Standardization of health data and opportunities for Slovenia

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Introduction: The digitalization and standardization of healthcare is a complex, multi-centric process aimed at enhancing provider capacity to care for patients through technology. This effort ultimately seeks to achieve positive outcomes in patient care, cost reduction, and much-needed increased efficiency. In Slovenia, several projects have demonstrated the benefits of electronic health records (EHRs) and nationwide standardization practices, leading to improved patient outcomes and increased accessibility to care and medication with great future potential for stakeholder cooperation.

Key Changes and Standards: One of the pivotal transformations that digitalization should bring is the transition to electronic health records (EHRs). EHRs represent a major milestone in improving health data management, reducing errors, and preventing information loss. Given the abundance of healthcare data and the global nature of healthcare systems, ensuring seamless interconnection and data exchange is crucial. This necessitates a comprehensive approach to implementing interoperability standards.

Several globally recognized standards are well-established, highly developed, and ready to enhance interoperability and the quality of healthcare data:

SNOMED CT (Systematized Nomenclature of Medicine - Clinical Terms): This international standard for coding medical terms and clinical concepts allows for precise and uniform documentation of health information, minimizing language and context-specific discrepancies that can lead to misinterpretations.

LOINC (Logical Observation Identifiers Names and Codes): LOINC facilitates the standardized coding of laboratory tests and other medical measurements, providing a backbone for the exchange and understanding of laboratory results.

OpenEHR: A system of open specifications and clinical models designed to standardize storage and ensure the interoperability of health data. A unique aspect of OpenEHR is its commitment to data persistence across systems and decades.

FHIR (Fast Healthcare Interoperability Resources): FHIR is a standard for exchanging healthcare information electronically, promoting rapid and efficient data sharing with a flexible approach to standardization.

The Future of Healthcare and opportunities for Slovenia: The adoption and implementation of these standards alone will not guarantee improved resource efficiency or reduced administrative burden. Empirical evidence is essential to link data storage and exchange models to improved patient outcomes.

A key aspect of standardization is the seamless integration of IT and clinical workflows, making close collaboration between IT professionals and clinicians crucial. This cooperation will ensure that the implementation of standards is as seamless and natural as possible. The vital contribution of end users will guide development away from unnecessary, unwanted, and later unused features, paving the way for a more efficient and effective healthcare system. Adding to these are recent developments in supporting legislation, such as the European Health Data Space, and the announcement of cooperation between OpenEHR and HL7, which all mark major milestones. Slovenia as a very small country with close collaboration of key stakeholders has immense potential to show the way for proper interdisciplinary cooperation and systematic changes in digitalisation efforts.

Conclusion: Understanding and using standards in a field as complex and high-stakes as healthcare is essential for improved interoperability and an enhanced future for both care and breakthrough research. We increasingly recognize the power of data and its value to modern society. However, the implications of its misuse, if it becomes widely available, are risks that need to be minimized. This brings us back to the importance of cooperation between system makers (IT) and users. By working together, we can ensure the secure and effective use of healthcare data, ultimately benefiting patients and the healthcare system as a whole, especially in a small country with several experts and IT providers.