Pan American Health Organization

World Health Organization
REGIONAL OFFICE FOR THE Americas

IS4H TOOLKIT

GUIDING PRINCIPLES

DEPARTMENT OF EVIDENCE AND INTELLIGENCE FOR ACTION IN HEALTH
PAHO/WHO
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Pan American Health Organization

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REGIONAL OFFICE FOR THE Americas

Information Systems for Health Toolkit

Guiding principles

IS4H- GP 1.0

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Department of Evidence and Intelligence for Action in Health
Pan American Health Organization - World Health Organization

IS4H Guiding principles

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Adopt the 8 principles of Open Government Data	Focus on ethical principles for data use	Unlock the value of unstructured data	Promote quality data as a critical factor of success	Adopt standards as much as possible	Always strengthen the management of vital statistics
7	**8**	**9**	**10**	**11**	**12**
Align your data governance within the Data Revolution for Sustainable Development	Adopt a national framework for IS4H to efficiently and effectively address common data, information and ICT challenges	Emphasizes multi-sectoral collaboration	Focus on sub regional action or bilateral collaboration for addressing shared challenges	Use always a standardized assessment tool and method	Consider “build on what already exists” as a critical factor of success
13	**14**	**15**	**16**	**17**	**18**
Promote a Knowledge sharing and learning environment	Ensure the participation of Academic and Research Institutions	Adopt always Knowledge Management methodologies for supporting IS4H implementation	Implement a Change management Strategy	Ensure integration and convergence with the eGov initiative	Adopt the IS4H Monitoring and Evaluation Framework for a nation-wide implementation

IS4H Strategic goal 1: Data management and Information Technologies			
#	**Guiding principle**	**Additional information**	**Challenges**
1	**Adopt the 8 principles of Open Government Data[1]**	1. **Complete**: All public data is made available. 2. **Primary**: Data is as collected at the source, with the highest possible level of granularity, not in aggregate or modified forms. 3. **Timely**: Data is made available as quickly as necessary to preserve the value of the data. 4. **Accessible**: Data is available to the widest range of users for the widest range of purposes. 5. **Machine processable**: Data is reasonably structured to allow automated processing. 6. **Non-discriminatory**: Data is available to anyone, with no requirement of registration. 7. **Non-proprietary**: Data is available in a format over which no entity has exclusive control. 8. **License-free**: Data is not subject to any copyright, patent, trademark or trade secret regulation. Reasonable privacy, security and privilege restrictions may be allowed.	Most people, teams and institutions may lose the benefits of Open Government Data due to lack of understanding and lack of renewed (and necessary) technical skills
2	**Focus on ethical principles for data use**	1. The highest priority is to respect the person's identity behind the data. 2. As much as possible explain objectives and methods for use, analysis and decisions based on collected data. 3. Strength privacy and confidentiality issues on legislation and policies. 4. Promote regular trainings on the importance of ethical use of data, privacy and confidentiality. 5. IT developers and data administrators should give due consideration to privacy, security and confidentiality on applications development and databases designs.	While everyone (people, governments and partners) deserves the benefits of open access to quality data, not everyone is equally impacted by the processes of data collection for policy and decision-making in the health sector.

[1] Source: https://opengovdata.org/

IS4H Strategic goal 1: Data management and Information Technologies			
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3	**Unlock the value of unstructured data**	Unstructured data refers to content does not have a pre-defined structure or is not organized in a pre-defined manner. Unstructured data is typically free text, but may contain structured data such as dates, numbers, videos, audios, and facts as well.	Accepting the value of unstructured data will be always a challenge for the health sector, in particular for Health Analysis and Forecasting. And not only for governmental institutions but also for the academic and scientific community since there is not yet very strong evidence about their value.
4	**Promote quality data as a critical factor of success**	Quality data in health play a significant role in improving policy and decision making, as well in the planning, development and maintenance of health care services.[2] Health care data are items of knowledge about an individual patient or a group of patients. In health care, data are captured about a patient in paper or electronic format during his or her attendance at an outpatient clinic, community health center, primary health care provider, or his or her admission to a hospital (Davis and LaCour, 2002)	To address all areas in health care where data is collected and aggregated, and decisions are taken. And not only data from electronic health records.
5	**Adopt standards as much as possible**	The adoption of standards is the only possible solution to achieve interoperability between applications and databases of an integrated health information system. It is critical to understand that the standards that should be known and understood are, as a minimum, these: Identification of the patients / providers; of communications; of security; clinical data messaging; Financial and transactions, Images, Prescription of pharmacies and Medical instruments; of vocabularies or medical terminology; of morphologies, problems, and locations, among others.	It is essential to bridge the knowledge gap between the IT personnel and the health sector professionals.

