

Envisioning Health Data Space 2040

Insights and Outcomes from the First Visioning Pilot Workshop

UEFISCDI, VELES Hub Consortium

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VELES T6.3 Workshop 1 Report - February 2025

Scope of the report

This report presents the **process and results** of the **visioning co-creation workshop for the Health Data Space (HDS)**, organized under the VELES Excellence Hub project on **12 February 2025**. The workshop represented the first phase of a foresight-inspired backcasting process exploring how a mature and inclusive HDS could function by the year 2040.

The report is structured in two main parts. The first section provides the context of the workshop, outlining its objectives, participant composition, and methodological approach. The second section presents the consolidated results, including the validated and enriched use cases for each stakeholder category and the emerging visions of the future Health Data Space derived from these discussions.

The outcomes serve as qualitative input for the continuation of Task 6.3, supporting the formulation of the Joint R&I and Investment Strategic Agenda and Action Plan (D6.3) and the development of a shared vision for a trusted, interoperable, and citizen-centered Health Data Space.

Context

This workshop was conducted within the framework of the VELES Excellence Hub project – Strengthening the South-East Europe Smart Health Regional Excellence and Boosting the Innovation Potential, funded by the European Union's Horizon Europe programme. The activities form part of Task 6.3 – Long-term Common R&I and Investment Strategic Agenda and Action Plan, which aims to define a long-term strategic vision and coordinated roadmap for health data-driven innovation in the region.

Workshop Objectives

The visioning workshop marked the starting point of the co-creation process within Task 6.3. Its goal was to engage project partners in a collective exploration of the desirable future for a Health Data Space in 2040. Rather than focusing on current barriers or implementation details, the exercise aimed to identify what the HDS should ideally enable — for individuals, healthcare

professionals, researchers, and policymakers — and to outline key directions of transformation that can guide future policy and investment actions.

Participants discussed a set of predefined use cases, which served as narrative tools for imagining future interactions and benefits generated by an advanced HDS. These discussions laid the groundwork for shaping the shared vision that will underpin the Joint R&I and Investment Strategic Agenda and Action Plan.

Participants and Quadruple Helix Representation

The workshop gathered representatives of 16 partner organizations from seven European countries — Bulgaria, Greece, Romania, Cyprus, Sweden, Spain, and Germany — covering all four dimensions of the Quadruple Helix model:

- Science: GATE Centre of Excellence (Sofia University), CYENS, and research actors from the Imago-Mol Cluster.
- Policy: UEFISCDI (Romania), the Ministry of Electronic Governance (Bulgaria), and the National eHealth Authority (Cyprus).
- Industry: Telelink Business Services (Bulgaria), JOIST Innovation Park (Greece), Hellenic Digital Health Cluster (HDHC), CIT (Sweden), INSOMNIA (Spain), and the International Data Spaces Association (Germany).
- Society: BioCluster (Bulgaria) and AMEN – Archangel Michael Nursery Centre (Cyprus), contributing citizen and patient perspectives.

In total, **16 organizations** were represented in this visioning exercise, ensuring a balanced representation across sectors and countries and fostering an integrated, cross-border perspective on the future of health data spaces.

Methodology and procedure used

The workshop was designed as an **interactive co-creation process**, grounded in **a foresight-inspired backcasting approach**. Its primary aim was to engage participants in a **visioning** exercise — the first phase of backcasting — to imagine how a mature and inclusive Health Data Space (HDS) might function by the year 2040, serving key stakeholder groups: individuals, healthcare professionals, policymakers, and researchers (in alignment with the categories defined for the European Health Data Space – EHDS).

