

A Global Roadmap for Health Informatics Standardization

Proposal prepared by the World Economic Forum, in collaboration with Boston Consulting Group

Background

Health systems are currently facing a major problem with value in healthcare. Costs continue to rise at an unsustainable rate, with healthcare spending outpacing GDP growth in the OECD by 1.5x.¹ Far too often, spending on healthcare is wasted on unnecessary treatments and procedures.² At the same time, populations face poor health outcomes, even for diseases we can prevent and treat, and even in the most developed countries.³ These poor outcomes translate into thousands of unnecessary deaths, disabilities, and medical treatments each year. Making the problem worse, health systems currently do not have the feedback loops needed to assess their performance, continuously improve, and ensure that the right patients get the right treatments at the right times.

While many different factors contribute to this problem, a universal barrier to achieving a learning, value-based system is the challenge finding and using high-quality data. Although individuals, companies, and even governments have taken concrete steps to harness data to improve value in healthcare, health systems around the world have not developed a comprehensive strategy to harness the full potential of health data.

Recent developments in the technology for health informatics make addressing this challenge even more pressing. Many new technologies, such as HL7 FHIR, show great potential to improve the sharing and use of data. But if these open technologies and standards develop in an uncoordinated, ad hoc manner, it will be even more difficult to harmonize them after they have been widely implemented. The global health sector urgently needs to align on the vision and strategy for open industry standards to enable person-centric, learning health systems, before this window of opportunity passes.

Open standards, such as TCP/IP for the internet and GSM for mobile telephones, have radically transformed markets and generated tremendous value. It is time that the global community does the same thing for healthcare.

Context for this proposal

In August, the World Economic Forum's Value in Healthcare project, in collaboration with Boston Consulting Group (BCG), convened key leaders and technical experts on health informatics from around the world. Their objective was to discuss potential options for a path forward on global convergence of health informatics standards to enable value-based healthcare. Coming out of this workshop, the Forum and BCG facilitated a multi-stakeholder working group to develop the details of this proposal. (See Appendix: The Value in Healthcare Informatics Working Group). The results of this Working Group's efforts are documented here.

Vision for this proposal

This proposal calls for a public-private initiative that empowers people, health systems, governments and industry to increase value in healthcare through better uses of data by driving convergence in open industry standards for health information and informatics.

To achieve this vision, the global community will need to align on standards for capturing, mapping, and accessing three types of health data: health outcomes metrics; patient demographics and case-mix variables; and data about treatments and interventions that patients receive.

¹ Source: OECD

² In the US, approximately \$400 billion is wasted on unnecessary services, inefficiently delivered services, and missed prevention opportunities each year. (Source: IOM)

³ For example, in the OECD, the worst-performing country's rate of infant mortality is 2.8x above the median; for maternal mortality, the worst country's rate is 2.7x the median, and for diabetes-related lower extremity amputation, it is 2.2x the median. (Source: OECD)

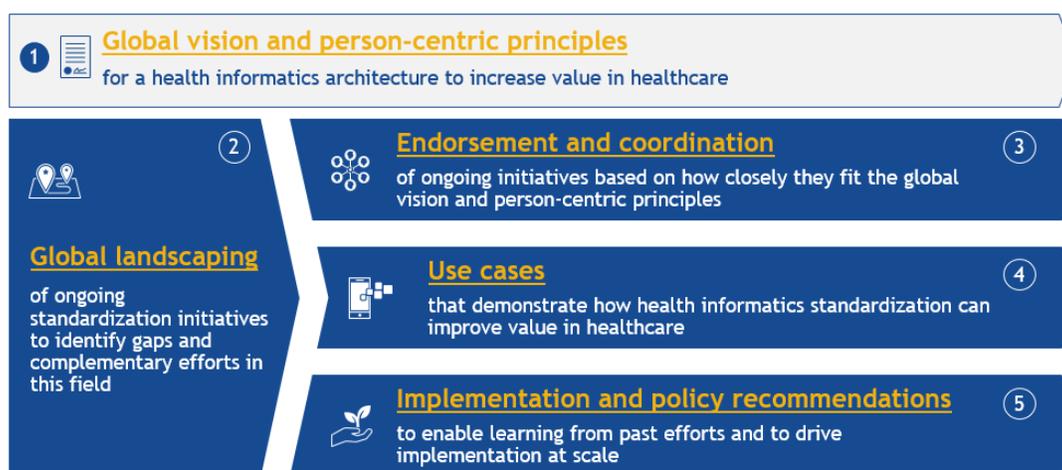
To truly enable value-based health systems, this will data will have to be FAIR (Findable, Accessible, Interoperable, and Reusable).