[2] Adapted from http://www.globalhealthworkforce.org/resources/who_improving_data_quality.pdf

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6	**Always strengthen the management of vital statistics**	The process of civil registration produces vital statistics, which are public goods essential for decision-making, distribution of resources, policymaking, and interventions on behalf of the different populations of the countries and territories of the Region.[3]	Lack of coordination mechanisms and legal and regulatory frameworks that link the reporting of life events at health units with civil registry offices and statistics institutes, including the challenges posed by keeping systems interconnected and interoperable is one of the main challenges identified by PAHO's Member States.
7	**Align your data governance within the Data Revolution for Sustainable Development[4]**	On the 29 August 2014 Secretary-General Ban Ki-moon named an Independent Expert Advisory Group on the Data Revolution for Sustainable Development to provide him with inputs to shape "an ambitious and achievable vision" for a future development agenda beyond 2015. Key recommendations to follow: 1) Develop a global consensus on principles and standards, 2) Share technology and innovations for the common good, 3) New resources for capacity development, 4) Leadership for coordination and mobilization and 5) Exploit some quick wins on SDG data.	The challenge of invisibility (gaps in what we know from data, and when we find out) and the inequality (gaps between those who with and without information, and what they need to know make their own decisions)

[3] Adapted from: Plan of Action for the Strengthening of Vital Statistics 2017-2022 http://iris.paho.org/xmlui/handle/123456789/34197

[4] Source: http://www.undatarevolution.org/wp-content/uploads/2014/12/A-World-That-Counts2.pdf

IS4H Strategic goal 2: Management and Governance			
#	Guiding principle	Additional information	Challenges
8	**Adopt a national framework for IS4H to efficiently and effectively address common data, information and ICT challenges**	Establishing a common vision at the country level is one of the main critical factors for success. Understanding for success the implementation of an integrated health information system.	Achieve a common vision in an initiative made up of different government sectors.
9	**Emphasizes multi-sectoral collaboration**	One of the reasons to call the initiative "Information Systems for Health" instead of "Health Information Systems" is due to the need to process data for the benefit of the health sector, but data that does not only comes from health-related institutions or they are not under the responsibility of the health sector.	Raise awareness among all sectors of government to share data of potential benefit for the public health of the country
10	**Focus on sub regional action or bilateral collaboration for addressing shared challenges**	Always consider the possibility of finding solutions already proven by other countries or know the details of lessons learned and good practices from countries and institutions that are in similar processes. Small countries can benefit greatly from collaboration and adoption of shared solutions.	Shared challenges can be better and more effectively addressed through sub regional action or bilateral collaboration using regionally managed initiatives and public goods

IS4H Strategic goal 2: Management and Governance			
#	Guiding principle	Additional information	Challenges
11	**Use always a standardized assessment tool and method**	The use of standardized tools to measure the level of maturity of information systems for health will allow countries and their institutions to measure their achievements, better prioritize, but also to discuss challenges with other countries that are in the same level. Additionally, international cooperation agencies and development partners will have a better overview to plan further collaboration.	The main challenge is not only to answer a form with questions, but to apply an evidence-based method for measuring the level of maturity.
12	**Consider "build on what already exists" as a critical factor of success**	Act taking into consideration all of the existing actions, investments and knowledge.	Ensure as much as possible that in a situation of organizational changes (political or technical), the current initiatives will be taken into consideration before defining new priorities, investments or actions.

IS4H Strategic goal 3: Knowledge Management and Sharing			
#	Guiding principle	Additional information	Challenges
13	**Promote a Knowledge sharing and learning environment**	Knowledge and Learning-based Organizations are those that manage to modernize their processes, products and services based on an in-depth analysis of their organizational, individual or collective learning.	Create institutional awareness about the concept of "Knowledge and Learning-based Organization"
14	**Ensure the participation of Academic and Research Institutions**	The generation of knowledge, as well as the deeper conceptual analyzes, must be done with the participation of academic and research institutions. They should also be included when formulating complex analyzes and discussions about projections and health analysis.	Adopt a formal model for formulating policies that are based on as much evidence as possible and that supports informed decision-making.
15	**Adopt always Knowledge Management methodologies for supporting IS4H implementation**	Conducting Communities of Practice, documenting Lessons Learned and Good Practices, preserving the Institutional Memory of the projects, as well as formally publishing its results thereof, among other important actions, must be carried out following specific methodologies for knowledge management.[5]	That the project teams understand the institutional value of knowledge management as a mechanism to strengthen individual and collective actions.

[5] PAHO's Knowledge Management methodologies at http://www.paho.org/hq/index.php?option=com_content&view=article&id=7381&Itemid=1430&lang=en

IS4H Strategic goal 4: Innovation			
#	Guiding principle	Additional information	Challenges
16	**Implement a Change management Strategy**	Change management is a complex discipline that must be understood and known by project teams before being implemented as an institutional strategy. This strategy will be the most effective and transparent mechanism to achieve the appropriation by staff and management of new projects, as well as to understand some of the main reasons for possible failures.	Adoption of practices that incorporate transparency, accountability, and auditability on the use of information for policy and decision making
17	**Ensure integration and convergence with the eGovernment initiative**	Most of the countries in the world are implementing Electronic Government initiatives. These initiatives are generally coordinated from the highest level of government and are those that, among other things, make decisions on standards and investments that will impact all government sectors, including the health sector.	Position the Health Sector in official discussions and decision-making process related to e-Government initiatives.
18	**Adopt the IS4H Monitoring and Evaluation Framework for a nation-wide implementation**	**IS4H Objectives and Key Results (IS4H-OKRs)** is part of the suggested Monitoring and Evaluation Framework (IS4H-MEF) for setting, communicating and analyzing short-term results in project implementation. **IS4H Key Performance Indicators (IS4H-KPIs)** is part of the suggested Monitoring and Evaluation Framework (IS4H-MEF) for establishing a measurable value that demonstrates how effectively institutions or project team are achieving the national goals for having an integrated National Information Systems for Health.	That Project Teams, and Institutions formulate the OKRs and the KPIs in a collaborative manner. And to have an agreement on its use as the "Monitoring and Evaluation Framework" of the National initiative.