TOOLKIT FOR IMPLEMENTING DIGITAL
TRANSFORMATION PROJECTS IN THE HEALTH SECTOR

GUIDE

# Building the Future State of Digital Health and its Critical Success Factors in Countries

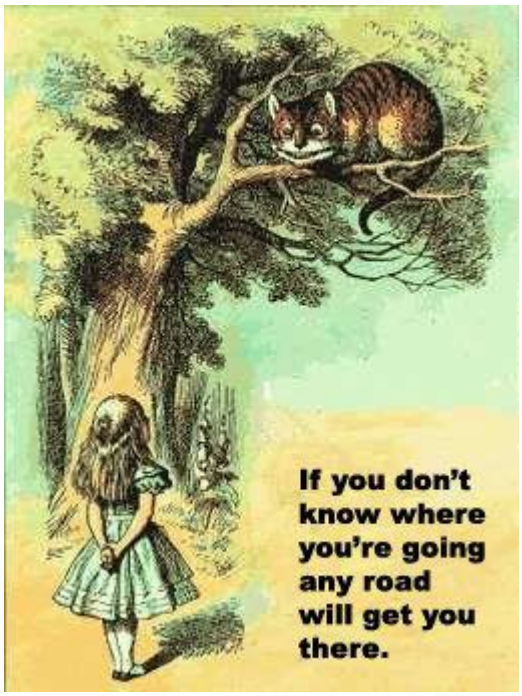
# *Introduction*

*If you don't know where you're going, any road will get you there.*

Lewis Carroll, *Alice in Wonderland*

Lewis Carroll's quote provides a fitting opening to this guide. As we move to accumulate tools to use for different activities, it is easy to lose sight of why we need them in the first place. This problem is frequently seen in the digital health sphere, with two situations often to blame:

a) A communication gap between tool users (health care personnel and patients) and developers (IT professionals)
b) Fragmented health systems with competing and shifting objectives due to factors such as changes in management




The struggle to implement an EHR system in the United States recalls another timely quote: "For decades, physicians had no idea what they wanted, which is exactly what software developers gave them."[1]

There are effective methodologies for overcoming these and similar problems. As part of the process of implementing digital investments, these methodologies have been adopted by industry actors [2][3][4] and, more recently, by the World Health Organization (WHO)[5] to build consensus around what the ideal future state of digital health transformation would look like for different countries.

In line with these initiatives, the Inter-American Development Bank has developed the methodology described in this guide to address the issues mentioned above. By applying the methodology, countries can both develop a vision for the future state of digital transformation and identify the critical success factors (CSFs) needed to make it a reality. Specifically, it requires a wide range of actors from across the digital ecosystem to hammer out agreements about what an ideal health system centered on providing high-quality, efficient, and equitable services would look like. Participants must also decide what role information and communication technologies (ICT) would play in such a system.

[1] Hacking Healthcare: A Guide to Standards, Workflows, and Meaningful Use
[2] https://www.leansixsigmadefinition.com/glossary/value-stream-map/
[3] https://blog.i-nexus.com/current-v-future-state-maps-the-what-why-how-when
[4] https://leanmanufacturingtools.org/598/creating-your-ideal-and-future-state-value-stream-map/
[5] https://www.who.int/publications/i/item/9789240010567

To put the methodology into practice, the Bank has adapted the ideas of health technology adoption expert Alan Dowling[6] to the Latin American context to produce a step-by-step exercise that has been incorporated into policy dialogues with countries in the region. Already, the methodology's implementation in several countries has promoted greater discussion and agreements between health and digital ecosystem actors.

Watch an interview with Alan Dowling on the need for a forward-looking approach to digital transformation.

The methodology is based on the following premises:

1. **Genuine support from top authorities**. Having the explicit support of top officials lends credibility to the process, which leads to greater participation and buy-in.
2. **Broad engagement from the ecosystem.** For the methodology to work, intersectoral actors from the health system and health-adjacent institutions and areas (education, economy, innovation, the Office of the Vice President, etc.), and representatives from both social and political entities (depending on whether the country has a centralized or federal government system) must all engage in the process. The more inclusive and diverse the participation is, the less one-sided their perspective will be. This ensures that proposals will not be biased towards information technology (IT), legal, or medical considerations and legitimizes the process in the eyes of outsiders.
3. **Constructive dialogue and ability to compromise.** The co-creation approach established at the beginning of the activities helps motivate all involved to move towards digital transformation.
4. **Validation and participant feedback.** At the end of the exercise, participants confirm their satisfaction with the vision and ensure it is included in the Digital Transformation Roadmap.

The rest of this guide describes the systematic methodology for building the future state of digital health and its critical success factors in countries.

[6] Dowling, A. F. 1989. "Health Care Information Systems Architecture of the Near Future," *Journal of the Society for Health Systems*, Vol, 1, No. 2.

**Conceptual framework – The digital house metaphor**

The methodology for defining the future state and CSFs of a country or institution uses recommendations from ISO/TR standard 14639-2:20141 to ensure a digital health architecture that enables digital transformation processes. The digital house model provides a framework of six key components that should be taken into account when undertaking digital health initiatives:

**a) Governance and management** encompasses organizations' regulatory strategies, change management, and project sustainability. Governance is defined as the exercise of political, administrative, and technical authority to manage all aspects of digital transformation at every level of a national health system and is the framework that allows participants to coordinate their work. The governance structure is the mechanisms, processes, and institutions whereby all actors and stakeholders in a national health system align their interests, exercise their rights, meet their obligations, resolve their differences, and oversee its operation. https://www.iso.org/standard/54903.html

**b) Knowledge management and public health** is the health system models and configuration determined by the government entity with ultimate authority over the health sector. This component also includes actions to track and monitor the country's public health.

