Senegal’s Journey Toward an eHealth Strategy:
Highlights from the Development Process
Cover photo: Members of ad-hoc committee discuss strategy content. Credit: David Potenziani/IntraHealth International
Acknowledgements

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Executive Summary

In recent years, a multitude of eHealth initiatives have been implemented in Senegal, intended to strengthen its health system. Recognizing the need and utility of strengthening coordination and collaboration among all health system stakeholders—including government ministries, partners, donors, and the private sector—Senegal’s Ministry of Health and Social Action (MOHSA) initiated the development of a national eHealth strategy in 2014.

Early in 2015, with support from the United States Agency for International Development (USAID), the World Health Organization (WHO), and the Knowledge for Health (K4Health) Project, the MOHSA coordinated a process to draft its eHealth Strategic Plan.

This report:

- Documents the process of developing the Senegal eHealth Strategic Plan;
- Compares the process in Senegal to the recommended stages of the national eHealth strategy Toolkit developed by WHO and the International Telecommunication Union (ITU), highlighting points of adherence and variation; and
- Aims to inform readers of successes and challenges encountered during the process, in order to facilitate learning among the community of groups and individuals involved in similar efforts.

The Senegal eHealth Strategy development process included:

1. The formation of a temporary technical committee (with representatives from government and key implementing partners and donors) which coordinated the process via regular meetings;
2. A desktop review of other country-level eHealth strategies and the processes through which they were developed;
3. A situational analysis via key informant interviews involving government bodies, partners, and the private sector; and
4. Working with stakeholders via an inclusive and participatory approach.

In addition, a dynamic national eHealth registry was created to record and update eHealth initiatives to support ongoing decision making by the government and unveil new business opportunities for the private sector.

Critical success factors for the development of the Senegal eHealth strategy included strong governmental engagement and support, commitment of partners for collective action, good financial backing, and strong leadership from the Office of the Director General for Health. While the process was designed to be inclusive and participatory, the scope of participation was limited to government and some implementing partners. Technical assistance provided by WHO and USAID via K4Health was essential throughout the process.

Key Lessons Learned

- Allocate sufficient time to develop a credible scientific document. Anticipate the financial resources needed.
- Start with a baseline evaluation and/or a situational analysis that includes reviewing existing eHealth projects and players.
- Apply a consultative, participatory approach, whereby key players with diverse expertise are brought together for brainstorming sessions.
- Refer to countries that have an operational strategic plan and learn from their model while taking socio-economic factors into account.
- Assess your country’s infrastructure.
- Ensure that your country has appropriate legal norms in place.
- Establish a realistic activity calendar.
- Seek high level support for the strategy.
- Refer to the WHO/ITU toolkit for key guidance and tools.
1. Introduction

Information and communication technology (ICT) has developed and proliferated significantly in Senegal, as in Africa in general, over the past twenty years. One result has been a flourishing of eHealth interventions, intended to tap into ICT’s potential and address ever-growing expectations and emerging diseases in the health sector. More and more evidence is emerging to confirm that eHealth can support the delivery and management of health services and strengthen the overall management of health systems. However, without a well-articulated national vision or strategic plan, eHealth interventions can be confusing, uncoordinated, duplicative, and might become counterproductive in the long run.

Considering its current and future investment in eHealth, the government of Senegal, with assistance from partners, recently decided to adopt a coordinated and strategic approach to eHealth. The Ministry of Health and Social Action (MOHSA) envisioned the Senegal eHealth Strategic Plan to guide future initiatives and investment by key players in the field (including government, partners, donors, and the private sector), and to facilitate efficient, effective coordination of eHealth efforts.

This report documents the process of developing the Senegal eHealth Strategy, from the formation of an ad hoc committee to the submission of a draft strategy to for validation and adoption. This report also shares the successes and challenges encountered during the process, and assesses adherence to and variation of Senegal’s process in comparison to the eHealth strategy development guidelines from the World Health Organization (WHO) and the International Telecommunication Union (ITU)\(^1\). The authors intend this report to inform learning among groups and individuals involved in similar efforts to support the development of national eHealth strategies.

