**Prioritisation and sequencing of Data Sets subject to change*

Target Data Sets & Sources for 2025

- **GP Radiology Results** → Healthlink
- **GP Lab results** → Healthlink
- **Discharge Summaries** → Healthlink
- **Statutory Hospital Appointments** → Datalake
- **PCRS Reimbursed Medications** → Datalake
- **HIPE Procedures** → Datalake
- **GP Chronic Disease Management** → Healthlink
- **Waiting Lists** → Datalake

NSCR Next Steps

- IHA Waterford Wexford has been identified as the initial site for the roll-out of the National Shared Care Record (NSCR)
- We will invite 500 Healthcare Practitioners to have early access to the NSCR, providing training and support
- We will also identify local Change Champions to advocate, drive engagement, and support their peers
- Our goal is to gather feedback and learnings for our roll out at scale nationally in 2026

For further information about the App, please see the HSE Health App pages on the HSE website. The App can be downloaded from the App Store or Google Play.

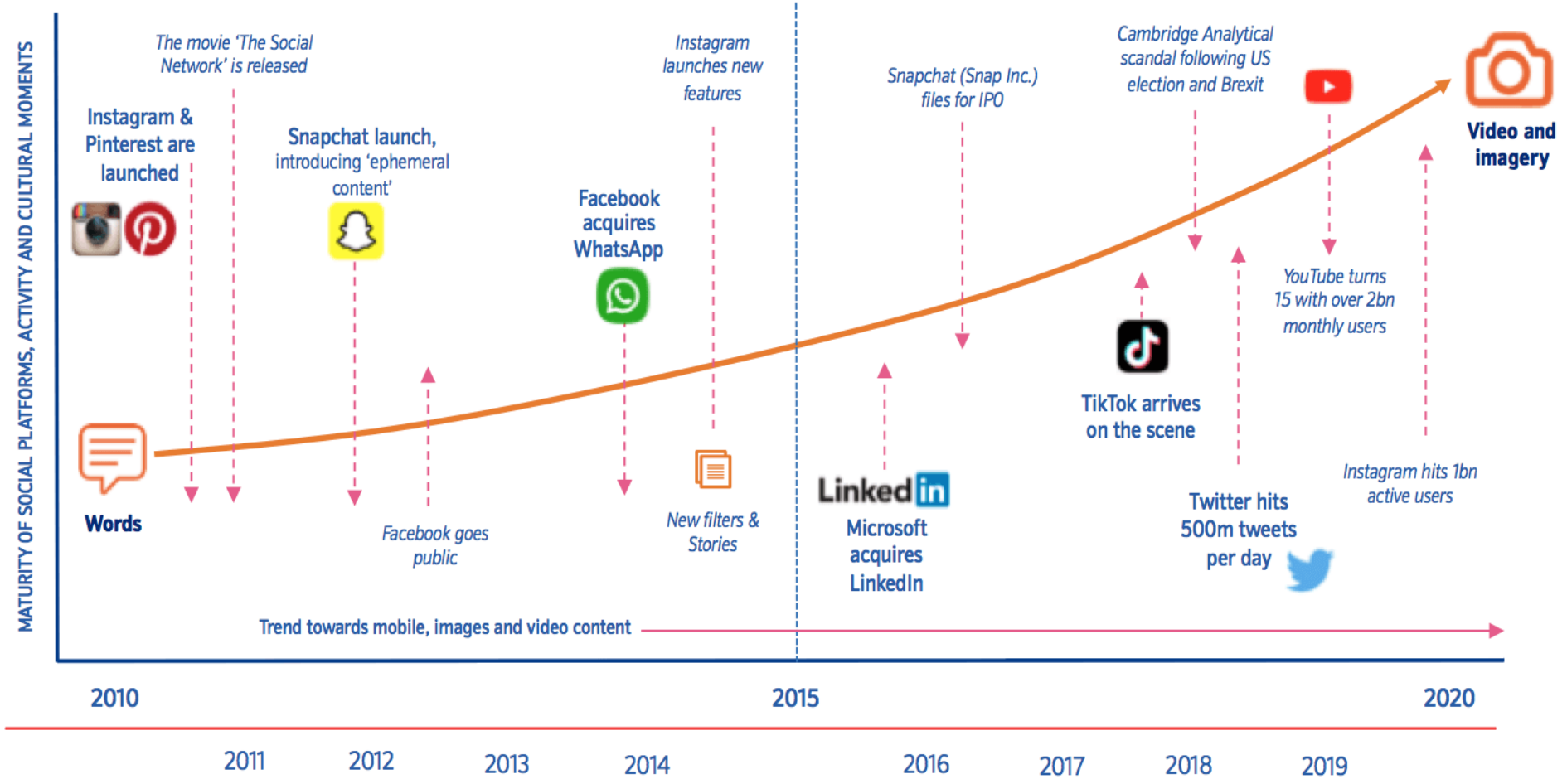
For any queries on the National Shared Care Record, please contact NSCR@hse.ie

Thank You

Central Terminology Service Data Dictionary

Theresa Barry
Data & Clinical Terminology
Architecture Lead, HSE

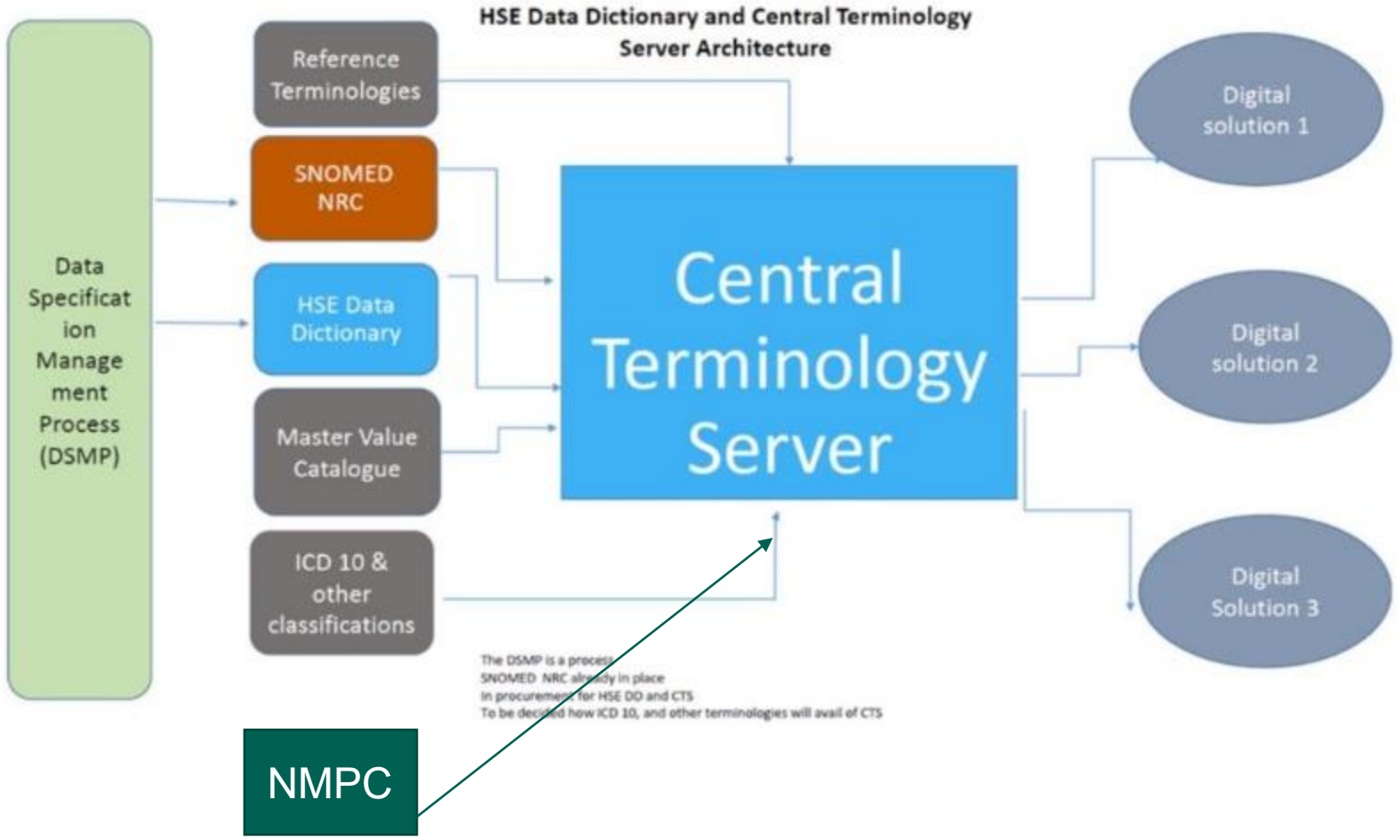
The evolution of digital



Healthcare is also changing rapidly

Planned Architecture

There is currently no Central Terminology Service within the HSE. The future state is depicted within this diagram below:



Data Specification Management Process

Standardised uniform process that facilitates new and existing dataset specification

Quality assurance process for new and existing dataset specifications

Opportunity for early input from downstream functions to enhance service planning, analytics and reporting