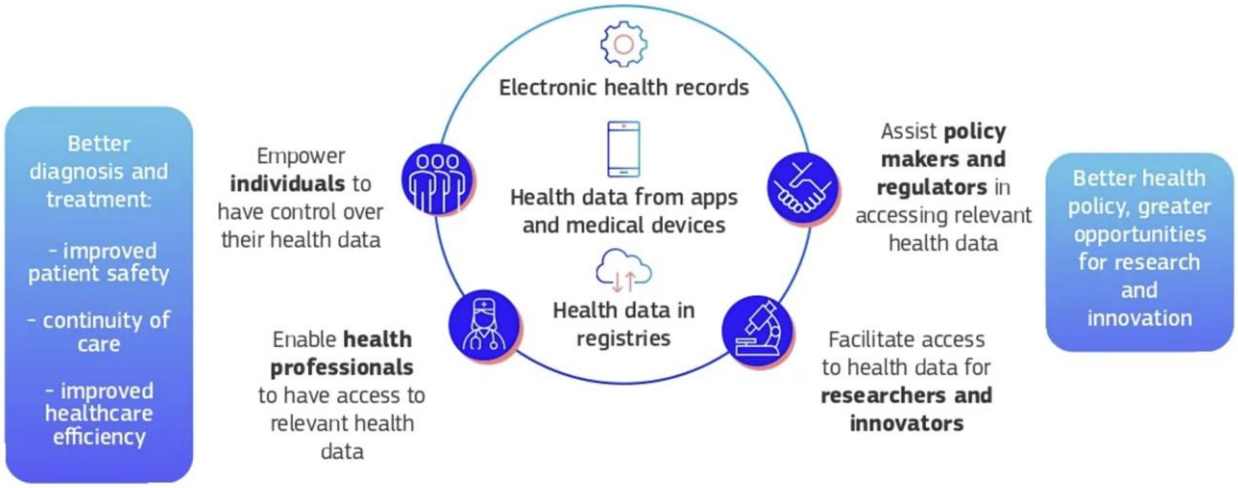
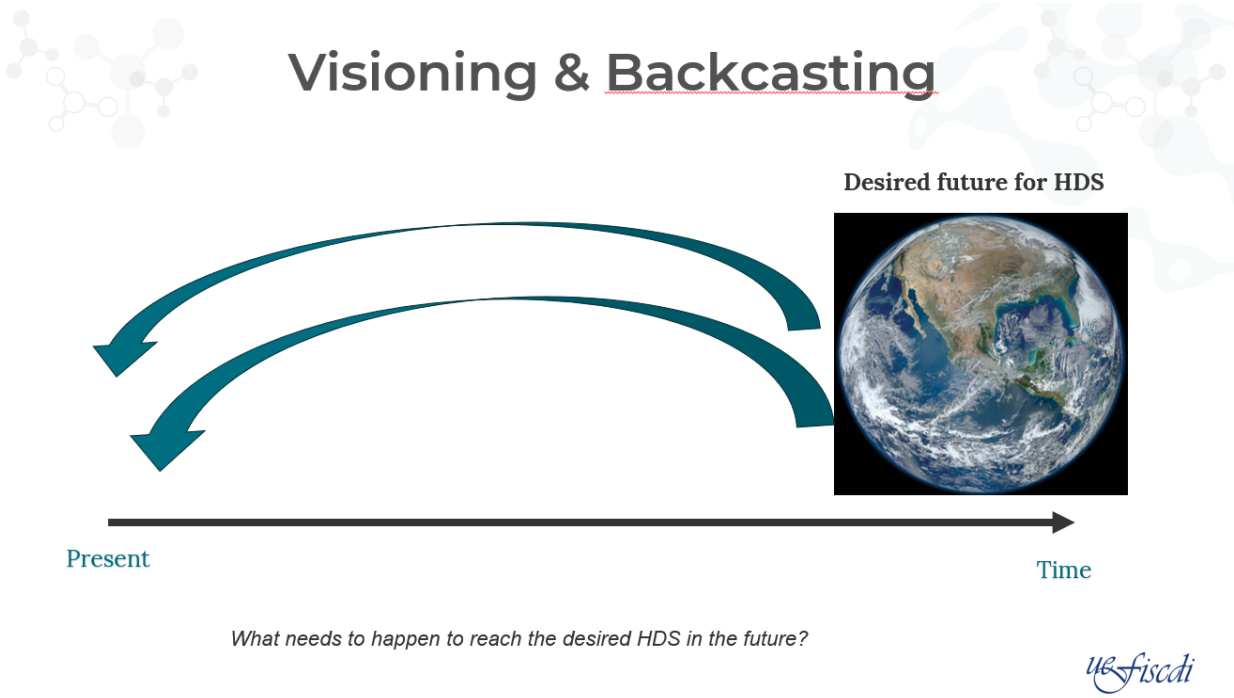


Figure 1. Source: https://www.european-health-data-space.com/



Workshop Design and Purpose

Prior to the workshop, the organizing team developed a set of **27 illustrative use cases**, each exemplifying how the future HDS could deliver value and support various user needs across the four stakeholder categories. These use cases served as narrative entry points to help participants **immerse themselves in a future context** — a 2040 scenario where an advanced and trusted HDS exists, providing tangible benefits and services for its users.

The purpose of the exercise was to articulate a shared vision of what an ideal HDS could look like and how it could transform interactions across the health data ecosystem. The resulting visions and refined use cases provide qualitative input for the next stages of Task 6.3.



Workshop Format and Facilitation

To encourage active participation and diversity of perspectives, participants were divided into four working tables (three on-site and one online). Each group was supported by a facilitator who guided the discussion, encouraged balanced contributions, captured insights, and ensured consistency in how information was collected across groups.