Relevant Governmental Structures

The MOHSA is composed of the Minister’s Cabinet Office, the General Secretariat, Directorates, Affiliated Services, and Divisions (see Appendix 1). There are two types of Directorates: technical directorates responsible for program implementation, and support directorates addressing specific needs necessary for effective program operations. The two main technical directorates are the Directorate-General of Social Action, responsible for the preparation and implementation of the national social action policy, and the Directorate-General of Health, responsible for the preparation, implementation, and monitoring of health policy.

Preliminary Events

In 2012, the government of Senegal created a national multi-sectoral steering committee for Telemedicine and eHealth. This Minister of Health appointed a technical advisor to head this committee.

In 2014, eGovernance Commission, a subcommittee reporting to the Telemedicine and eHealth steering committee, began its mandate to explore existing eHealth opportunities and develop a national eHealth strategy. The eGovernance Commission launched its activities during a two-day workshop in August of 2014.

That workshop resulted in recommendations to:

- Secure high-level leadership support in the health sector for the eHealth strategy development effort;
- Establish an appropriate governance mechanism;
- Create a multidisciplinary project team for the strategy development; and
- Define a clear time frame and resources needed to carry out related activities.

Early in 2015, the Director-General of Health was designated to lead the process of focusing the eHealth strategy process, in close collaboration with other stakeholders within MOHSA and beyond. At this time, the USAID-funded

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\(^1\) The WHO/ITU National eHealth Strategy Toolkit was developed in 2012 to provide a framework and methodology for the development of a national eHealth vision, action plan, and monitoring and evaluation framework. [https://www.itu.int/pub/D-STR-E_HEALTH.05-2012](https://www.itu.int/pub/D-STR-E_HEALTH.05-2012)
Knowledge for Health (K4Health) Project was commissioned to provide financial and technical support to this effort.

2. Methods

For the preparation of this report, K4Health carried out interviews with key individuals involved in the development of the Senegal eHealth Strategic Plan. The interview protocol is attached as Appendix 2. K4Health completed nine interviews with participants from different departments of MOHSA and from implementing partners. K4Health also reviewed relevant emails, progress reports, meeting minutes, and workshop reports to inform this summary.

3. eHealth Strategic Plan Development Process

The development of the eHealth Strategic Plan involved a series of activities undertaken by the Senegalese government and partners, with support from K4Health.

Timeline of eHealth Strategy Development

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>February 2015</td>
<td>Stakeholder engagement begun</td>
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<tr>
<td>April 2015</td>
<td>Desktop review begun for situational analysis</td>
</tr>
<tr>
<td>April 2015</td>
<td>Ad hoc committee formed</td>
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<tr>
<td>April 2015</td>
<td>Stakeholder engagement continued</td>
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<tr>
<td>April 2015</td>
<td>Methodology developed and adopted by the ad hoc committee</td>
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<tr>
<td>May 2015</td>
<td>Desktop review completed: eHealth experience of other countries</td>
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<tr>
<td>May 2015</td>
<td>Key informant interviews and National eHealth Registry development</td>
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<tr>
<td>May 2015</td>
<td>Workshop with key players to identify strategic priorities</td>
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<tr>
<td>May 2015</td>
<td>Drafting committee designated to produce a first draft</td>
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<tr>
<td>June 2015</td>
<td>Drafts reviewed by the ad hoc committee</td>
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<tr>
<td>July 2015</td>
<td>Technical validation workshop</td>
</tr>
<tr>
<td>August 2015</td>
<td>Final strategy draft submitted to MOHSA*</td>
</tr>
<tr>
<td></td>
<td>eHealth Registry completed</td>
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*The original timeframe for the strategy draft was three months—from April to June 2015. A number of constraints and challenges, discussed further below, resulted in a two-month delay.