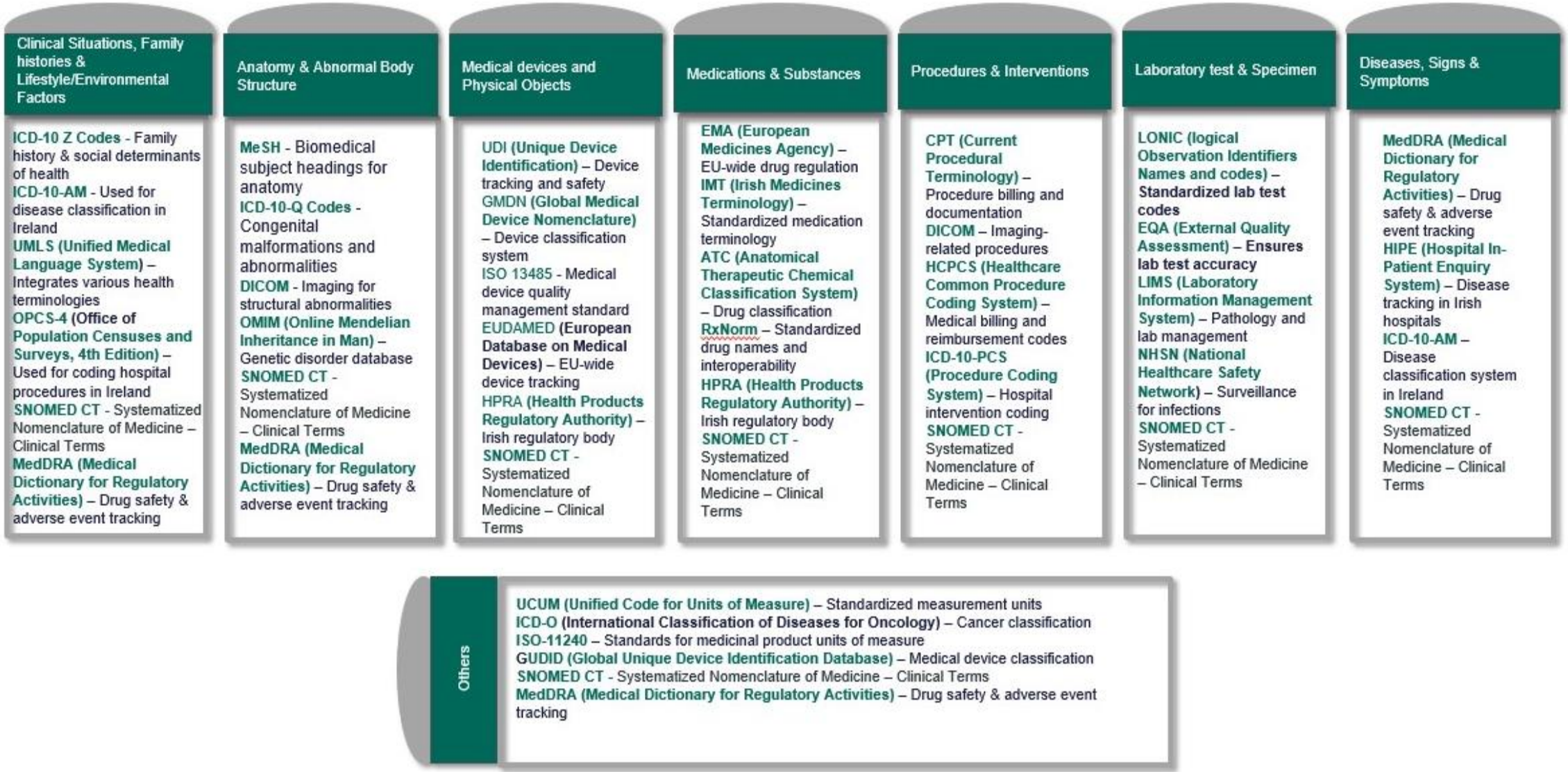
Reduction in re-work and costs due to errors and omissions in dataset specifications

Data Principles

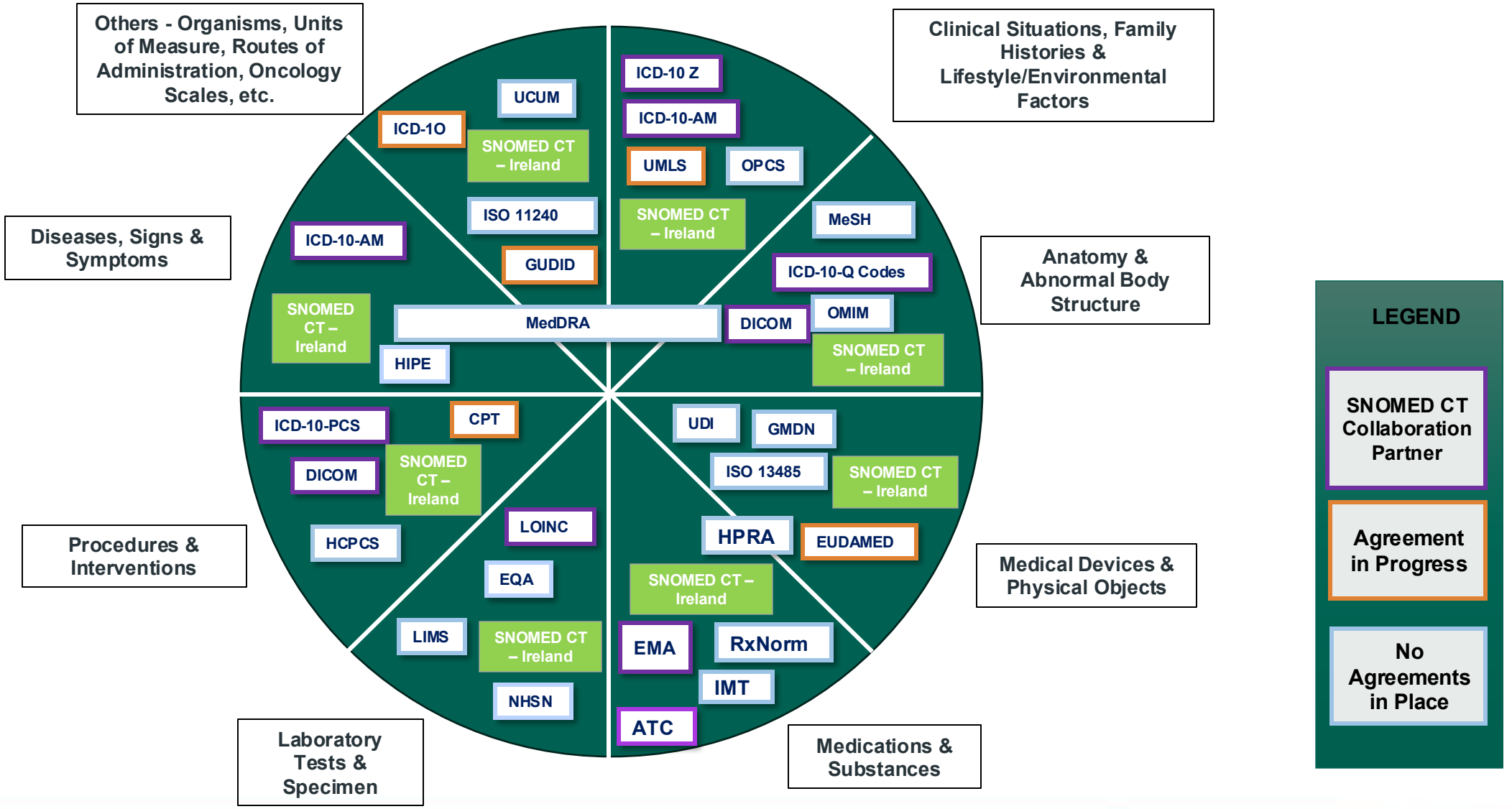
•Data is an asset that has value to the enterprise and is managed accordingly.
•Users have access to data necessary to perform their duties; therefore, data is shared across enterprise functions and organisations in accordance with legislation.
•Data should be accessible for all users to perform their work. Users should have access to local and core national records relevant to their role and within legislative parameters.
•Data is defined consistently throughout the enterprise, and the definitions are understandable and available to all users.
•Each data element has a trustee accountable for data quality.
•Semantic interoperability is achieved through the use of SNOMED CT in all clinical information systems.