The session followed a three-round participatory format, with each round dedicated to one or two stakeholder groups. Across all rounds, participants were invited to:

- Validate the relevance and feasibility of the predefined use cases;
- Identify overlaps and merge similar or redundant examples;
- Enrich existing use cases with context-specific or other additional considerations; and
- Propose new cases.

Participatory Rounds

1. Round 1 – Individuals
   Participants explored how citizens might interact with the future HDS, focusing on examples such as personal data access, e-prescriptions, and automated health alerts.
2. Round 2 – Healthcare Professionals
   Discussions centered on the use of the HDS by clinicians and medical staff for clinical decision-making, monitoring, and interoperability.
3. Round 3 – Policymakers and Researchers

The final round combined perspectives from decision-makers and researchers, focusing on the use of health data for evidence-based policymaking, health system planning, and scientific research.

Data Collection and Output

Facilitators collected qualitative notes during each discussion round, which were later consolidated into a unified synthesis. The output of this process consists of:

- A total of 27 validated and enriched use cases, refined through collective input; and
- emerging visions of how the future HDS could operate and create value for each stakeholder category.

This first pilot visioning workshop provided an essential foundation for developing a shared understanding of the desirable future Health Data Space and will inform the subsequent foresight and backcasting steps within Task 6.3.

Consolidated results: Proposal for a Vision for HDS

Individuals 2040





By 2040, the Health Data Space will function as a **trusted, intelligent, and user-friendly digital environment**, where individuals are fully in control of their health data. They will interact with a secure, multilingual platform, seamlessly integrated with healthcare providers, public services, and research communities.

HDS will not only ensure that individuals can access and manage their own health data anytime, anywhere — it will also enable real-time personalized alerts, ethical data-sharing, cross-border prescriptions, wearable data integration, and even allow individuals to participate in or benefit from medical research and innovation.

Key principles driving HDS for individuals:

- Access – to one's complete health history.
- Control – over what is shared, with whom, and under what conditions.
- Participation – in improving care and science.
- Security and Trust – through strong governance, transparency, and ethical safeguards.

Ultimately, the HDS will support a shift toward **preventive, personalized, and participatory healthcare**, making every citizen an active stakeholder in their own health journey.

Researchers 2040

By 2040, the Health Data Space will be a trusted, secure, and interoperable research infrastructure that empowers researchers and innovators to generate new knowledge, improve public health, and inform evidence-based policymaking.
Through robust consent mechanisms and privacy-preserving technologies, researchers will access rich, high-quality datasets — both anonymized and pseudonymized — to conduct ethical and impactful studies across borders.



They will leverage harmonized case histories, real-world evidence, and real-time health data from certified sources, including wearables and electronic health records. The HDS will streamline the management of clinical trials, improve pharmacovigilance, and support the development of AI-powered health apps and diagnostics — all while respecting fundamental rights and data protection regulations.

Key principles driving HDS for Researchers:

- Access – to comprehensive, structured datasets, including rare disease cases and adverse drug reaction patterns.
- Security & Ethics – through pseudonymization, patient consent, and alignment with ethical and legal standards.
- Interoperability – enabling EU-wide data sharing and collaboration across research institutions.
- Efficiency – via standardized clinical trial monitoring, automated data quality controls, and AI-supported tools.
- Impact – through evidence-informed health innovation and targeted research funding strategies

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Ultimately, the HDS will serve as a critical enabler of scientific excellence and innovation, helping researchers tackle Europe's most pressing health challenges while safeguarding public trust.