**c) Infostructure**[7] consists of the specific technological components developed to support digital transformation, including core components that are key to ensuring syntactic and semantic interoperability for health organizations. Infostructure includes medical information repositories; patient, product, and place directories; use of medical terms; components related to managing informed consent of patients; mechanisms to protect the privacy and security of access to the platform; and rules for sharing different types of electronic medical documents.

**d) Digital infrastructure** refers to the computer technology (internet access, storage, processing, devices, etc.) needed for the digital transformation.

**e) Digital applications and services** covers the information domains or software applications that must be developed, integrated, upgraded, maintained, and launched to improve key healthcare processes for the country's digital transformation of the sector. When the contents and key properties of medical records are examined, subcomponents that generate new information can be identified. Each subcomponent corresponds to a different part of the healthcare process, from the clinical evaluation of health problems at different levels of care (primary care, hospital, etc.) to additional testing, therapeutic interventions, patient flow management, etc.

**f) People and culture** encompasses actions to communicate the strategy and encourage its adoption by citizens. It also includes all steps required of health teams, who must acquire skills and navigate the change in their daily activity. Key aspects such as empowering the sector and citizens to take an active role in achieving the strategy also fall under this dimension.

[7] https://www.campus.fundec.org.ar/admin/archivos/El%20concepto%20de%20infoestructura_cornella.pdf

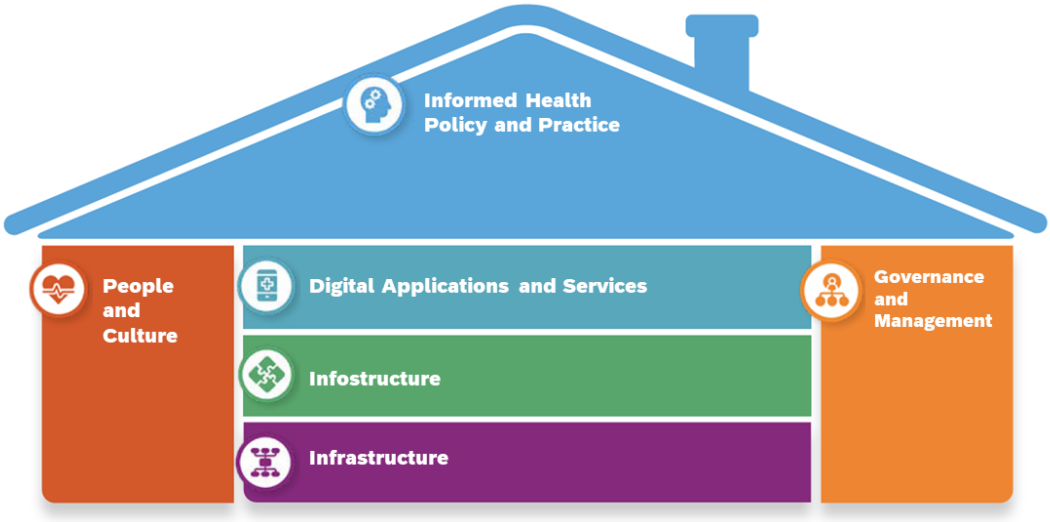



Figure 1. Six key dimensions of digital transformation

**Methodological structure**

The Future State and Critical Success Factors (FS/CSF) methodology helps participants identify and agree on a future vision for the health ecosystem, as well as the CSFs for achieving that vision. FS/CSF can be implemented to varying degrees of detail and should be an iterative exercise, with updates over time. The active participation of actors from across the ecosystem ensures outcomes that represent and have the backing of the health sector, digital government authorities, the public and private sectors, contributory and non-contributory parties, academia, and civil society. The participants should also have differing backgrounds that allow them to provide service provision, management, and technological, legal, and political perspectives on the vision.

The exercise is spread out over four workshops. In-person workshops are held back to back over four consecutive days, whereas virtual workshops are usually held on different weeks.

1. **Future State workshop:** The first workshop centers on building an overarching vision of the future state of digital health in the country at two specific points in time: five and ten years in the future. Since this workshop sets the rest of the process in motion, it is important to secure participants' commitment to attending all the scheduled workshops.
2. **Digital House workshop:** The second workshop introduces the idea of the digital house, a conceptual framework for understanding the essential requirements and principles that should guide the planning and implementation of ICT use. The metaphor is also used to identify the components, services, and/or activities required to achieve the future state vision for the country's digital health transformation.

3. **Critical Success Factors workshop:** In the third workshop, participants work to identify factors that must be in place to make progress towards the future state that they envisioned previously. When mapping out the critical success factors, participants are encouraged to take a holistic view of organizational processes and visualize the ways that factors are linked. This helps them identify interconnected factors that play off each other to help bring the future state into being.
4. **Validation of alignment of the eight guiding principles for digitally transforming health:** In 2021, 49 countries and territories ratified the "Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas," and the PAHO/WHO outlined eight principles to govern these processes. The focus of the fourth and final workshop is to review the actions laid out in the roadmap and verify their alignment with the eight guiding principles.