Key aspects of data standards in healthcare

SNOMED CT-Ireland and other terminologies

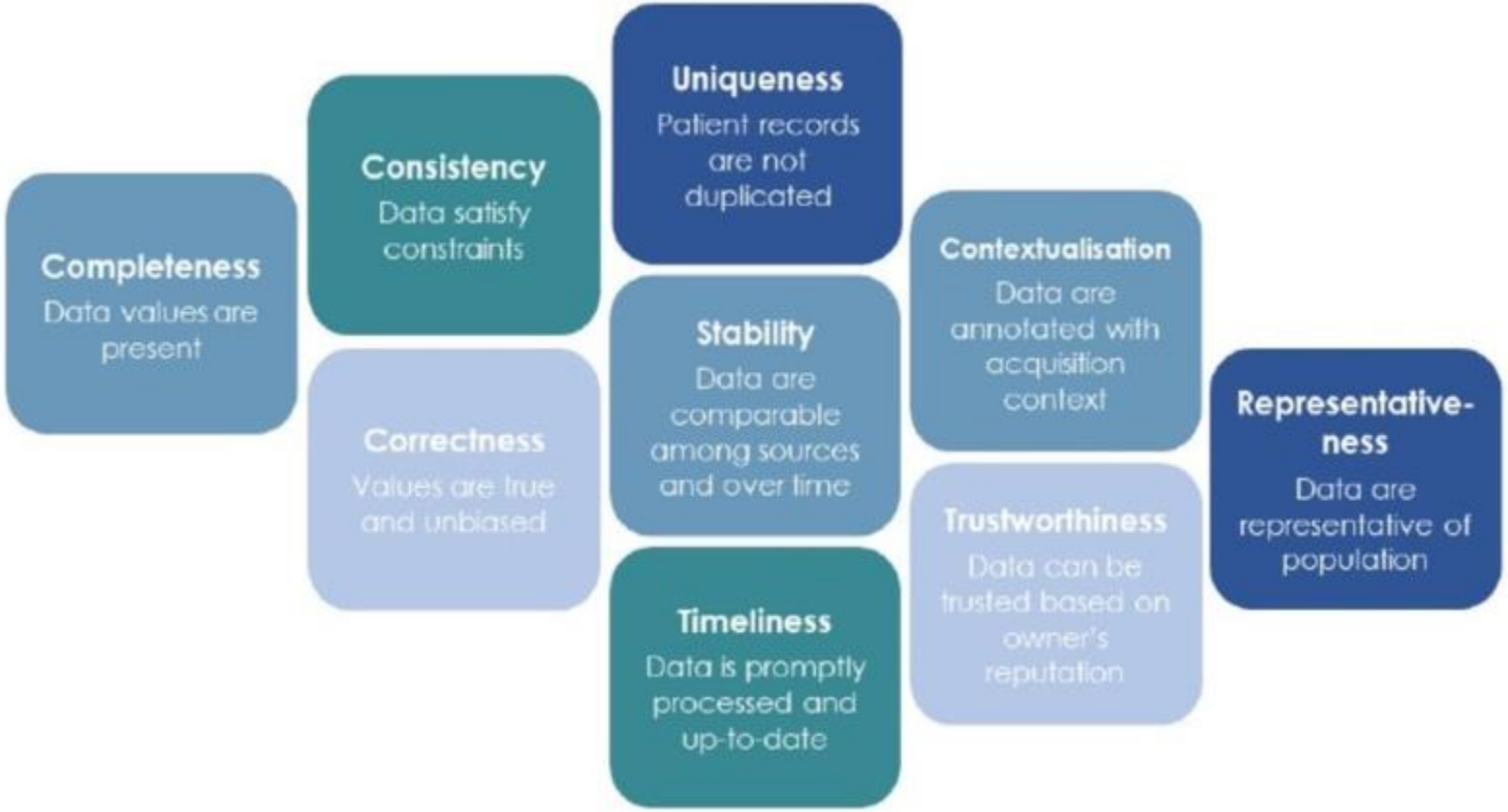


SNOMED CT – Ireland and other Clinical Terminologies



Data Quality

Data Quality Dimensions (i~HD)



A Harmonized Data Quality Assessment Terminology and Framework

- The assessment of data quality is divided into two primary techniques.
- Verification
  - Ensuring that the data values conform to internal expectations, metadata constraints, system assumptions, and local knowledge without relying on external benchmarks.
- Validation
  - Comparing data values against external benchmarks or gold standards to confirm their accuracy and reliability.
  - Accepted with external references or standards, providing a higher level of confidence in data quality.

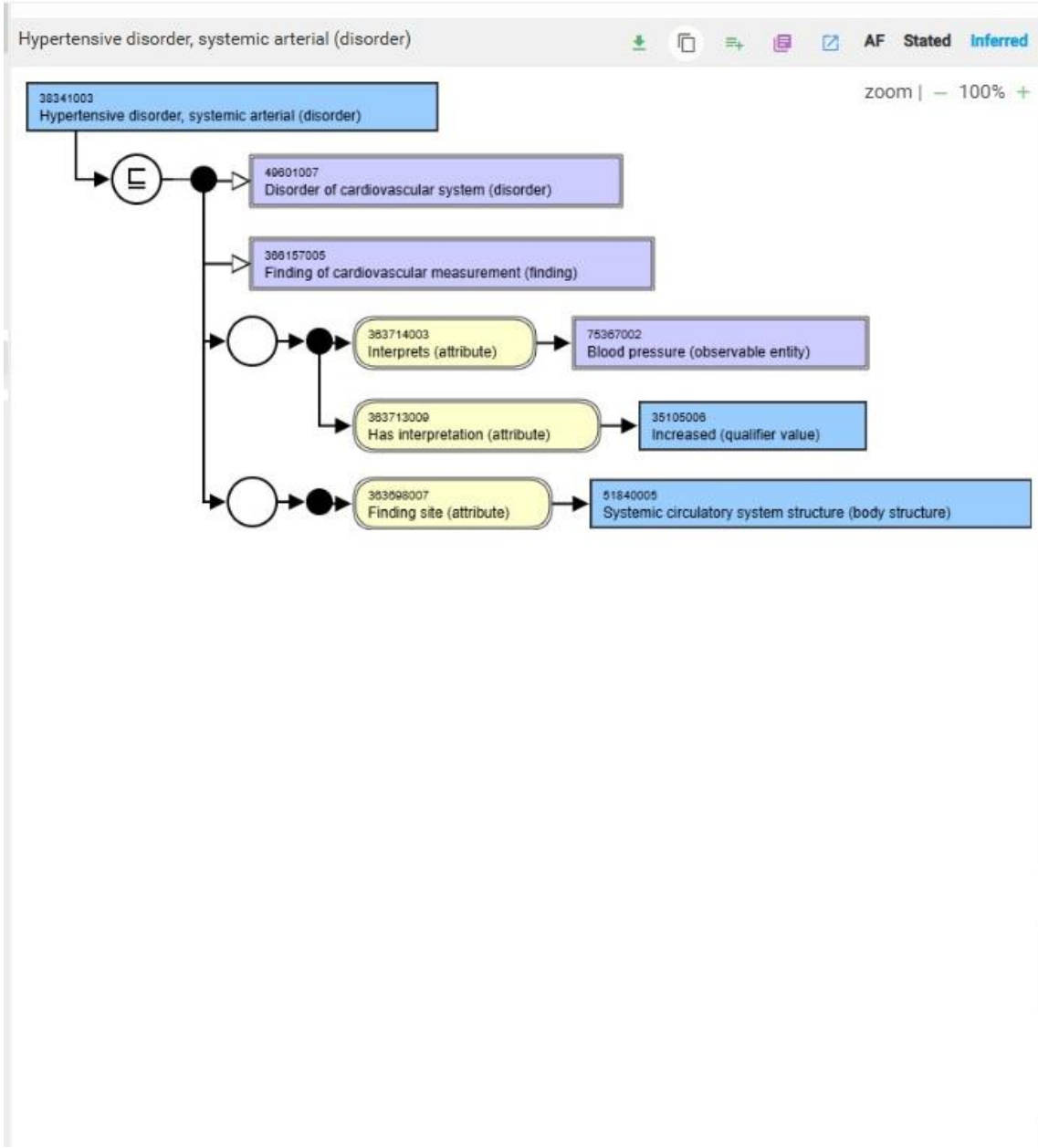
Artificial Intelligence, research and analytics

AI, research and analytics

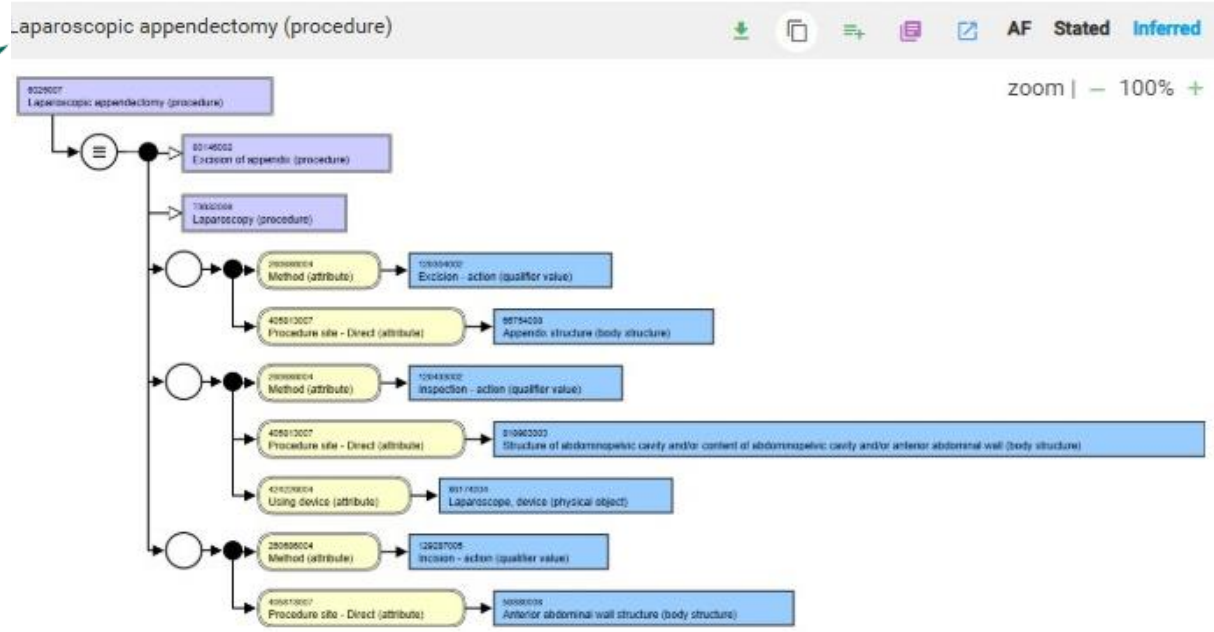
One way to tame a mess, whether it is a child's room, a woodshop or a swamp of data, is to have a place to put everything. **Data standards do this for data.** More importantly, they can do this for generative AI systems, allowing us human beings to address many of the legitimate concerns that have arisen since the widespread release of large language models (LLMs) and their host generative AI (Gen AI) systems like OpenAI ChatGPT, Microsoft Copilot™, and Google Bard™.

As we step into the era of advanced artificial intelligence, the question arises: do we still need data standards? With the advent of Gen AI, some have speculated that AI systems can make sense of virtually anything, rendering data standards and tagging of data in compliance reports obsolete. This alluring notion, however, does not hold true. In fact, **the Age of AI makes data standards more critical than ever before**.