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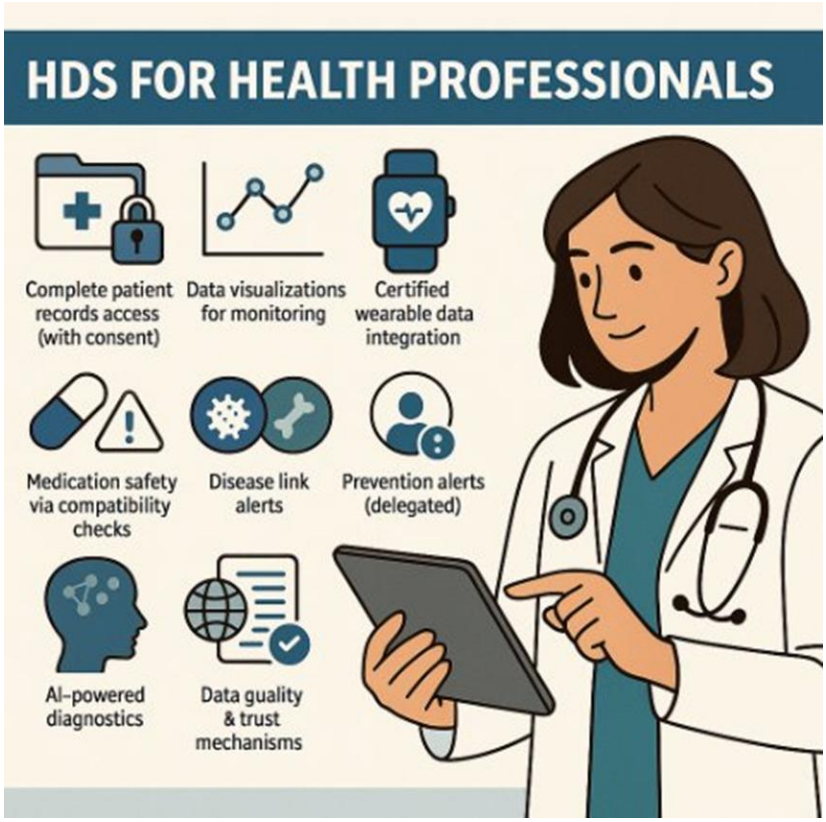
Researchers across Europe securely access high-quality, anonymized and pseudonymized health data to fuel cutting-edge, cross-border research and innovation. The HDS supports longitudinal studies, pharmacovigilance, rare disease tracking, and the development of AI-powered tools, all while preserving individual privacy and aligning with strict ethics and data protection standards.

Health Professionals 2040

By 2040, the **Health Data Space** will serve as a **trusted, interoperable digital environment** that enables health professionals across Europe to provide safer, more personalized, and efficient care — supported by real-time data, AI-powered tools, and secure patient consent mechanisms.



Doctors, nurses, and clinical staff will interact with **intelligent dashboards**, seamlessly connected to certified wearables, electronic health records, and decision-support systems. With patient consent, they will gain timely access to verified, high-quality data — both historical and real-time — and benefit from tools that flag risks, suggest diagnoses, monitor progress, and translate medical documents across languages and borders.

Key principles driving HDS for Health Professionals:

- Access – to complete, structured medical histories and certified real-time data.

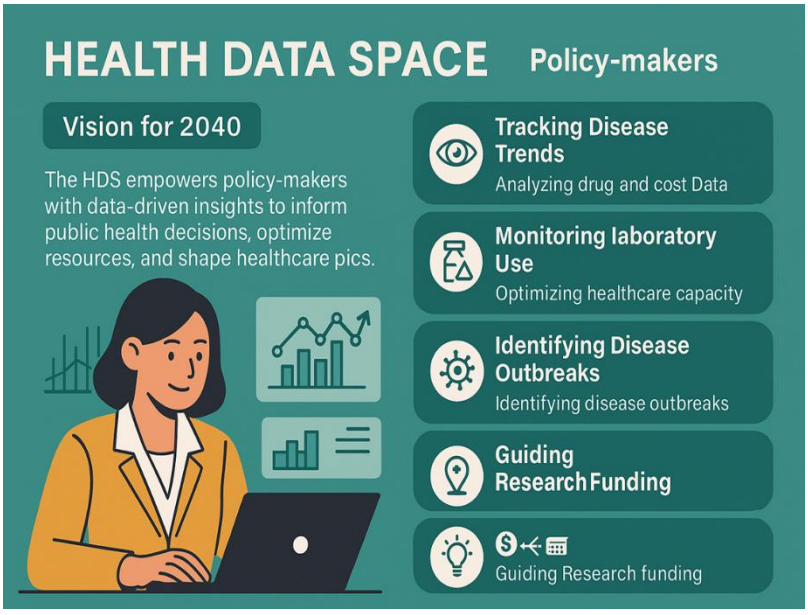
Funded by the European Union

- Efficiency – through visual dashboards, alerts, and AI-enhanced diagnostics. Clinical Safety – ensured via medication compatibility checks, disease correlation tools, and post-operative monitoring.
- Support – through smart assistance for early detection, trial monitoring, and comparative treatment trends.
- Interoperability – across regions, systems, and languages to enable cross-border care.

Ultimately, the HDS will strengthen the ability of health professionals to deliver high-quality, timely, and patient-centered care — supported by trusted data, ethical safeguards, and intelligent digital tools.

HDS for professionals aims to balance rich, real-time data access with responsible governance, interoperability, and human-AI collaboration, enabling better decisions, early interventions, and cross-border continuity of care.

