

Nurses' proactive engagement in co-designing processes that can suitably meet end-user requirements and ensure solutions are fit for purpose will be key to the success of the EHDS strategy. To strengthen EHDS exploitation, nurses must be engaged in the design from the outset to guarantee optimal deployment of each of the EHDS aspects, including prioritisation, scoping and timing of the new obligations, and technical operationalisation. It will be important to focus on harmonised interpretation and implementation of the regulation across the EU, and therefore avoid disparities across data spaces. Nurses need to be able to access and share patient information in a standardised way.





The structure of data has significantly improved thanks to internationally recognised standards, such as electronic health records (EHR). However, the system is still fragmented despite the investments made, in particular for horizontal data sharing between health organisations - even in the same country and among sectors - such as between hospital and community care or the health and social care sector. Although most of the focus for policymakers and healthcare organisations is explicitly on infrastructure, the actual exploitation of cross-border upscaled pilots to support continuity of care is not sufficiently developed. Co-creation is still more talked about than implemented. In order to improve in this area, engagement is needed from frontline healthcare professionals - nurses, doctors - and from citizens, and patients, to voice the potential of new solutions and functionalities that digitalisation can and should bring. The envisaged end-user of the EHDS legislation should have a central role to increase the exploitation and impact on the healthcare sector.

Exploitation depends upon the buy-in, expertise, investment, and support of nurses to the EHDS

implementation plan. The successful implementation of the EHDS must therefore be adequately resourced. This will require significant new funding to be injected throughout the health, health ICT and research ecosystems in the EU, with an appropriate investment in capacity building, education and training of frontline nurses. Strong financing and a realistic timetable are required to fully implement the ambitions of the EHDS.

Winning nurses' trust and broad engagement will be essential for the general acceptance, effectiveness, endorsement, and rapid adoption of the EHDS in the EU. Therefore, nurses as end-users must be able to influence the development of technology, reflecting both usability and user-friendliness, as this will ensure solutions can empower citizens and patients, and make health systems sustainable and more accessible.

Furthermore, the EHDS proposal contains some very ambitious implementation timelines, and it could be very difficult for frontline healthcare professionals - who are already struggling following sustained budget cuts, staff shortages, underinvestment in nursing education and services, and the consequences of COVID-19 - to become 'EHDS compliant' in a short timeframe. Under ongoing COVID-19 pandemic conditions, healthcare systems, including community care, are operating under significant resource limitations with the digitalisation of the healthcare ecosystem now further impacting an - already exhausted - frontline. The EU is in the thick of a huge nursing shortage. Restoring the pandemic-depleted healthcare workforce should therefore be an EU priority as all EU Member States are affected and should develop a coordinated approach so we do not get patchwork solutions in EHDS. Tens of thousands of EU nurses have gone on strike since 2022, most demanding better salaries and working conditions. It is within this social dialogue context that EU Governments need to implement EHDS.

Important to remember is that tangible benefits can only be achieved when end-users use the EHDS infrastructure, in turn, reducing frontline workloads and increasing time with the patient to promote better health outcomes. Political accountability is required to ensure that progress on cross-border health data interoperability is achieved. Without this, the overall aspirations of the European Health Data Space will be threatened. Enhanced interoperability will contribute to workload reduction. The realisation of the EHDS ambition will depend on a high level of interoperability and standardisation to facilitate the meaningful use of personal health data in healthcare and research. Unfortunately, developers and vendors are still operating in silos with the end-user disconnected from the co-creation.