Data Foundation link


Hypertensive disorder, systemic arterial (disorder)
AF
Stated
Inferred
zoom | — 100% +
38341003
Hypertensive disorder, systemic arterial (disorder)
49601007
Disorder of cardiovascular system (disorder)
386157005
Finding of cardiovascular measurement (finding)
363714003
Interprets (attribute)
75367002
Blood pressure (observable entity)
363713009
Has interpretation (attribute)
35105006
Increased (qualifier value)
363698007
Finding site (attribute)
51840005
Systemic circulatory system structure (body structure)


Hypertensive disorder, systemic arterial (disorder)
ci Hypertensive disorder, systemic arterial (disorder) FSN us:P gb:P ie:P
ci Hypertensive disorder SYN us:P gb:P ie:A
ci Hypertension SYN us:A gb:A ie:P
CS BP - High blood pressure SYN us:A gb:A ie:A
CS BP+ - Hypertension SYN us:A gb:A ie:A
CS HBP - High blood pressure SYN us:A gb:A ie:A
ci High blood pressure SYN us:A gb:A ie:A
ci High blood pressure disorder SYN us:A gb:A ie:A
CS HT - Hypertension SYN us:A gb:A ie:A
CS HTN - Hypertension SYN us:A gb:A ie:A
ci Hypertensive disorder, systemic arterial SYN us:A gb:A ie:A
ci Hypertensive vascular degeneration SYN us:A gb:A ie:A
ci Hypertensive vascular disease SYN us:A gb:A ie:A
ci Systemic arterial hypertension SYN us:A gb:A ie:A
Axiom
Is a
Disease (disorder)
Finding site
Systemic circulatory system structure (body structure)
Interprets
Blood pressure (observable entity)
Has interpretation
Increased (qualifier value)



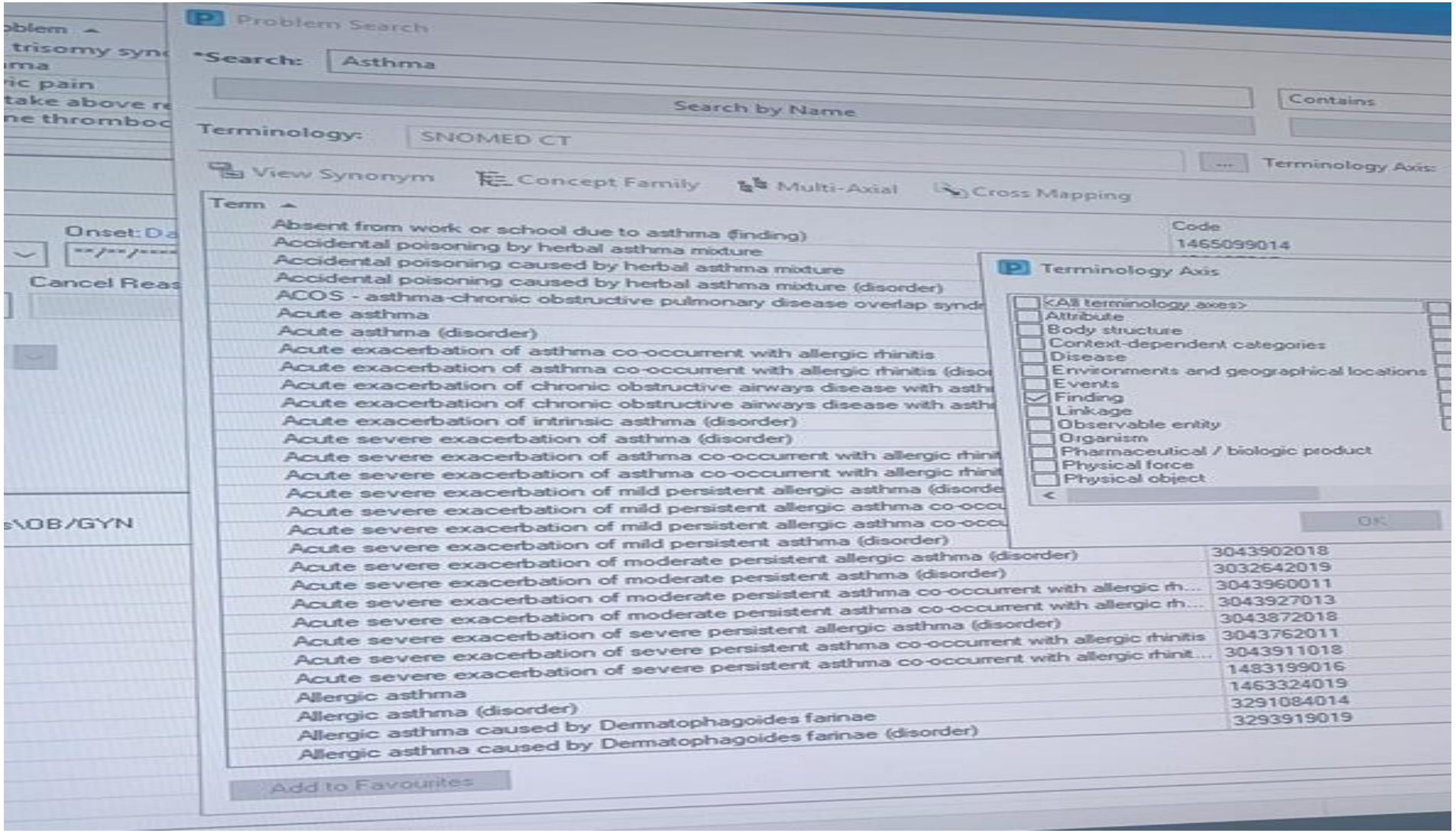
Laparoscopic appendectomy (procedure)

ci	Laparoscopic appendectomy (procedure)	FSN	us:P	gb:P
ci	Laparoscopic appendectomy	SYN	us:P	gb:N
ci	Endoscopic appendectomy	SYN	us:A	gb:N
ci	Laparoscopic appendicectomy	SYN	us:N	gb:P
ci	Endoscopic appendicectomy	SYN	us:N	gb:A

Axiom

Is a	Procedure (procedure)
Method	Excision - action (qualifier value)
Procedure site - Direct	Appendix structure (body structure)
Method	Incision - action (qualifier value)
Procedure site - Direct	Anterior abdominal wall structure (body structure)
Method	Inspection - action (qualifier value)
Procedure site - Direct	Structure of abdominopelvic cavity and/or content of abdominopelvic cavity and/or anterior abdominal wall (body structure)
Using device	Laparoscope, device (physical object)

Current User Interface in EHRs



Vendor Specification

Benefits of a Central Terminology service

Central Terminology Server

- Simplify the use of clinical terminology by addressing the key challenges faced by implementers.
- Encourage vendors, jurisdictions, and other organisations to adopt terminology products and services in their solutions.
- Provide a "one stop shop" for national specification code systems, and enable enterprises to create their own "one stop shop"
- Improve collaboration between producers and consumers of terminology products and services.
- Enable the realisation of the benefits of clinical terminology adoption

An API, or Application Programming Interface, is a set of rules and specifications that allow different software systems to communicate and interact with each other. It acts as a bridge, enabling one application to request and receive data or functionality from another application without needing to know the underlying details of how the other application works.

Instead (or as well as) delivering SNOMED CT as RF2 files; APIs, services and software are required as building blocks for implementers

- Lower the entry bar and learning curve, particularly for simple use cases
- Update process is simpler
- Less time working on boilerplate, more time to focus on the product
- Complex/powerful features enabled with little effort required

FHIR and SNOMED

Fully Enabled FHIR Terminology Capabilities. Includes broad support for the standard FHIR terminology resources and operations. These capabilities include Search, Create, Read, Update, and Delete operations on ValueSet, ConceptMap, CodeSystem, NamingSystem, and StructureDefinition; as well as other terminology-specific operations such as $expand, $validate-code, $lookup, $subsumes, $find-matches, $closure, $translate, and $validate.

The Terminology Server provides access to CodeSystems, ValueSets, and other Terminology artifacts for International and Irish Terminologies, and Classifications, such as:
SNOMED CT
ICD-10
National Medicinal Product Catalogue

Others yet to be decided i.e
LOINC
DICOM
Orphanet

Well-known Terminologies: SNOMED-CT & LOINC

- http://snomed.info/sct (/[edition](/version/[date])?)?
- Properties: all relationships, normalForm, moduleId …
- Filters: relationships, subsumption, refset, ECL expressions
- Implicit ValueSets
  - All codes: http://snomed.info/sct?fhir_vs
  - By subsumption: http://snomed.info/sct?fhir_vs=isa/404684003
  - List of refsets: http://snomed.info/sct?fhir_vs=refset
  - All codes in a refset: http://snomed.info/sct?fhir_vs=refset/734138000
  - All codes that match an ECL expression: http://snomed.info/sct?fhir_vs=ecl/* : 363698007|Finding site| = 85562004|Hand structure|
- Implicit ConceptMaps
  - Historical associations: http://snomed.info/sct?fhir_cm=900000000000527005

- http://loinc.org(/[version])?
- Properties: axes, STATUS, …
- Filters: by multi-axial hierarchy, by part, …
- Implicit ValueSets
  - All codes: http://loinc.org/vs
  - By multi-axial hierarchy: http://loinc.org/vs/LP14635-4
  - By Answer List: http://loinc.org/vs/LL715-4

What is included in the procurement

Solution Overview

Framework requirements exceed Ontoserver alone, components include:

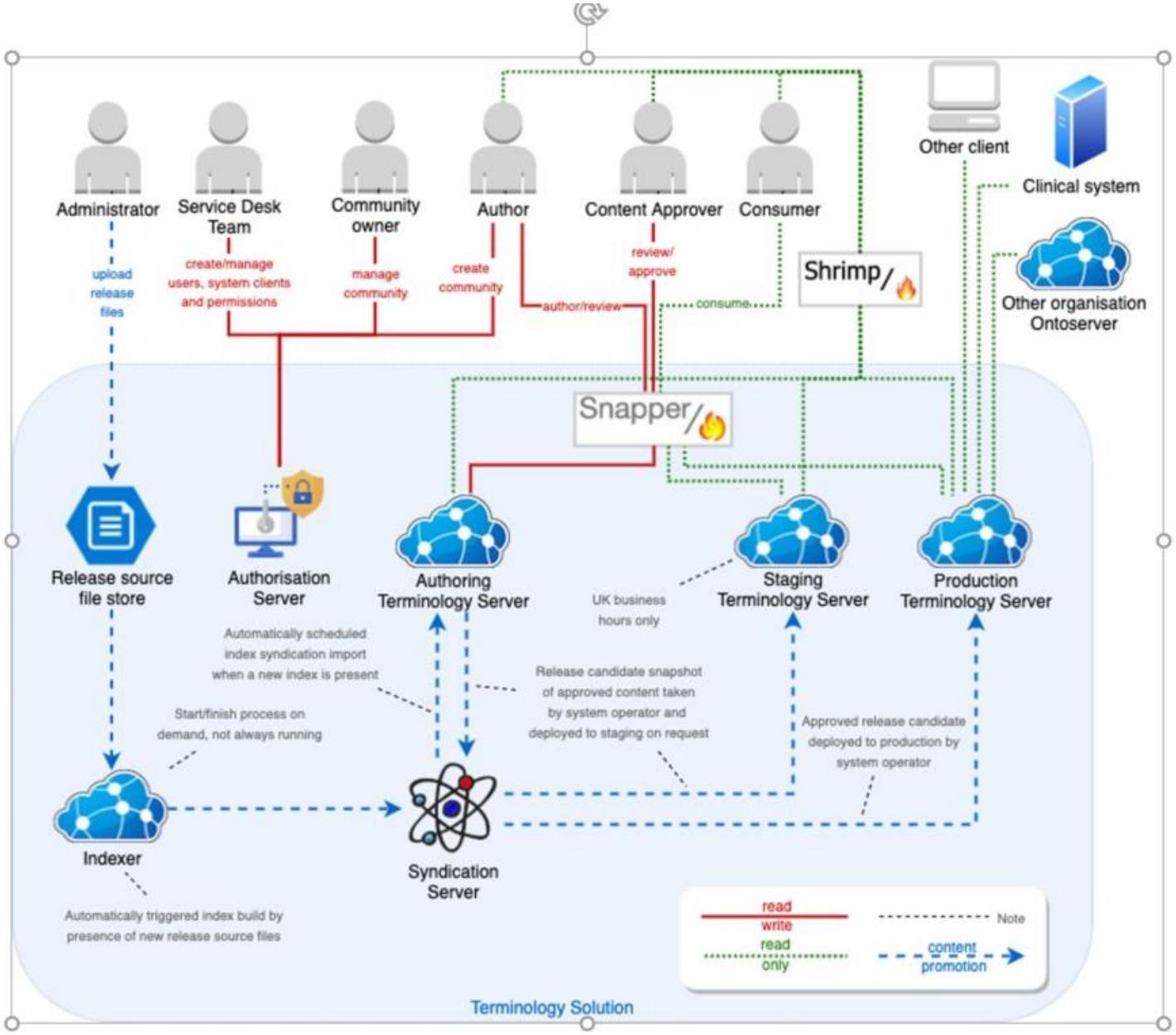
Ontoserver
- Indexing
- Authoring
- Staging
- Production

Snapper
- Lightweight FHIR authoring
- FHIR security label aware

OntoCommand
- Administration UI

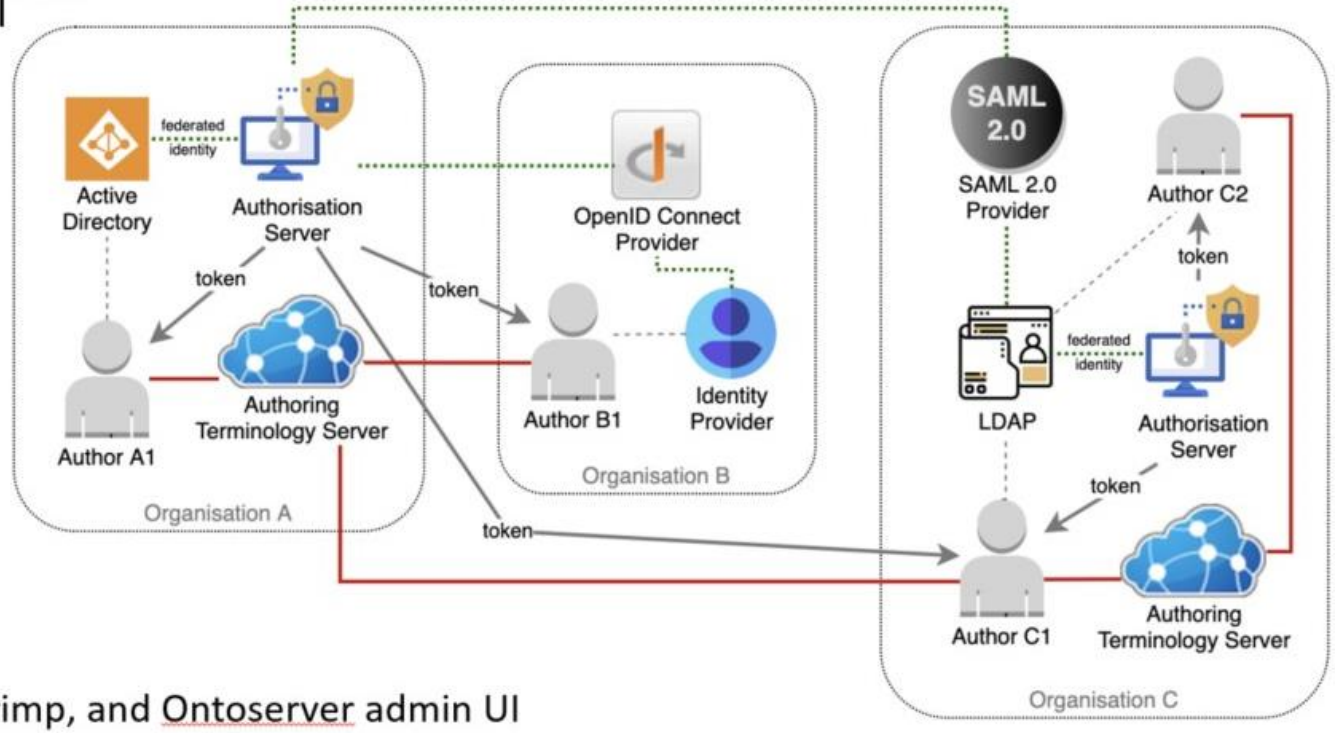
Ontocloak
- Authorisation
- Delegated and local authentication

Atomio
- Syndication server and store



Identity and Authorisation

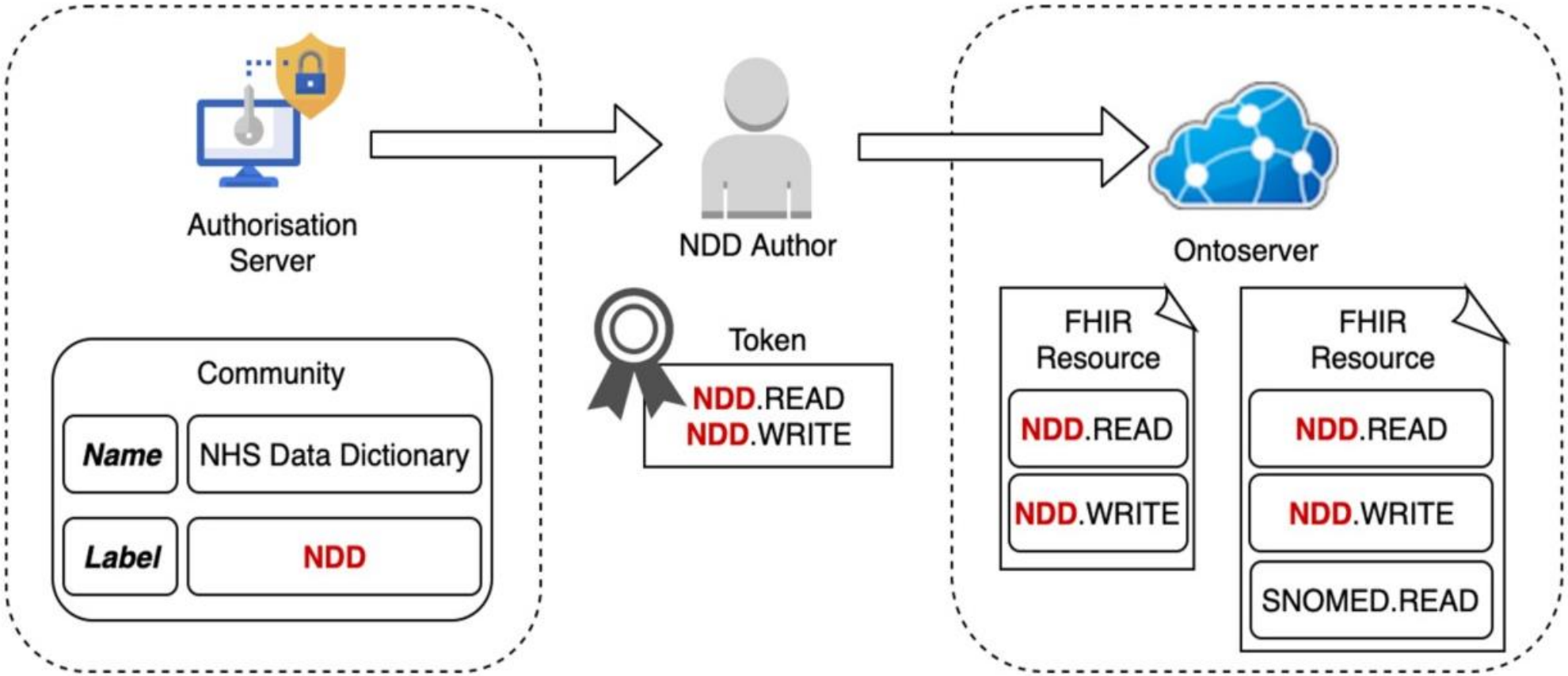
SMART on FHIR - OAuth 2.0



Ontocloak supplies

- Authorisation
- Delegated and/or local authentication
  - Open ID Conenct
  - SAML 2.0
  - AD/LDAP
- Configured for SMART on FHIR with
  - Ontoserver, and
  - associated clients - Snapper, Shrimp, and Ontoserver admin UI
- Built on Keycloak with extensions to
  - Present/record user terms acceptance
  - Manage “communities” aligning to FHIR security labels