Policy makers 2040



By 2040, the European Health Data Space will serve as a secure, reliable, and policy-relevant digital infrastructure that enables public authorities to design and implement better healthcare systems, grounded in real-time evidence and population-level insights. Policy-makers will have access to trusted, anonymized, and aggregated health data — visualized through intuitive dashboards — to monitor healthcare trends, allocate resources, and respond proactively to public health needs.

The HDS will support more equitable and efficient healthcare planning by enabling the tracking of disease evolution, prescription patterns, laboratory and hospital infrastructure usage, and the geographic distribution of healthcare services and professionals. It will also ensure oversight of clinical trials and allow rapid responses to disease outbreaks.

At the same time, policy-makers will be responsible for addressing digital inclusion and ensuring that all citizens — including vulnerable populations — can benefit from the system.

Key principles driving HDS for Policy-Makers:

- **Evidence-based decision-making** – using real-time, high-quality data to shape health policies and prevention strategies.
- **Efficiency** – through monitoring of infrastructure, workforce, prescriptions, and expenses to improve system performance.
- **Transparency** – in clinical trial tracking, supporting compliance and public trust.
- **Equity** – by identifying regional disparities and addressing digital access gaps.
- **Preparedness** – enabling faster, data-driven responses to disease outbreaks and emerging public health threats.

Ultimately, the HDS will empower policy-makers to deliver more resilient, responsive, and inclusive healthcare systems across Europe — guided by accurate data and aligned with ethical and societal needs.

Enrichment of use cases

Individuals

Case 1. Access to My Own Raw Data

A patient's lab results, diagnoses, and medical visits—whether from public or private healthcare providers—are automatically integrated into the Health Data Space (HDS). As a patient I can access my own full medical history, including raw lab data and past treatments, information about medical visits, and diagnoses in my private data space. When needed, I can share my data with doctors for better care or restrict access to specific records, maintaining full control over my health information.

Status: Validated.

Enrichments:

- Considered a foundational precondition for the whole system.
- Patients should not only access but also contribute data, such as:
    - Second medical opinions.
    - Self-reported symptoms and health status.
    - Lifestyle data.

Case 2. Seamless Access to Health Data Through a Dedicated App and Web Portal

Individuals interact with the Health Data Space (HDS) through a secure app and web portal, where they have dedicated profiles. A person logs into their profile to access medical records, lab results, prescriptions, and vaccination history, all in one place. Through the app, they receive health alerts, book medical appointments, and control data-sharing preferences. The platform ensures secure communication with healthcare providers and empowers users to manage their health easily and efficiently.

- Status: Partially validated.
- Remarks/ enrichments:
    - Recognized as a horizontal layer enabling all others (not a standalone use case).
    - Integrates with real-time data from wearables (e.g., glucose monitors, smartwatches).
    - Must support:
        - Digital signatures (via bank, insurer, or certified provider).
        - Multi-level access (self, proxy, third party).
        - Accessibility for children, elderly, or vulnerable people.
        - National consent laws and legal guardianship.
        - User-specific tutorials and age-adapted interfaces.
    -

Case 3. Control Over Sensitive Health Data

A person visiting a new doctor can choose not to share records of past visits to a psychologist or psychiatrist through the Health Data Space (HDS). This ensures that only relevant medical information is visible while keeping sensitive health data, such as mental health history, private. The individual has full confidence that their data remains secure and will not be accessed by insurance companies or other unauthorized parties.

- Status: Validated.
- Remarks/ Enrichments:
    - Control must extend to all types of sensitive data, not just mental health.
    - A default model where data is shared unless the individual opts out was suggested.
    - Some withheld data may be relevant to care (e.g., psychiatric medication affecting prescriptions).
    - A balance is needed—potential conflicts with safety, clinical relevance, and alert systems.

Case 4. Protection Against Unauthorized Access to Medical Data

Patients using the Health Data Space (HDS) trust that their medical records are protected from unauthorized entities, such as insurance companies. Legally binding commitments ensure that hospitals, clinics, and doctors cannot disclose personal health data without patient consent. This guarantees that individuals can seek medical care with full confidence that their data remains private and secure.

- Status: Overlaps with Case 2.
- Suggestion: Maintain as a distinct security-focused requirement but ensure alignment and integration with Case 2.
- Additional insights:
    - Emphasized need for traceable access, authentication layers, and external certification systems.
    - Requires traceable access logs, digital contracts, and certified identity verification.
    - Questions raised:
        - Should consent be requested for each access?
        - What are the rules in emergency cases (e.g., unconscious patients)?
        - Who can give consent on behalf of minors or incapacitated individuals?
        - Flexibility to adapt to national laws.