Levers to achieve this vision

To drive convergence in open industry standards for informatics standards that will increase value in healthcare, the Working Group proposes five key workstreams and outputs (See Figure 1):

1. **A global vision and person-centric principles** for a health informatics architecture to increase value in healthcare
2. **Global landscaping** of ongoing standardization initiatives to identify gaps and complementary efforts in this field
3. **Endorsement and coordination** of ongoing standardization initiatives based on how closely they fit the global vision and person-centric principles
4. **Use cases** that demonstrate how health informatics standardization can improve value in healthcare
5. **Implementation and policy recommendations** to enable learning from past efforts and to drive implementation at scale

Figure 1: Five levers to drive convergence in open industry standards for informatics standards that will increase value in healthcare



Timeline, governance, and next steps

Preliminary scoping of this proposal suggests that it will take approximately four years to execute. The five levers can be managed by a small, agile project management team. They require broad consultative input from industry leaders and technical experts across all sub-sectors of healthcare (including private and public stakeholders), who will work together on technical working groups. It will also require engagement with patient advocacy groups at all stages in order to ensure that it takes a person-centric approach to value in healthcare.

The World Economic Forum is now the host of the Global Coalition for Value in Healthcare. As the global platform for accelerating value-based health system transformation, the Coalition is championing this proposal and seeking partnerships to drive its execution.

A more detailed description of this proposal can be found in the report Value in Healthcare: Accelerating the Pace of Health System Transformation (December 2018).⁴

To get involved with or to endorse this effort, please contact the Global Coalition for Value in Healthcare.

⁴ <https://www.weforum.org/reports/value-in-healthcare-accelerating-the-pace-of-health-system-transformation>

Appendix: The Value in Healthcare Informatics Working Group

Over 30 leaders from government, multilaterals, NGOs, academia, payers, providers, industry and patient advocacy organizations participated in the multistakeholder working group that developed the roadmap for global health-informatics standardization. Some participants are listed below. (Institutional affiliations are for identification purposes only and do not represent an official endorsement by the listed organizations.)

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Catherine Chronaki	Secretary General, HL7 Foundation
Christopher Chute	Bloomberg Distinguished Professor, The Johns Hopkins Institute for Clinical and Translational Research, Johns Hopkins University
Eric Hans Eddes	Director, Dutch Institute for Clinical Auditing (DICA)
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Rebecca Freeman	Interim Chief Nursing Informatics Officer, The University of Vermont Health Network
Neil Gomes	Chief Digital Officer and Executive Vice President for Technology Innovation and Consumer Experience, Thomas Jefferson University and Jefferson Health
Jeff Hawkins	Chief Technology Officer, Humana EDGE
Hui Huang	Executive Director, Head of Global Outcomes Research Oncology, Takeda
Stan Huff	Chief Medical Informatics Officer, Intermountain Healthcare
Nigel Hughes	Scientific Director, Janssen Clinical Innovation – Patient Data for Research, Janssen Research and Development
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Anil Jain	VP & Chief Health Information Officer, IBM Watson Health
Mona Khalid	VP of Outcomes Research and Development, ICHOM
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Micky Tripathi	President & CEO, Massachusetts eHealth Collaborative
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**The views expressed as part of this project are those of the authors alone and do not necessarily reflect the official views or policies of the U.S. Food and Drug Administration or HHS.

This proposal has been endorsed by the following organizations.



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