Communities and FHIR security labels



Example from SCR in Australia

Core Data Model and Value Sets

Release 1- Clinical

- Demographics
- Medications
- Presenting Problem/Reason for Visit
- Problems/Diagnosis
- Procedures
- Adverse reactions

Release 2

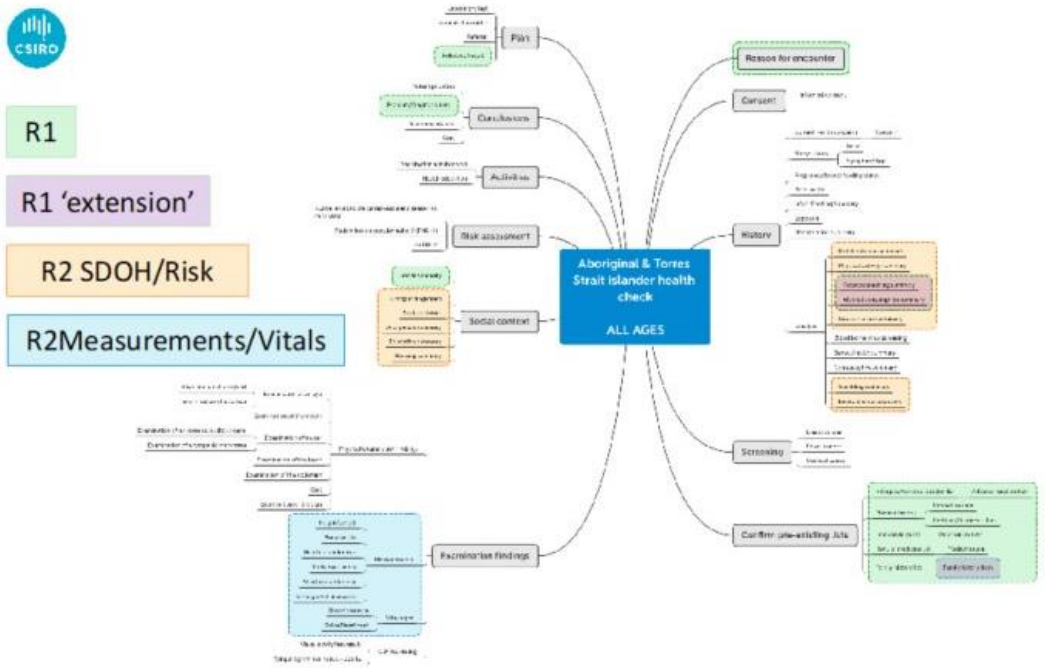
- Family history
- Lifestyle factors
- Social Determinants of Health

Important for

- Identification of risk factors, risk prediction
- Social determinants of health
- Pro-active intervention and care delivery
- Preventive health programs
- Healthcare Assessments

Release 3- What we are working on now

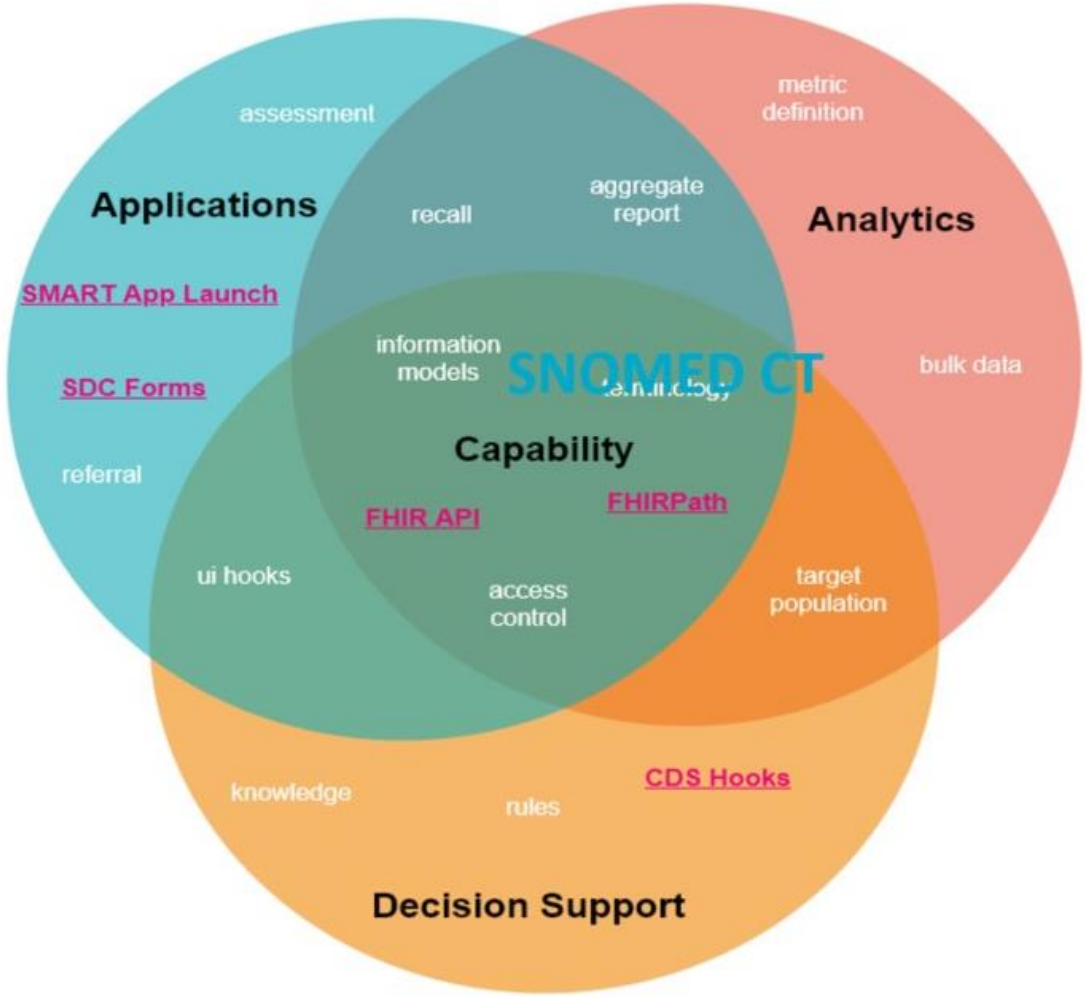
- Functional assessments. Activities of Daily Living



eHealth, HSE.

Interplay of Use Cases, FHIR and SNOMED CT

Standards combine to support a set of use cases with SNOMED CT & FHIR® at its core



NOMED CT Search Demo

Snomed Terminology Server
https://snowstorm-fhir.snomedtools.org/fhir

MEDD, Snowy | DOB: 2001-08-28 | Age: 23 | Sex: Male | MRN: 123456

High Adverse Reaction Risks | Penicillin

Current Encounter

Date/Time
Tue Jul 15 2025 14:44:06 GMT+0100 (Irish Standard Time)