Case 5. Automated Health Alerts

Through the Health Data Space (HDS), individuals receive timely alerts for important health check-ups and vaccinations. For instance, a mother gets a notification that her child is due for a booster vaccine, ensuring she stays on schedule. Similarly, a woman receives a reminder for a routine mammogram, along with options for nearby clinics and easy appointment booking. These automated alerts help prevent missed vaccinations and delayed screenings.

- Status: Enriched.
- Integration: Considered part of Case 2 functionalities.
- Enhancements:
    - Alerts must include:
        - Nearest available clinic.
        - Earliest available appointment slot.
    - Should provide guidance on next steps for abnormal results.
    - Ensure these alerts are delivered to both individuals and healthcare professionals, possibly with triage rules.

Case 6: Organ Donation Decision Management

A man records his decision to be an organ donor through the HDS. In case of an emergency, medical professionals can quickly verify his consent. He can also update or withdraw his decision at any time, simplifying the process and ensuring his wishes are respected.

- Status: Validated (with concerns)
- Enrichment:
    - Participants proposed integrating a bioethical protocol (e.g., mandatory e.g., informed video confirmation).
    - Acknowledged as a sensitive issue requiring safeguards - Some participants suggest organ donation should not be part of HDS due to legal and ethical complexity.

Case 7: Consent for Data Use for Research Purposes

Every citizen in the HDS is asked if they agree to allow their anonymized health data to be used for research. After reviewing the terms, a woman consents to share her medical data for studies, with the assurance that she can withdraw her consent at any time.

- Status: Validated.
- Enrichment:
    - Participants proposed for individuals to be able to choose whether to give data for free or sell it.
    - Must include options for:
        - Selecting what type of data to share.
        - With whom (e.g., pharma, universities).
        - For how long.
        - Accessing results of the research.
        - Alerts for potential clinical trial eligibility.
    - Requires a traceable contracting system with digital signatures and a wallet for paid data sharing.

Case 8: E-Prescriptions Integrated into HDS

A patient visits a doctor who prescribes medication through the HDS e-prescription system. The prescription is automatically recorded in the patient's HDS profile and app. If the patient travels abroad, the system provides an automatic translation, ensuring pharmacists in other countries can dispense the correct medication without delays. HDS centralizes all electronic prescriptions, securely stores them and automatically translates them when necessary, making them accessible through the patient's profile in the HDS app.

- Status: Enriched.
- Confirmed as relevant.
- Additions:
    - Automatic translation for cross-border use is essential.
    - Integrate with cross-medication safety alerts.
    - Link prescriptions with real-time analytics and interoperability across national systems.
    - Payment and reimbursement rules must align with national health financing systems.

Additional Use Cases and Cross-cutting Points

Case 9: Public Institution Access (New)

- Institutions (e.g., Social Security, Ministries) may require access under strict governance rules.
- Must include robust privacy protections and justified purposes.

Case 10: App Flexibility for Legal Guardianship (New)

- The system must handle situations where individuals cannot consent (e.g., cognitive impairment, minors).
- Consent mechanisms must comply with national legal frameworks.

General Insights from Participants:

- The system must be patient-centered, designed for autonomy and trust.
- Individuals should be able to:
    - Manually enter health data.
    - Benefit from wearable integration.
    - Understand who accesses their data and why.
- Lack of health/digital literacy may cause reluctance to share data.
- Employers may need limited access to health data under predefined legal conditions.
- Questions remain about cross-border data access, financing, and insurance coverage in the case of prescriptions or care abroad.

Conclusion: These enriched and validated use cases point toward a future HDS designed not only for technological integration and interoperability, but also for respecting individual

autonomy, legal diversity, and ethical safeguards. Individuals are positioned as empowered participants in their health journeys, supported by intelligent systems that prioritize consent, access, and control.

Health professionals

Case 9: Full Access to Health Records (with Patient Consent)

A doctor receives a new patient with chronic conditions. With the patient's consent, the doctor accesses their health records through the HDS, including past diagnoses, lab results, and treatments. This enables the doctor to make an informed diagnosis and treatment plan, avoiding unnecessary tests.

Validation: Validated

Enrichments:

- Supported the principle that data should be shared by default, unless the patient explicitly restricts access.
- Emphasis on source transparency: Clinicians need to know where each data item originates from.
- New debate:
    - Some participants stressed that only verified data from certified sources should be integrated.
    - Others argued that all data (even uncertified) should be included, leaving the decision to the professional.

Case 10: Health Data Visualizations for Monitoring Patient Progress

HDS enables access to customized data visualizations, including time series and histograms that track changes in lab results over time. This functionality supports healthcare professionals in monitoring patient health more effectively. For example, a doctor managing a diabetic patient can review blood glucose levels recorded over six months, identifying trends and fluctuations. By analyzing these patterns, physicians can make timely adjustments to treatment plans, ensuring more personalized and data-driven care.