**Roles and responsibilities**

**The facilitator team:** Whether held in person or virtually, the workshops need a team of facilitators to run smoothly. Each team member has a well-defined role, which may vary depending on the workshops' modality, as shown in Table 1:

Table 1: Facilitator team members and workshop modalities

| | VIRTUAL | IN-PERSON |
|---|---|---|
| Technical coordinator/Master of ceremonies | ★ | ★ |
| Virtual tool facilitator | ★ | |
| Meeting platform facilitator | ★ | |
| Lead technical facilitators of small groups | ★ | ★ |
| Technical support facilitators/Observers | ★ | |
| Technical support facilitators/Observers | ★ | |
| Observer/Support | ★ | |

- Technical coordinator/Master of ceremonies: Acts as the event host, going to rooms or joining groups whenever a facilitator needs assistance.
- Virtual tool facilitator: Responsible for organizing and preparing event rooms, presenting the platform and explaining how it works during presentations, and observing participants' behavior on the platform during sessions. This team member has their own room that participants can visit during events if they need one-on-one assistance.
- Meeting platform facilitator: Responsible for preparing meeting rooms, managing links to the rooms, and helping to solve platform-related technical issues during meetings.
- Lead technical facilitators of small groups: Facilitates dialogue, promotes discussion, moderates debate, and helps any participants having trouble using the platform, especially the whiteboard, in each group work room. Afterwards, this team member systematizes participants' insights and conclusions.
- Technical support facilitator/observer: Assists the main facilitator, serving as backup if the facilitator has technical issues.
- Observer/support: Observes participants' behavior in the rooms, taking note of methodologies, topics discussed, possible improvements, and actions to be corrected, which are shared in group meetings following the activity.

**Point person for the country:** The host institution should designate a point person to act as liaison throughout the process. This person is in charge of coordinating the invitation of participants, setting the agenda, coordinating spaces for discussion and interviews, and carrying out all communications and authorization activities, among others.

**Analysis of the state of the health system and its digital transformation**

To prepare for the exercise, it is recommended to first carry out a situation analysis of the country's health system in general and of its digital transformation in particular. This analysis should include the following activities:

- Interviews with key actors (it is recommended that these be conducted once the workshops have begun)
- A review of the country's official documents, including laws, national agendas, policies, and strategies concerning digital issues in general and digital health in particular
- Field visits (for activities held in person)

**Key/critical actors**

The process of identifying the state of the health system provides valuable insights into which key actors should be included and recommended for participation in the activity. Actors from the public and private sectors and both contributory and non-contributory parties are invited to take part, as their diverse backgrounds help create a shared vision that balances service provision, management, technological, legal, and political considerations. In general, it is recommended that the following actors participate: decision makers and policymakers, technical personnel in charge of data production (data collection, integration, processing, analysis, and dissemination) and data users, and stakeholders or individuals from the national information system in general or from specific thematic areas of the health sector:

*For best results and to ensure that the exercise flows smoothly, it is recommended that the same people participate in all scheduled activities. New participants identified by facilitator or counterparts are always welcome to join.*

- Epidemiology units
- Information systems units
- Planning and policy units
- Health information and population monitoring units
- IT and information systems units
- Statistics units
- Technical health programs and units
- Health program planners
- Key stakeholders: civil registration, national statistical offices
- Hospitals
- Academic institutions
- e-Government initiatives
- Other ministries or entities directly involved in health issues (economy, technology, education, etc.)
- If the health system is decentralized or if the country has a federal government system, there should be as much representation of states, departments, districts, and/or provinces as possible.

- Other areas

**Materials and tools for the workshops**

The Future State and Critical Success Factors workshops require a set of tools—ranging from technology platforms to specific documents—that must be carefully adapted to each country's context and needs. The specific tools and materials needed will depend on the workshops' modality:

**a. Virtual**

- **Virtual meeting platform:** Platforms with the ability to split up participants into small groups are recommended, as this makes group work easier.
- **Instant messaging platform:** An instant messaging platform allows the facilitator team to troubleshoot issues and share information during meetings and group activities.
- **Online whiteboard platform:** This type of tool allows participants to post sticky notes, share images, and map out connections, among other activities, on a visual whiteboard or wall. Used during group work, the tool facilitates collaboration and co-construction in the small groups. The IDB uses the MURAL online collaboration tool, but the choice of this tool (and all other tools) should be made together with the local team.
- **Standard presentation:** Each activity with participants and national authorities begins with a standardized and carefully structured presentation.
- **Facilitators' guide:** Includes the script or annotated agenda for each activity, activity schedule, and facilitators' guide for the group work exercises.
- **Agenda:** The agenda is prepared with the point person before invitations are sent out. Once approved by country officials, it is included with the invitations.

**b. In-person**

- **Meeting room:** The room must be big enough to allow participants to break into smaller groups; the exact size will depend on the total number of attendees. Its walls should be free of pictures or decorations so groups can use them as a work space.
- **Note-taking supplies (sticky notes):** During the group work, participants are required to write things on sticky notes in different colors and post the notes on the walls.
- **Facilitators' guide:** Includes the script or annotated agenda for each activity, activity schedule, and facilitators' guide for the group work exercises.
- **Agenda:** The agenda is prepared with the point person before invitations are sent out. Once approved by country officials, it is included with the invitations.

**Workshop schedule**

The facilitator team and point person will determine the number of activities based on the participating actors and country dynamics. The recommended sequence is:

- One workshop to design the future state
- One workshop on the digital house
- One workshop to identify CSFs
- One workshop to validate alignment with the eight guiding principles
- One meeting to validate conclusions

• One meeting with the Ministry of Health team to present the conclusions
• One meeting with the Ministry of Health team to agree on the digital health roadmap's results indicators.

**General tips**

1. Participants: For best results and to ensure that the exercise flows smoothly, it is recommended that the same people participate in all activities. New participants identified by facilitators or counterparts are always welcome to join.
2. If the online whiteboard platform starts to lag, participants should be instructed to close the platform, with only facilitators and the participants in charge of posting on the whiteboard remaining. The activity can be shared on the meeting platform instead so everyone can follow along.
3. If a participant is unable to access or use the whiteboard tool, a facilitator should ask them to write their ideas in the meeting platform chat and then post what they write on the whiteboard for them.
4. Time management: One facilitator, usually the whiteboard platform manager or the meeting platform facilitator, should use a timer to keep track of the time spent on group work.
5. Small group sizes: A maximum of 15 participants in each room is recommended, not counting the facilitators.
6. The facilitator's primary role is to ask questions to keep the conversation moving, provide examples when needed, encourage participation, and get participants to take an active role in building consensus.
7. Create a help room where participants can get one-on-one assistance on how to navigate the tools.

| PHASE II | Future State workshop | Building an overarching vision of the future state of digital health in the country five and ten years in the future |
|---|---|---|

The first workshop centers on building an overarching vision of the future state of digital health in the country at two specific points in time: five and ten years in the future. Since this workshop sets the rest of the process in motion, it is important to secure participants' commitment to attending all the scheduled workshops.