S Laceration of toe of left foot

S Laceration of toe of left foot

boost

Diagnosis Note

S Closure by suture

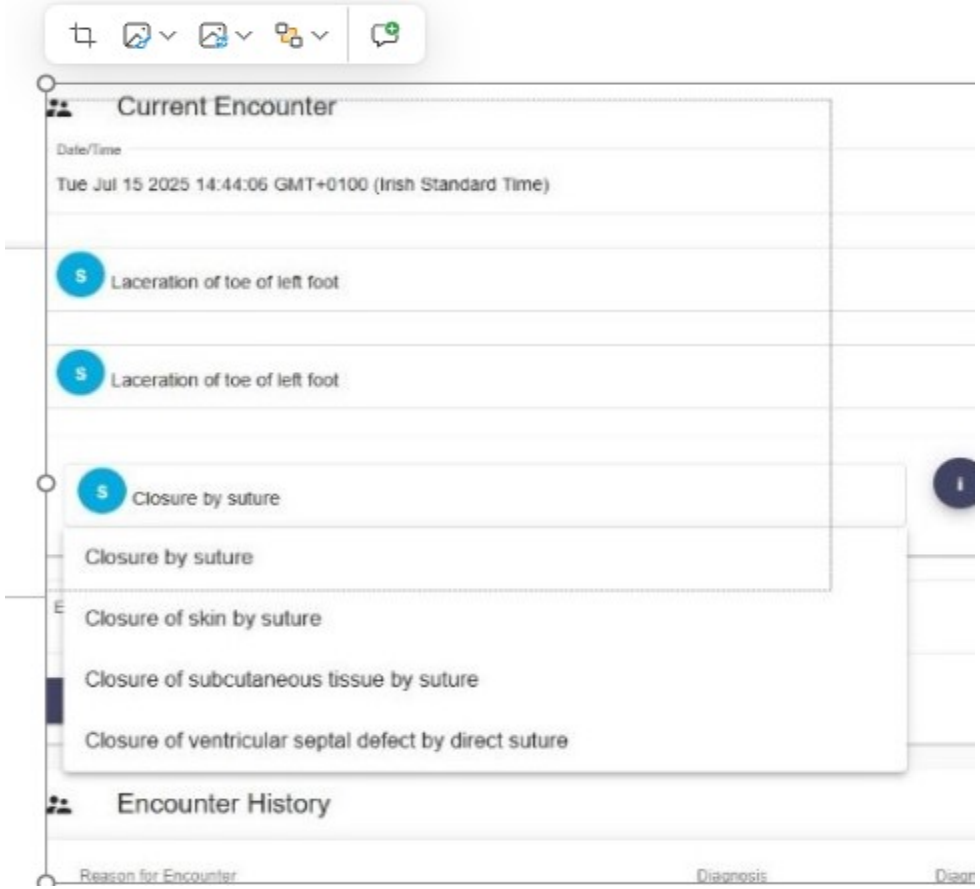
S Laterality

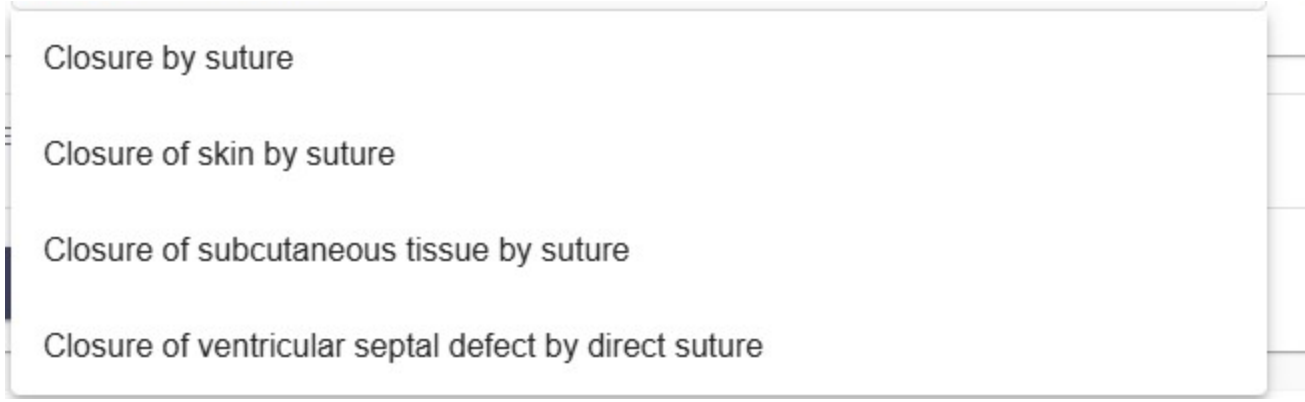
Closure by suture
Closure of skin by suture
Closure of subcutaneous tissue by suture
Closure of ventricular septal defect by direct suture

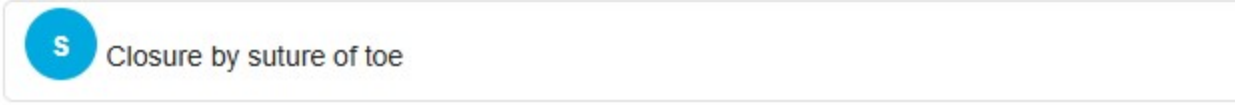
Encounter History

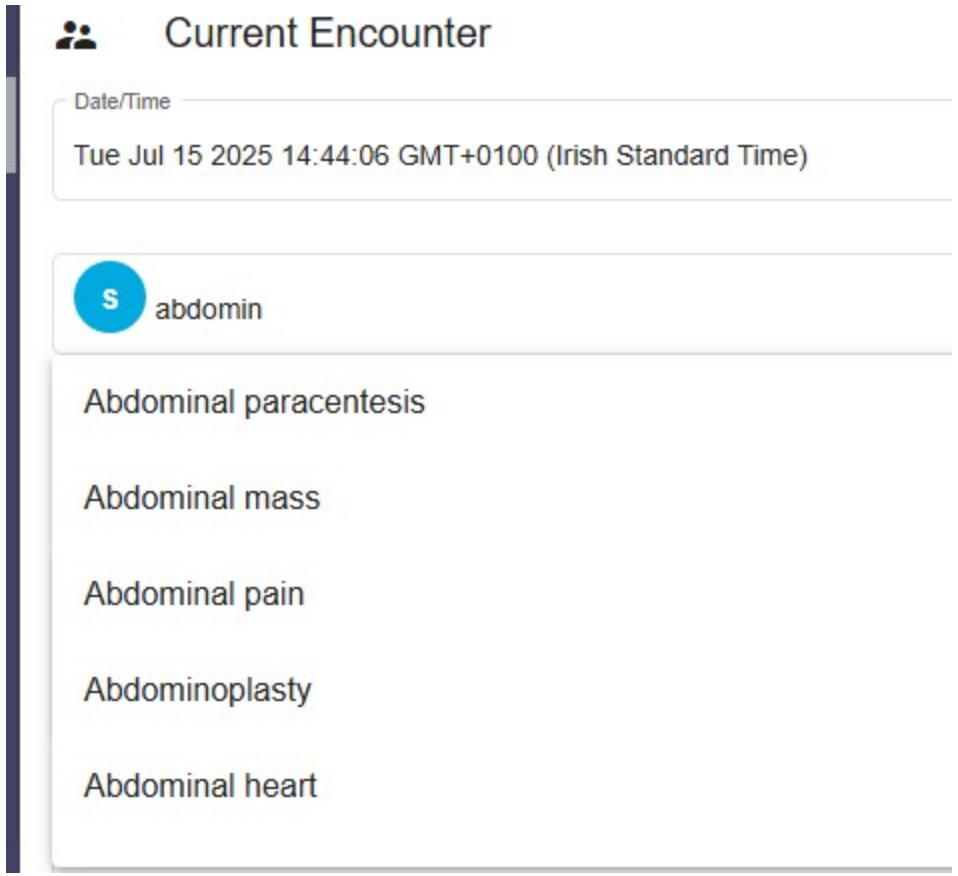
Reason for Encounter	Diagnosis	Diagnosis Note	Procedure	Laterality	Encounter Note

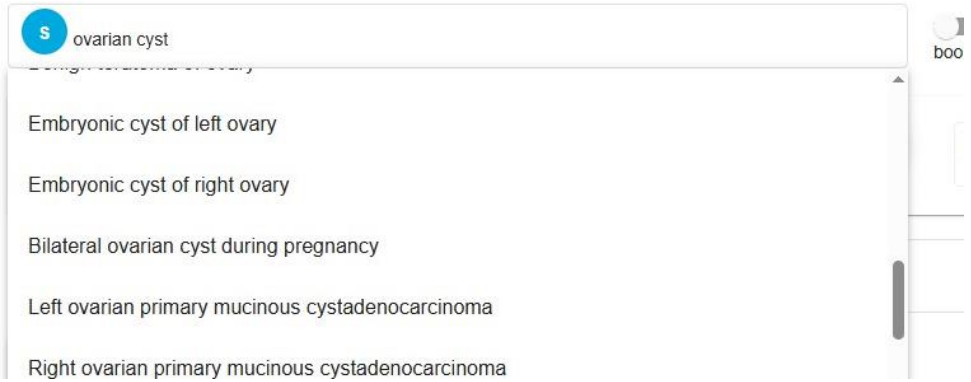
Demonstrator

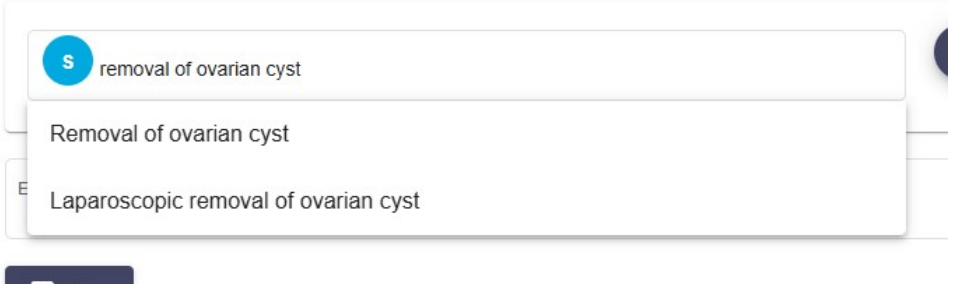












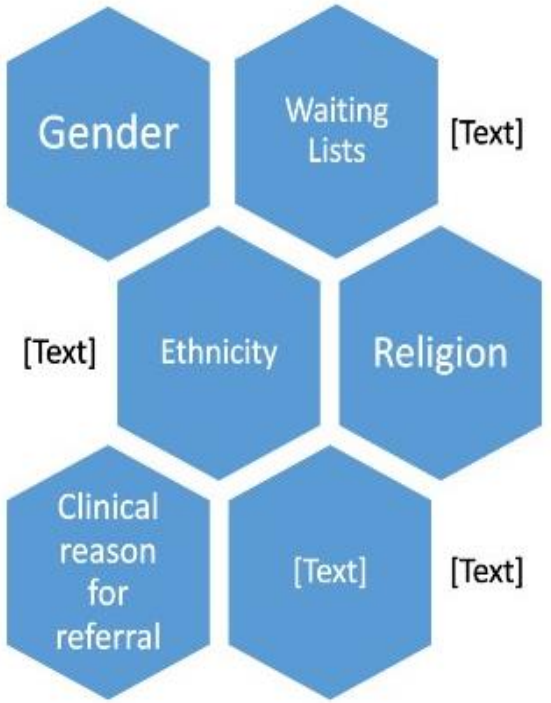
[Link to CTS demonstrator]

Use Cases

Central Terminology Server

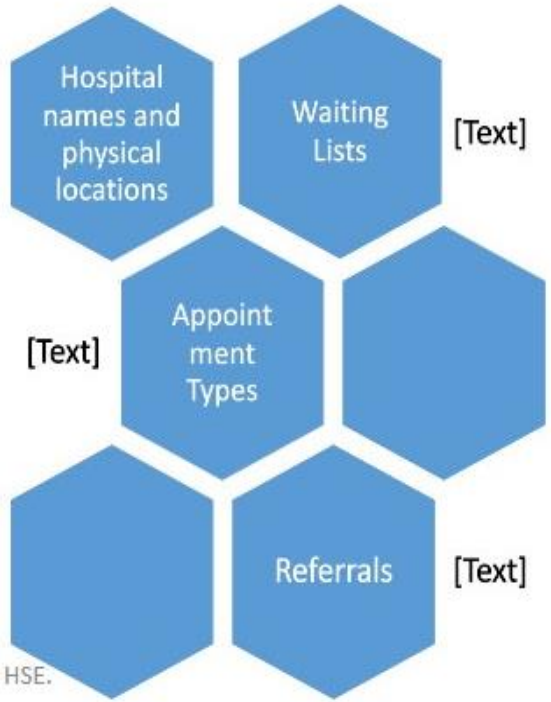
Shared Care Record

Care Connect (Community)



Data Dictionary

- Shared Care Record
- Care Connect (Community)



eHealth, HSE.