Validation: Validated

Enrichments:

- Warning: Data should not be visualized if incomplete, as it may mislead rather than support.
- Source reliability must be visible.

Case 11: Real-Time and Historical Wearable Data for health Care

HDS integrates real-time data streams from wearables, allowing doctors to monitor patients remotely and respond proactively. With patient consent, key metrics like heart rate, ECG, and

glucose levels can be accessed live or analyzed as time series trends. Some hospitals also offer automated alerts, enabling rapid intervention when critical values are detected.

Validation: Partially validated

Enrichments:

- Data must come from certified wearables only (EU-validated).
- Risk of non-personal use (e.g., shared devices among family) was flagged.
- Alerts should be disease-specific and include endangerment indicators.

Case 12: Cross-Checking of Medication Compatibility

A doctor prescribes blood pressure medication and the HDS cross-checks it with existing prescriptions. The system alerts the doctor about a dangerous interaction with an antidepressant.

Validation: Validated

Enrichments:

- Alerts should also be available to pharmacists, not just prescribers.

Case 13: Cross-Checking Disease Links

A woman with thyroid disease and joint pain visits a rheumatologist. The HDS flags a possible link to lupus, prompting further tests and early diagnosis. Similarly, recurrent migraines and digestive issues prompt testing for celiac disease.

Validation: Validated

Enrichments:

- See also enrichment under Case 16 (AI-based trends and comparisons).

Case 14: Prevention Alerts for Family Doctors

A family doctor receives alerts from the HDS that several patients have missed routine cancer screenings. The system helps follow up, facilitating early detection. It also alerts a doctor about a prediabetic patient, encouraging early interventions.

Validation: Validated with caveats

Enrichments:

- Responsibility should lie with support staff, not doctors, who should only receive pre-processed alerts.

Case 15: Post-surgery monitoring

A doctor follows up with a post-surgery hip replacement patient, using HDS to track recovery progress. The system monitors lab results and rehab sessions, alerting the doctor about potential complications, ensuring timely intervention for better recovery.

Validation: Validated

No major changes suggested

Case 16: Automatic translation of medical records

The HDS automatically translates the patient's medical records into German, enabling seamless treatment without language barriers. For example, a German-speaking doctor treats a French tourist with epilepsy.

Validation: Validated

No major changes suggested

Case 17: AI-Powered Diagnostics (Video/Audio Analysis)

New Use Case: The HDS integrates AI tools that analyze video and audio signals to detect subtle clinical indicators:

- Video: AI reads micro-expressions to detect distress or hidden symptoms.
- Audio: Voice pattern analysis for early signs of neurological or respiratory issues.
- Imaging diagnostics enhanced by AI.

Case 18: Data Quality Assurance System

New Use Case: The HDS includes mechanisms to ensure accuracy and consistency of collected data:

- Detection of duplicate, outdated, or inconsistent data.
- AI-assisted validation of patient-reported symptoms against medical records and lab results.
- Highlighting confidence scores and source metadata for all health data.

Open Discussion Point: Case 13 or new case

Should a separate use case be created for:

- Doctors receiving aggregated trend summaries about similar patients (e.g., treatment outcomes in other EU countries).
- AI-enhanced decision support using anonymized comparative analytics.

Status: Pending decision — could be a new case or an enrichment of Case 13.

These enriched use cases represent the key functionalities and safeguards expected by 2040 to support healthcare professionals in providing safe, personalized, and efficient care within the European Health Data Space.

Researchers

Case 17. Access to Comprehensive Anonymized Data Sets

Researchers can access comprehensive anonymized datasets through the HDS to study various health trends and societal factors that impact well-being. Whether analyzing the effects of air pollution on respiratory health or examining the role of social determinants like income, education, and lifestyle on disease prevalence, researchers can leverage securely protected data shared with patient consent.

Validation: Validated

Enrichments:

- Patients' consent remains essential.
- Pseudonymized data access proposed to allow deeper research while preserving privacy.

Case 18: Accumulation of Case Histories for Rare Diseases

Researchers studying a rare metabolic disorder use the HDS to analyze anonymized patient data across Europe, identifying patterns in disease progression and treatment responses. Similarly, a Romanian rare disease registry integrates with the HDS, allowing researchers to monitor diseases like cystic fibrosis, leading to improved management strategies.

Validation: Validated

Enrichments:

- Seen as particularly valuable for smaller countries with limited local datasets.
- Suggested: cross-country collaboration on data collection and analysis.
- Also relevant for **health professionals**.