**Activity details**

1. **Opening and introduction:** The institutional authorities, representatives, and coordinators give opening remarks in an order agreed on in advance with the national counterpart. The technical coordinator/master of ceremonies moderates the space and introduces the activity. This is followed by an overview of the activity and the methodology, which will have been adapted to the country. If there is time, participants then take turns introducing themselves.
2. **Part 1 – 10-year future state:** The workshop is divided into two parts. In the first part, participants work to outline a vision of the health system's achievements on the path to digital transformation 10 years in the future.
   a. **Individual identification of 10-year achievements:** Working individually, participants list the digital transformation outcomes they think their country's health system needs to achieve. This should be an expression, written in present tense, of what they wish to see come to pass, without worrying about obstacles, conflicts, etc.
   b. **Sharing of 10-year visions and consensus building:** Participants share their visions with the group and give each other feedback. The outcomes that all participants agree on are then categorized as future visions for a) the health system; b) health teams; c) users, or d) information systems.
3. **Part 2 – 5-year future state:** Participants repeat the activity for a 5-year future state.
4. **Summary and sharing of main ideas:** The groups then reconvene and each group's spokesperson presents their shared vision. The facilitators synthesize the different visions in a single vision for the country and share the unified narrative in discussion format, where participants work to reach a consensus and make adjustments.

**Work area layout**

Work area: The work area is a shared space with enough room for each group to have its own established work space. For virtual workshops, these work spaces are indicated on the whiteboard (wall) platform; for workshops held in person, signs on the meeting room walls indicate the different work spaces. The total number of work spaces depends on how many groups the facilitator team divides the participant list into.

Group work space: The small groups use this space for parts one and two of the workshop. Each space has the following components:

1. Medium-term work space: Each participant is assigned one section to post their medium-term expectations.
2. Long-term work space: Each participant is assigned one section to post their long-term expectations.

3. Individual sections: Each participant is assigned one section of the work space to post their sticky notes on. Each section is numbered, and the facilitator assigns each participant a number at the start of the group work session. Participants are also free to choose another section.
4. Large space for integrating all medium-term proposals: Organized into four categories: a) the health system, b) health teams, c) users, and d) information systems.
5. Large space for integrating all long-term proposals: Organized into four categories: a) the health system, b) health teams, c) users, and d) information systems. Individual sticky notes are organized on this space or integrated into a shared vision for the future state.
6. Proposal categories: a) the health system, b) health teams, c) users, and d) information systems.