Other refsets currently under construction

Current Projects for October 2025 Release

Euroheart TAVI- approx. 200 terms

CHI Child and Young Adult Mental Health- first draft approx. 200 terms

National Sepsis Programme – approx. 50 terms

OCIMS- Outbreak, Case, Incident & Surveillance Information Management System- approx. 1001 terms

NICOR Codes- National institute for Cardiovascular Outcomes Research – approx. 400 terms

OMNSD- Nurse Specialist Register- first phase approx 10 terms

National Ambulance Service – approx. 500 terms

Precision ALS- MS Dataset for Europe

Data Dictionary and Metadata Registry

Data Dictionary and Metadata registry

The **Mauro Data Mapper** is a web based tool which stores and manages descriptions of data. These can be descriptions of data already collected, such as databases or csv files. Or these can be descriptions of data you wish to collect or transfer between organisations, such as a specification for a webform or an XML schema.

Data Dictionary and Metadata Registry

Is defined by national standards

Included in procurement

Each **Data Model** consists of several **Data Classes**, which are groups of data that are related in some way. For example, a group of data that appears in the same table of a database or the same section of a form. **Data Classes** can sometimes also contain **Nested Data Classes**.

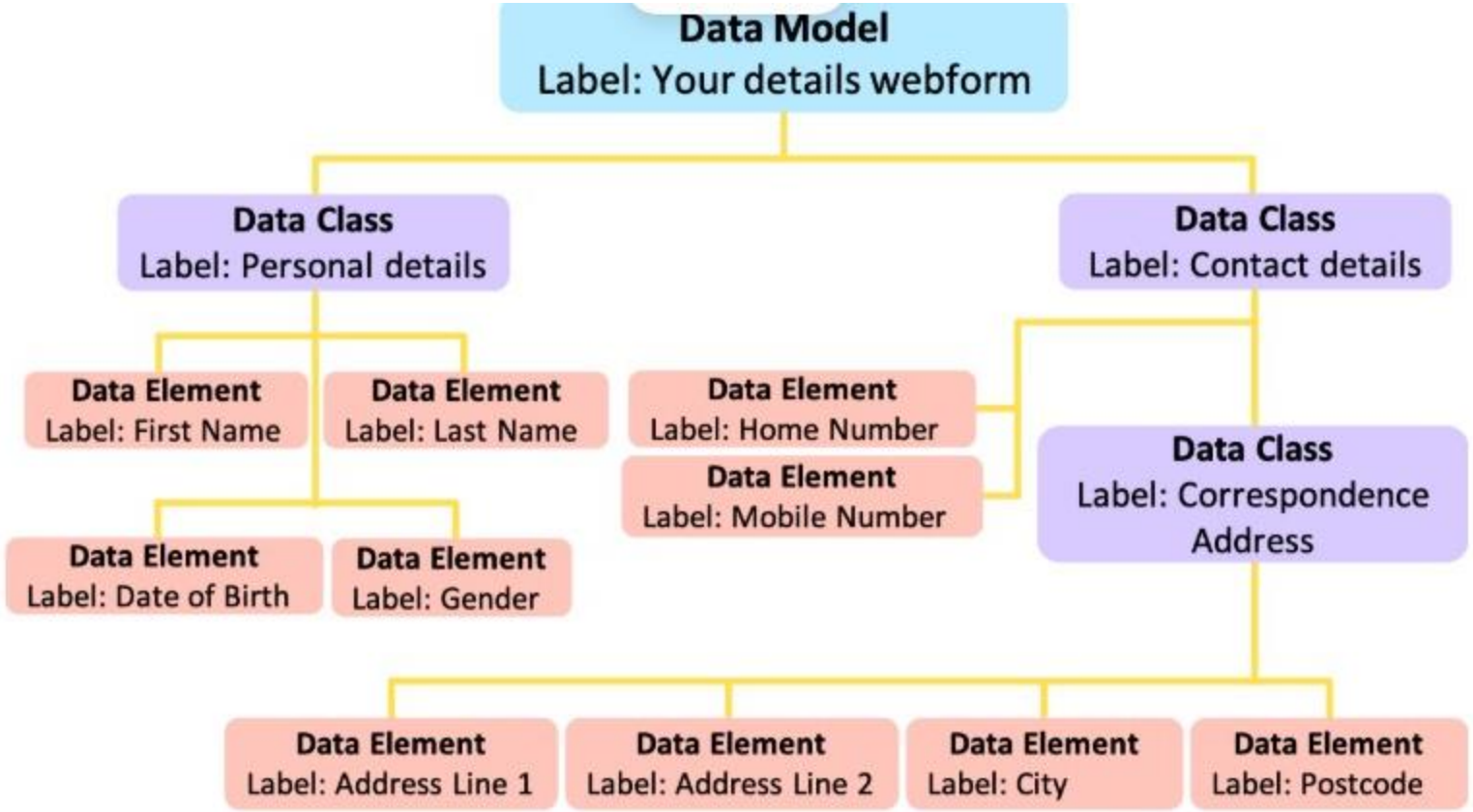
Within each **Data Class** is then a number of **Data Elements** which are the descriptions of an individual field or variable.

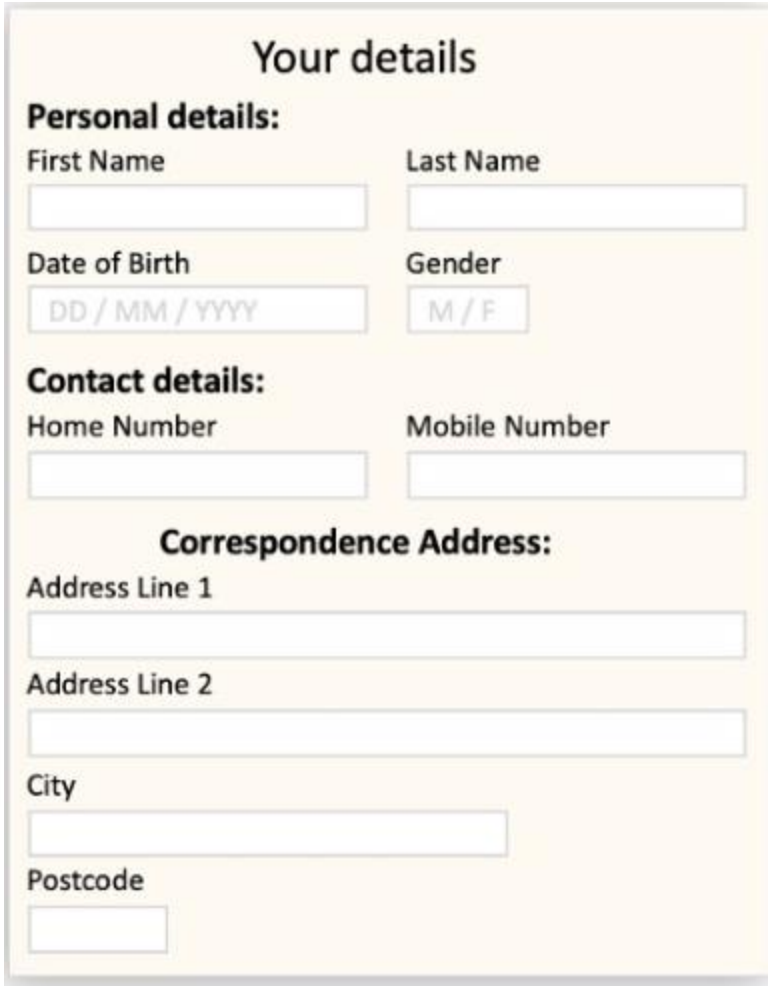
For example, a webform where patients enter their details would be a **Data Model**. This form could consist of two separate sections such as **'Personal details'** and **'Contact details'** which would each be a **Data Class**. The individual entries within each of these sections, such as **'First Name'**, **'Last Name'**, **'Date of Birth'** etc, would each be a **Data Element**.

However, there might be a section within another section on the webform, such as **'Correspondence Address'** which lies within **'Contact details'**. In this case, **'Correspondence Address'** would become a **Nested Data Class**, where the **'Contact details' Data Class** would be the parent.

An open-sc

Support





By organising metadata in this way, **Mauro Data Mapper** allows users to easily search data but also automatically import database schemas and export forms; helping to record data in standardised formats.

Q & A

Thank You

Closing Remarks

Speaker:

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Thank You