Stakeholder Engagement

The MOHSA Managing Director of Health initiated stakeholder engagement in February 2015, issuing a memorandum inviting fifteen participants to join an ad hoc committee chaired by the Director-General of Health. The invitees were:

- Technical Advisor for Telemedicine
- Technical Advisor to the Directorate-General of Health
- Head of Legislation Office at the MOHSA

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2 K4Health is led by the Johns Hopkins Center for Communication Programs (CCP) with partners FHI 360, IntraHealth International, and Management Sciences for Health (MSH). For this activity, CCP, FHI 360 and IntraHealth International were involved. https://www.k4health.org/about-k4health
• Representative from the Directorate-General of Health
• Webmaster from the IT Unit
• Representative from the Directorate of Health Equipment and Infrastructure
• Lawyer from the Directorate of Planning, Research and Statistics
• Representative from the Division of Health Information systems
• Representative from the Ministry of Information and Communication Technology
• Representative from the government IT agency (ADIE)
• Representative from the World Health Organization (WHO)
• Representative from the United States Agency for International Development (USAID)
• Representative from the United Nations International Children's Emergency Fund (UNICEF)
• Representative from the United Nations Population Fund (UNFPA)
• Representative from the non-governmental organization PATH Senegal

The ad hoc committee, which met twice a month, provided inputs for the strategy and approved all proposals.

K4Health engaged two local consultants to facilitate these activities: One to coordinate the strategic planning process, and the other to develop a national eHealth registry, a sub-component of the effort. The WHO also provided support, through a consultant with expertise in applying the WHO/ITU toolkit.

Desk Review
K4Health conducted a literature review of previous eHealth strategy development processes, from six countries in Sub-Saharan Africa (South Africa, Kenya, Mali, Uganda, Rwanda, and Tanzania) and a regional effort by the Asia eHealth Information Network (AeHIN). The review identified best practices, lessons learned, and governance approaches. The review consisted of understanding each context and highlighting the vision, mission, strategic priorities, and objectives. Governance structures in each case were examined to determine which could best be applied in Senegal. K4Health also interviewed individuals who were involved with developing eHealth strategies or implementing eHealth coordination/governance structures in those countries. Overall, similarities and differences of the reviewed strategies and approaches were highlighted and used to guide the group brainstorming sessions.

Situational Analysis
This activity began with the K4Health team in February 2015; it was conducted over two months and had two components. One component consisted of a series of one-on-one interviews with key informant stakeholders (from government, civil society, NGOs, private sector, and donors) to collect their views and expectations with regard to the eHealth strategy. These key-informant interviews were to be supplemented by reflections of members of the ad hoc committee during review meetings. The second component consisted of mapping all eHealth projects in Senegal, regardless of their completion status (e.g., experimentation, pilot, scale-up) with the aim of developing a national eHealth registry. In addition to its function to serve as a national reference source, the eHealth registry was intended to inform the strategy development process by identifying successful pilot eHealth interventions to be featured in the strategic plan. A questionnaire was developed to guide the key informant interviews as well as interviews to populate the eHealth registry.

The ad hoc committee strongly recommended that the priorities of the national eHealth strategy should closely align to those of the Senegal national health strategic plan—in French, the “Plan National de Développement Sanitaire” (PNDS). Since the PNDS was due to end in 2018, the committee decided that the eHealth strategic plan should span...
from 2015 to 2019—to dovetail into the PNDS and extend beyond it.

**Workshops**
A participatory and inclusive approach was key in this effort, in order to achieve consensus and stimulate ownership and adoption of the end result. While the ad hoc committee represented diverse perspectives, there was a need to expand the discussion to additional government bodies and partners, to keep them informed of the process and gather their feedback. Two inclusive workshops were planned and completed.

A two-day workshop in May 2015 was held to achieve a shared vision, mission, strategic orientations, objectives, and governance model for the national eHealth strategy. The WHO/ITU toolkit and findings from the desktop review were used as inputs for this activity. Small working groups (of 5-8 participants each) reflected on the issues presented in the agenda. Recitation of the findings from each working group was followed by discussions and adoption of the different components that would later form a draft strategy.