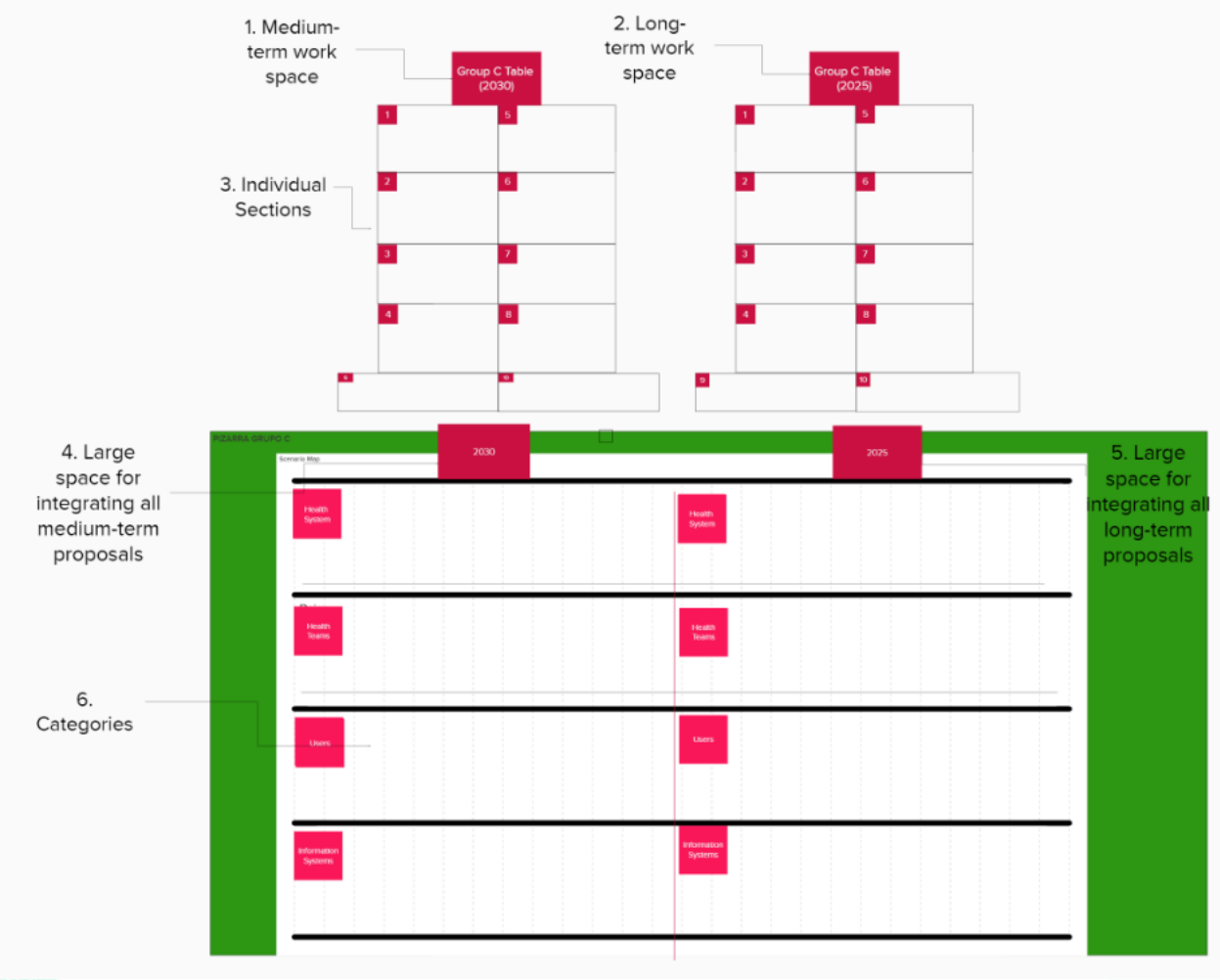



Figure 2. Group work space

**Tips**

1. Synthesizing visions: Gather similar ideas and put them in a shared presentation document to assemble an initial vision proposal that integrates the four categories mentioned above. If possible, include a key phrase that encapsulates the proposal's vision for the country's transformation.

| PHASE III | Digital House workshop | Identifying the components, services, and/or activities required to achieve the future state vision for the country's digital health transformation |
|---|---|---|

The second workshop introduces the idea of the digital house, a conceptual framework for understanding the essential requirements and principles that should guide the planning and implementation of ICT use. The metaphor is also used to identify the components, services, and/or activities required to achieve the future state vision for the country's digital health transformation.

**Activity details**

1. **Opening and introduction:** The institutional authorities, representatives, and coordinators give opening remarks in an order agreed on in advance with the national counterpart. The technical coordinator/master of ceremonies moderates the space. This is followed by an overview of the activity and the methodology, which will have been adapted to the country. If there is time, participants then take turns introducing themselves.
2. **Digital house exercise:** Looking forward five years in the future, participants imagine that the country's current digital health transformation initiatives, as well as new ones, have been successful. Each small group must **identify the health actions, services, components, or developments that would have to have been built in the dimensions of the digital house** in the next five years in order to make patients' journey through their country's health system flow smoothly, with seamless interactions between healthcare teams and health ecosystem actors. To brainstorm ideas, participants use a clinical case that describes such a journey, discussing and defining what actions and products their country's health system would need to solve the case through a transformed digital health process. The actions and products are then physically arranged to form the digital house (see Figure 1) according to each of its six dimensions.
3. **Summary and sharing of main ideas:** The groups then reconvene and each group's spokesperson presents their digital houses. This is followed by discussion, with participants providing feedback.

**Work platform design**

Group work space: The small groups use this space for the workshop activities. It contains an image of a digital house, which the facilitator will fill out according to the instructions in this guide. The space has the following components:

1. A reminder about what to write on the sticky notes: A poster specifying what the sticky notes should contain for each dimension: verb/action and product/outcome
2. Table number and name of facilitator(s): The table or "house" number for each small group and facilitator name(s) should be clearly labeled.
3. Digital house: An image of an empty digital house, where participants post sticky notes on each of its six dimensions.