Case 19: Streamlined Clinical Trial Monitoring for Researchers

Through the HDS, researchers gain access to a standardized system where all clinical trials are registered and reported. Participants can enroll in relevant trials, and the system collects real-time data on their health status through daily prompts. Researchers receive structured reports on participants' symptoms, side effects, and treatment responses, ensuring comprehensive monitoring and adherence to trial protocols. This standardized approach enhances data accuracy, facilitates regulatory compliance, and improves the efficiency of clinical research.

Enrichments:

- Subject to **strict regulatory frameworks**.
- Needs alignment with ethics boards and trial legislation.

Case 20: Monitoring Adverse Drug Reactions

Researchers use the HDS to analyze real-world data on medication effects, identifying patterns in adverse reactions across diverse patient populations. By accessing anonymized health records and treatment histories, they can detect previously unreported side effects, such as a correlation between a cholesterol-lowering drug and neuropathy in older adults. These insights contribute to updated safety recommendations, regulatory decisions, and improved prescribing guidelines, ultimately enhancing patient safety and drug efficacy.

Validation: Validated

Enrichments:

- Recognized as important for **pharmacovigilance authorities**.
- Enables rapid response in case of emerging safety concerns.

Case 21: Using Data to Improve Health Apps

An innovator creating a health app for heart disease patients uses anonymized data from the HDS, including physical activity levels and cardiovascular health. The innovator improves the app's features based on real patient data, ensuring personalized recommendations and better health outcomes for users.

Validation: Validated

Enrichments:

- Ensures apps are aligned with real-world needs and patterns.

Case 22: Access to Pseudonymized Data

Researchers and policy-makers access pseudonymized data (not fully anonymized) to study sensitive correlations (e.g., genetic predispositions) while upholding privacy.

Validation: New — suggested and supported

Purpose: Enhance usability of datasets while retaining confidentiality and legal safeguards.

Case 23: Extracting Evidence to Guide Research Funding

HDS is used by funding agencies (public/private) to extract evidence-based trends and health priorities for better allocation of R&I budgets.

Validation: New — suggested and supported

Relevance: Applies across all categories (individuals, professionals, policy-makers).

Policy-makers

Case 22: Decision Support on Disease Evolution

A policymaker monitoring the spread of chronic diseases uses HDS analytics and statistics to assess trends in disease incidence, progression, and regional variations. By reviewing long-term patterns through dedicated dashboards in the HDS, they can implement targeted prevention programs, allocate funding for early detection initiatives, and adjust healthcare policies to improve patient outcomes.

Validation: Validated

No major changes suggested

Case 23: Tracking Prescriptions and Healthcare Expenses

Using data from HDS, a policymaker evaluates trends in prescription drug use and associated costs for reimbursed medications. By identifying overprescribed drugs, regional spending disparities, and medication adherence rates, they can optimize reimbursement policies, negotiate better pricing, and promote cost-effective treatment guidelines.

Validation: Validated

No major changes suggested

Case 24: Monitoring the Use of Laboratory Infrastructure

A policymaker analyzing HDS reports on laboratory usage identifies underutilized and overburdened facilities. By assessing the volume of tests conducted, processing times, and regional demand, they can improve resource allocation, streamline lab operations, and ensure equitable access to diagnostic services across all regions.

Validation: Validated

No major changes suggested

Case 25: Optimizing Hospital Infrastructure and Human Resources

HDS provides real-time insights into hospital occupancy rates, patient influx, and medical staff availability. Policymakers and hospital administrators use this data to address shortages of doctors and nurses, reallocate resources to high-demand areas, and adjust healthcare workforce policies to enhance hospital efficiency and patient care quality.

Validation: Validated

No major changes suggested

Case 26: Monitoring Disease Outbreaks

A regulatory authority monitors a sudden increase in flu cases across multiple regions. By accessing aggregated, anonymized health data from the HDS, they identify affected areas and

track the spread of the disease. This allows the agency to inform public health decisions, such as recommending vaccinations or allocating resources to hotspots, and helps prevent further outbreaks.

Case 27: Monitoring clinical trials

A policymaker uses HDS to monitor all registered clinical trials, ensuring compliance with regulatory standards and ethical guidelines. The system provides real-time data on trial progress, participant safety, and reported outcomes, allowing policymakers to identify trends, address potential risks, and ensure transparency in medical research. This oversight helps improve the efficiency of clinical trials, supports evidence-based policy decisions, and enhances public trust in new treatments and innovations.

Validation: Validated

No major changes suggested

Cross-cutting Insight: Digital Divide & Equity of Access

Challenge raised: Vulnerable populations may lack devices to access HDS (especially for individual engagement).

Implication: Policy-makers must address inclusion and consider providing access to digital tools for all.