A second workshop in July 2015, organized as a technical validation meeting, was held to share the resulting strategic document with an audience expanded to include all relevant stakeholders (e.g., the private sector and all key informants who had contributed to the situation analysis).

**Drafting Committee**
At the end of the first workshop, a drafting committee was formed, consisting of seven members from the ad hoc committee and led by the K4Health consultant in charge of coordinating the effort. The drafting committee created the first draft, and submitted it to the ad hoc committee in June 2015. The draft was revised through iterative review sessions, including review by and input from the K4Health team.

**Financial Resources**
Several partners provided financial support throughout the process, including the government of Senegal, USAID (through several partners), WHO, UNICEF, and the United Nations Population Fund (UNFPA).

The ad hoc committee discussed several issues during strategy development, ranging from the appropriate level of detail to the best governance model to adopt for implementation of the strategy. A few themes and issues emerged in the discussions during the course of this effort.

Recommending an effective and appropriate governance model: Following thorough discussions, the ad hoc committee settled on a governance model for implementation of the Senegal eHealth Strategy. The chosen governance model (quite similar to a model used in the Philippines) consists of a technical working group and a national steering committee. The working group would designate and coordinate the activities of small permanent and provisional working groups (the latter of which would include participants from government as well as outside of government). The steering committee, with representatives from multiple sectors, would report to the Director-General of Health, already actively engaged in the strategy development process. The technical working group would also be available to answer questions and advise on challenges that arose throughout the process. While the general coordination mechanism of the proposed model was approved, no decision was made regarding assignment of leadership or ownership of the technical working group. Some felt that the proposed model could lead to an institutional imbalance with potential intrusion of the Director-General of Health into the powers of a corresponding directorate. Alternate proposals brought forward by a number of players consisted of having the General Secretariat as the institutional base for eHealth. The final decision was left for the Minister of Health to make as part of the final validation and approval of the eHealth Strategic Plan, which has not yet occurred at this writing.

Protecting personal data privacy and confidentiality. While current law in Senegal has a provision for the protection of personal data in the fields of banking, health, and telecommunications, the group believed the law must be improved and adapted to eHealth. Nevertheless, the group did not propose specific practices or policies to achieve this goal despite recurrent discussion of the topic.

Defining a minimum package of primary care health services: Discussions revolved around the service requirements
of universal health care coverage, a key component of the national health plan.

Adopting a bottom-up approach: Ensuring that the Senegal eHealth Strategy takes patient needs into account, in order to develop adequate eHealth systems for better care.

Emphasizing multi-sectoral integration with other government bodies like the division of information services and civil registration service to support universal health coverage.

4. Critical Success Factors

Factors essential to developing the eHealth Strategic Plan included strong governmental engagement and support, commitment of partners for collective action, good financial backing, a participatory approach, and robust leadership from the Office of the Director-General of Health.

Engagement at the highest level of government

Government engagement at a high level played a pivotal role. The Health Minister sent a strong signal to stakeholders that eHealth was a priority. Political will from the top levels of leadership spurred action, providing the energy behind the formation of the ad hoc committee.

Participatory approach to strategy development

The participatory approach emerged as an essential ingredient. Considering eHealth’s multidisciplinary nature and experience from other strategy development efforts, the ad hoc committee opted for and worked toward an inclusive and participatory process. This worked well across governmental groups, though private sector and civil society participation was somewhat limited.

Strong technical guidance

The ad hoc committee, led by two co-chairs, was technically strong. It brought stakeholders together and managed to create favorable working conditions leading to consensus. Moreover, the guidance provided by WHO and K4Health’s consultants helped fill knowledge gaps and boost the confidence level among the members of the ad hoc committee. In addition, having dedicated staff time in the form of the two consultants was extremely important for moving the process forward in a timely fashion.

Sufficient financial support

The effort benefited from sufficient financial support from a multitude of partners, including WHO and USAID (through K4Health), which supported the consultants and the strategy development process. Additional funding from UNICEF, UNFPA, and Abt Associates supported the logistics needed for several meetings.