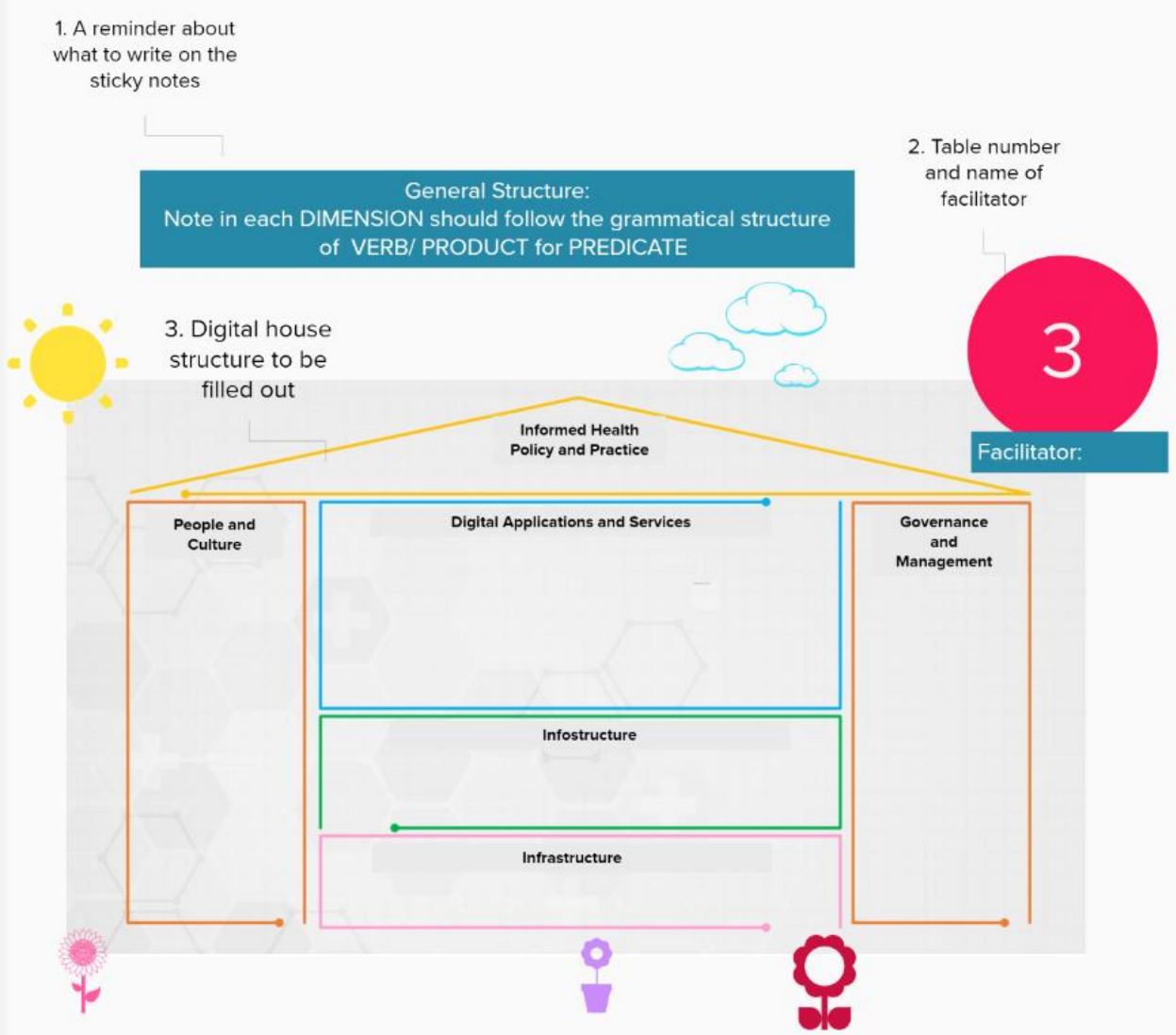



Figure 3. Group work space

| PHASE IV | Critical Success Factors workshop | Mapping out CSFs, taking a holistic view of organizational processes, and searching for links between interconnected factors to help make the future state a reality. |
|---|---|---|

In the third workshop, participants identify crucial factors for making progress towards the future state envisioned in the first workshop and take a holistic view of organizational processes to begin construction of the digital house.

**Activity details**

1. **Opening and introduction:** The institutional authorities, representatives, and coordinators give opening remarks in an order agreed on in advance with the national counterpart. The technical coordinator/master of ceremonies moderates the space.
2. **FIRST "HALF"** – **Mapping out CSFs:** In the first part of the workshop, participants identify all the variables that must be in place and successfully implemented to achieve the future state and the desired outcomes in the next five years.
3. **SECOND "HALF"** – **Connecting the 5-year CSFs:** In the second part, each group works to connect the previously defined CSFs to the 5-year objectives from the digital house workshop. To figure out how the CSFs fit together and determine the best timeline for achieving them, participants move them around and look for synergies until they meet the proposed objectives. The existing and new CSFs are mapped out in a scalable network diagram, which makes it easier to see cause-and-effect relationships between them and gives a sense of what can realistically be achieved in the set period of time. Participants also outline the critical path of the program or project and apply traditional project planning methods to develop the country's Digital Transformation Roadmap.
4. **OVERTIME** – The groups then reconvene and present their "plays" and five-year goals, followed by discussion to reach a consensus and make adjustments as necessary.

*Soccer metaphors are used in the critical success factors workshop as a playful way to refer to (a) the workshop sessions: first and second halves, and overtime; (b) each team's work space: the playing field; (c) achievements:*

**Work area layout**

Group work space: Each space used for the group activities must be big enough to allow participants to map out connections between the CSFs and should have the shape and design of a soccer field. Participants fill it out according to the facilitator's instructions, based on this guide. The space has the following components:

1. Playing field category label: Each field represents a different category of the ecosystem: a) the health system, b) health teams, c) users, and d) information systems. When the workshop is run with large groups, some categories may be repeated on more than one field.

2. Identification of the team and its facilitator: The field or team number for each small group and facilitator name(s) should be clearly labeled.
3. Set of balls: These are used at the end of the exercise to record goals scored when a series of CSFs leads to meeting a target.
4. Goals list: Before the workshop, facilitators select a few goals identified in previous meetings.
5. Set of critical success factors: Before the workshop, facilitators post a few sample sticky notes containing some of the actions identified in the digital house workshop. Participants are free to re-use them when posting their CSFs on the field.
6. Cloud and sun: The medium and long term are covered up by images of a cloud and sun in the first part of the workshop and then uncovered in the second part, allowing participants to look for connections to determine the best order and timing for the CSFs.