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**The digital transformation of healthcare ecosystems will have a significant impact on nurses' daily work**

EHDS is an opportunity for international comparisons and research exchange, providing academic incentives for focused nursing research based on a system of federated collection, storage and analysis of health data. Nursing research implies easier exchange and better pan-European analysis

of data, EU-wide harmonisation and standardisation of data and harmonised copyrights agreements on the results of data analysis and on publications and common taxonomy or standards of data collection. Important for nurses is that strategic investments are made in data-driven tools and Artificial Intelligence

(AI), as well as innovative pilot projects building the technical infrastructure for nursing research. Nurses, therefore, advocate for digitalisation practices and processes to mainly focus on patient safety and empowerment, improving the quality of cross-border care and interoperability through a common terminology, such as the International Classification for Nursing Practice (ICNP).

ICNP is designed to facilitate the expression of nursing diagnoses, interventions and outcomes. Nursing terminologies and classifications represent relevant tools for making the practice of nursing visible in complex, evolving healthcare settings. They allow nurses to rigorously document nursing clinical data with standardised language, and to make measurable nursing diagnoses, outcomes, and interventions, as key elements in the description of nursing care. The ICNP has been defined as a unified language for nursing. It is a compositional terminology for nursing practice that facilitates the development and cross-mapping of local terms and existing terminologies. The ICNP has been accepted in 2009 by the World Health Organization (WHO) as part of the WHO Family of International Classifications (WHO-FIC).

Data is the essential fuel for AI, with a strong data ecosystem is the infrastructure required to deliver that fuel. The delivery of accurate and comprehensive data, with the necessary rapidity, is a widespread challenge due to differing models, methodologies and technologies that impede compilation, aggregation, and comparison. Advancing data and analytics capabilities is seen as crucial to meeting the challenges of current and future health threats.

Therefore, it is important that AI policies and EU legislation support frontline nurses and increase direct patient care, so EHDS and AI will be perceived as a facilitator. The EHDS legislative proposal and AI Act must take into account the complexity of the healthcare system and its data. There is no such thing as EHDS and AI without data. In other words, if there is no access to data and if it is not well organised, there cannot be a good EHDS and AI deployment. The acceptance of digital tools in healthcare is dependent on the robustness of data collected.

In particular, regarding the AI Acts provision on Data and Data governance (Art. 10), it is debatable whether any data set is sufficiently representative of the system of interest, in particular frontline nurses. The AI Act must ensure balanced human oversight and intervention as well as provide that users can understand, to an appropriate level, the capacities, and limitations of the high-risk AI system. To that

end, the value of EHDS and AI in healthcare can only be properly exploited if the frontline end-user has the necessary competence, training, and authority to engage with these new platforms and technologies.

Therefore, it is important the EHDS and AI legislative proposals increase the digital health literacy of patients, citizens, and healthcare professionals. Digital literacy is not part of the EHDS proposal, although it is the condition to be successful. Developing and maintaining coherent collaboration with all relevant stakeholders to map common digital competencies for the appropriate use of eHealth services will be key (Pact for Skills). Upscaling and effectively integrating digital competencies into nurses' education and training programmes at both undergraduate and postgraduate level, as well as through Lifelong Learning (LLL), will be an important KPI for success.

The power of personal health data and the growing public engagement with personal choices have created new appetites for information about individuals' data and how they can benefit from its exploitation. For this to work to universal benefit, all stakeholders need the digital literacy and capacity to contribute, use and benefit from health data responsibly, ethically and sustainably. At the same time, effective information provision to the public can benefit frontline health professionals and policymakers, reduce public panic, and help in promptly communicating crucial findings to the international scientific community.

Concluding, the health systems in Europe are facing significant nursing workforce shortages while the ongoing pandemic, the war in Ukraine, the cost-of-living crisis, and the climate emergency exacerbate the situation, stretching health systems, and, in particular, the nursing workforce, to their limits. Although European nurses remain committed to finding workable solutions that lower the workload of the frontline to achieve an EHDS which will benefit citizens/patients, the success of the European Health Data Space, and Artificial Intelligence deployment in the healthcare sector, lies in its ability to reach out to frontline healthcare professionals, in particular six million nurses in Europe, to be shaped by them, to be accepted by them and as such, respond to their unmet needs.

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