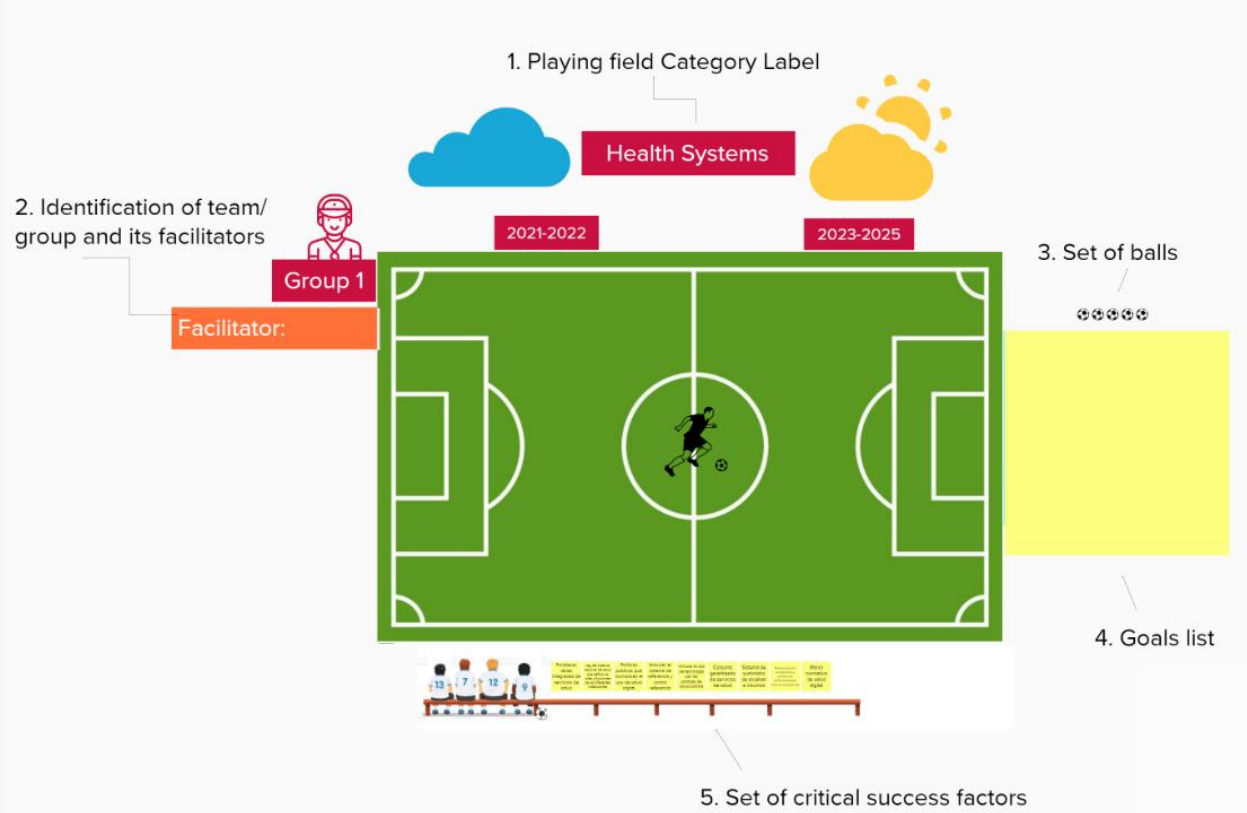



Figure 10. Group work space

| PHASE V | Eight Guiding Principles Validation workshop | Validating alignment with the eight guiding principles of digital health |
|---|---|---|

The fourth and final workshop centers on validating and strategically integrating the actions and CSFs identified in the previous workshops, ensuring that they are aligned with the "Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas" approved by the 59th Directing Council of the PAHO/WHO. Participants discuss how the actions they identified in previous workshops further the eight principles for digital transformation of the health sector, checking that each principle is tied to specific strategic guidelines. In this way, they reaffirm their sector's commitment to implementing the roadmap approved by PAHO/WHO member countries.

The goal of this exercise is to reach a consensus about the priority actions and CSFs that will form part of the country's Digital Transformation Roadmap, which also serves to validate the actions. To this end, participants review the CSFs established in previous workshops and identify which digital transformation principle or principles they fall under: 1) universal connectivity, 2) digital public health goods, 3) inclusive digital health, 4) interoperability, 5) human rights, 6) artificial intelligence, 7) information security, 8) and public health architecture.

**Participants:** For validation and consensus purposes, this workshop has a limit of fifty (50) participants. They should be representatives of the institutions, areas, and departments that participated in the previous activities; hold decision-making positions; and be familiar with the issues discussed in the workshops.

**Activity details**

1. **Opening and introduction:** The institutional authorities, representatives, and coordinators give opening remarks in an order agreed on in advance with the national counterpart. The technical coordinator/master of ceremonies moderates the space. Participants are introduced and then divided into groups based on their ability to have an impact on one of the eight digital health transformation principles.
2. **Validation exercise:** Each group is assigned one of the eight principles and works to identify the priority actions and CSFs defined in the three previous workshops that fall under that principle. They then discuss whether any of those actions or CSFs should be reworded so they are more closely aligned with the relevant principle or principles. To ensure successful implementation of the relevant principle, participants look for any gaps that could affect execution and formulate additional actions or CSFs to close these gaps as needed. These suggestions are later used to bring the actions in the country's individual roadmap in line with the "Roadmap for the Digital Transformation of the Health Sector in the Region of the Americas."
3. **Consensus building:** The groups then reconvene and take turns sharing the actions or CSFs they chose to modify, add, or delete in relation to the group's principle. This is followed by discussion, with other groups providing feedback and validation.

**Work area layout**

Group work space: Each space used for the group activities must be big enough to show the principle assigned to the group, its calls to action, and related activities from the previous three workshops.

Salud digital inclusiva

| Principle 3: Inclusive digital health: Accelerating progress towards inclusive digital health, with emphasis on the most vulnerable populations | |
|---|---|
| Strategic area: Leaving no one behind in the digital age requires reaching not only populations in conditions of greater social, economic, geographic, or cultural vulnerability, but also people and population groups that are not digitally literate. Digital transformation policies have the potential to reduce health inequalities by giving women and men in diverse populations access to digital information and tools for prevention and care, in the right format, when needed. Digital inclusion requires access and appropriate digital skills, as well as the development of digital technology solutions that are user-friendly and easy to navigate. | |
| Regional call to action | Adaptation at the local level – Actions – Country Objectives |
| • Include **gender criteria,** an **intercultural** perspective, and the **principles of equity and solidarity** in actions related to the **digital health inclusivity agenda.**<br>• Use reference data as a starting point to formulate and **evaluate interventions, determining** which **people and groups** have some degree of **vulnerability** and their relationship with the virtual world.<br>• Take multisectoral action to formulate and implement **digital inclusion policies and strategies,** such as **awareness campaigns** and **training** programs (by authorities, providers, and the general population).<br>• **Empower individuals and their communities** (children, youth, seniors, women, people with disabilities, and indigenous peoples) through **initiatives** that promote **digital health.**<br>• **Analyze beliefs, concerns, and motivations** regarding health decision-making that could **affect the achievement of digital health** for all, taking into account the most vulnerable populations.<br>• **Promote the inclusion of people-centered digital health,** ensuring that the population knows **their rights and responsibilities** regarding the **security, privacy, and reliability of health data.**<br>• Enable a **virtual resilience system** so that health systems continue to offer **coverage if physical care is impossible,** with special attention given to the most vulnerable populations. | **Governance and Management**<br>Action 1<br>Action 2<br>Action 3<br>**People and Culture**<br>Action 1<br>Action 2<br>Action 3<br>**Knowledge Management and Public Health**<br>Action 1<br>Action 2<br>Action 3<br>**Applications**<br>Action 1<br>Action 2<br>Action 3<br>**Infrastructure**<br>Action 1<br>Action 2<br>Action 3<br>**Infostructure**<br>Action 1<br>Action 2<br>Action 3 |

| PHASE VI | Interviews | For a more precise understanding of the system and of key actors' perceptions of the digital transformation of the health sector |
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The purpose of the interviews is to gain insight into ecosystem actors' views about the current health system, what its direction or focus should be, the role played by their institution, its current level of digital transformation, and the future vision for that transformation.

Selecting interviewees: Based on the information gained from the initial conversations with the counterpart and the Future State workshop, the facilitator team should be able to make a preliminary selection of relevant health system actors for interviews.

**Tips**

1. Additional information: A complete picture of obstacles, CSFs, and recommendations should be formed over the course of the interview.
2. Interview style: The interview should have a conversational tone and be fluid and pleasant. The interviewer should demonstrate empathy and give the interviewee enough time to discuss and provide greater detail on the points they consider most important. It is imperative that the interview not be treated like a mere questionnaire—there must be a dialogue between both sides. It is also important that the interviewee not feel like they are being evaluated in any way.

**Questionnaire**

The following questionnaire is provided as an example and aims to structure conversation around topics related to the health system in general and digital health in particular. Interviewers are free to add or remove questions at their discretion or depending on how the interview unfolds. The interview is divided into multiple thematic sections.

| **SAMPLE QUESTIONNAIRE – DIGITAL TRANSFORMATION** |
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| **A. GENERAL SECTION**<br>1. Overall, how would you describe the current state of the health system in your country?<br>2. In your opinion, what would be the key ways to significantly improve your country's health system?<br>3. What is the health system's current level of technological maturity? |
| ***Interviewer's comment:*** *Now I'd like to ask you about the digital transformation of the health system.* |
| **B. DIGITAL TRANSFORMATION OF THE HEALTH SYSTEM SECTION**<br>4. Do you think implementing ICTs and digitalizing the health system would be a necessary and beneficial change for citizens?<br>a. In what ways would it be beneficial?<br>b. Would these changes have any negative consequences?<br>5. On a scale of 1 to 10, how much of a priority is the digital transformation of the health system? Why?<br>6. How do you think decisions regarding the health system's digital transformation process should be made?<br>a. At what level, who should be involved, etc.?<br>7. Who do you think should finance this digital transformation? |

8. What are the immediate challenges the health system faces in the digital transformation process currently underway?
9. What would you say are the main barriers and facilitators for ICT implementation?
10. If you were a minister with full powers, what immediate actions would you take to advance the digital transformation process?
11. Do you believe your country has the necessary human resources to lead this transformation?
12. Finally, what expectations do you think health professionals have about this digital transformation?
13. What about users?

***Interviewer's comment:*** *Now I'd like to know your opinion about EHR.*

**C. EHR SECTION**

14. What do you see as barriers and facilitators for full implementation of EHR in your country?
    a. (if applicable) Would you recommend a single IT solution for all entities or interoperability between separate systems?

**D. E-PRESCRIBING SECTION**

15. What do you see as barriers and facilitators for full implementation of e-Prescribing in your country?
16. Do you consider it feasible and advantageous for users to be able to obtain medications at any point in the health system via electronic prescriptions?

***Interviewer's comment:*** *Now I'd like to ask you about the organization to which you belong or where you work.*

**E. ORGANIZATION SECTION**

17. How would you describe the purpose of your organization in the health system?
18. In your opinion, what challenges is your organization facing currently and what challenges does it expect to face in the future?

***Interviewer's comment:*** *Now I'd like to learn more details about your organization's digital transformation activities.*

**F. DIGITAL TRANSFORMATION OF INTERVIEWEE'S ORGANIZATION SECTION**

19. What is your organization's current level of technological maturity?
    a. (if applicable) Can you name one or two digital innovations or solutions that your organization has implemented?
20. What are your organization's short- and medium-term digital transformation objectives?
21. To position itself as a digital health leader in, say, 10 years, what challenges would your organization need to overcome?
22. What digital solutions or tools would you like to see your organization adopt to modernize it and deliver health care services more effectively and efficiently?
23. What barriers and facilitators can you see within the organization that affect the likelihood of successful digital transformation?
24. In what ways could the health system and the government in particular promote digital transformation in your organization?
25. Do you believe your organization currently has the necessary human resources to begin this transformation?
26. Finally, what expectations do you think the personnel at your organization have about this digital transformation?
27. What about users?

| PHASE VII | Report | Definitions and scope of the tools and conceptual framework |
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The main objective of the Future State and Critical Success Factors exercise is to provide the primary source of information for shaping the country-level Digital Transformation Roadmaps. For this reason, the most important conclusions from the exercise will be summarized and systematized in a technical report so the insights can serve as an input for the respective roadmaps.

**Validation**

Once the report has been approved by the institution with ultimate authority over the matter, it is recommended that a validation process be carried out. This process may include actors from the Ministry of Health, other governmental institutions such as ministries of technology or innovation, and/or non-governmental institutions from, for example, academia or the private sector.