5. Challenges or Barriers

A number of impediments were encountered, including concerns regarding the responsibility of drafting the document, insufficient subject matter expertise among some stakeholders, poor attendance at meetings, frequent change of designated members of the ad hoc committee, and the ability to manage multiple expectations.

Assignment of responsibility to draft the document

As noted, the support provided by WHO and USAID was pivotal in the sense that the two organizations brought technical expertise and know-how that was lacking among some stakeholders to effectively develop an eHealth strategy. However, only one institution could realistically take the lead of drafting the document. After some discussion and debate, the drafting responsibility was given to the locally-based USAID-supported K4Health consultant working in close collaboration with the ad hoc committee. Nevertheless, all outputs generated by the group were to be vetted by the WHO consultant working from a distance. The choice to have the strategy developed
locally was consistent with the idea of applying a participatory approach to ensure ownership.

**Availability of subject matter expertise**

The lack of subject matter experts among some stakeholders represented another challenge. Although the ad hoc committee benefitted from the participants’ experience in strategic planning, the lack of experience in eHealth was notable. Nonetheless, this knowledge gap was filled with the support from K4Health working in close collaboration with the consultants and the MOHSA technical advisor for telemedicine.

**Consistent attendance at strategic meetings**

Despite best efforts to mobilize ministry personnel, poor attendance or frequent replacement of previous members in ad hoc committee meetings slowed the process down. As a result, some meetings were counterproductive—for example, returning members who had missed meetings would ask to return to issues already resolved, and new representatives were sent to meetings without prior briefing. Furthermore, as previously noted, participation by individuals or institutions outside of government was fairly limited, which could be viewed by some as a challenge to a participatory approach.

**Alignment of missions, mandates and expectations**

Lastly, the members of the ad hoc committee came from organizations or departments with different missions and mandates, who consequently carried different expectations of what a national eHealth strategy could or should be. The challenge was to attempt to address those expectations while taking care not to divert from the national health priorities and from the issues highlighted in the situation analysis. Also, a few members of the ad hoc committee expected to see more details in terms of how the strategy will unfold. Through open discussion, all parties ultimately agreed upon the final product.

### 6. Comparison to WHO/ITU eHealth Guidelines

The National eHealth Strategy Toolkit was co-developed by the WHO and the ITU to guide countries undertaking strategy development efforts. The toolkit provides guidance in achieving three main outputs: 1) a national eHealth vision; 2) a national eHealth action plan; and 3) a national eHealth monitoring and evaluation plan. Components 2 and 3 are beyond the scope of this report and will not be discussed.

![Figure 1. WHO/ITU Method for developing a national eHealth vision](image)

Although the toolkit refers to a “National eHealth vision” and does not identify the development of an eHealth strategy as a specific output, the concepts conveyed in the document are intended to assist stakeholders in the development of such a document.

The WHO/ITU toolkit recommends effective leadership, a well-managed process, and stakeholder engagement, all of which the eHealth strategy development process in Senegal benefited from. In Senegal, the leadership of the strategy development was entrusted to the Director-General of Health, who demonstrated a remarkable ability to bring key
stakeholders together and coordinate the process throughout. The following paragraphs provide a step-by-step comparison of the WHO/ITU toolkit method to the development process in Senegal.

Engaging with stakeholders: From the outset, the MOHSA solicited support from other government entities and key partners. There were some limitations in the scope of participating groups; the private sector, particularly mobile network operators, did not participate. Other stakeholders were included as part of the K4Health interviews with key informants early in the planning process. Nevertheless, it is noteworthy that MOHSA has incorporated a multi-sectoral approach appropriate to the Senegal context, as evidenced by inclusion of other government institutions like the State IT Agency (ADIE, from French “Agence De l’Informatique de l’Etat”) and the ministry of information and communication technology in the process. In addition, implementing partners with extensive eHealth project experience contributed to the strategy through interviews and participation in the technical validation workshop in July.

Establishing the strategic context: Determining and describing context was key to the eHealth Strategy Plan. A situational analysis, carried out at the beginning of the effort, identified health system goals and challenges that eHealth could help address. The effort also drew valuable input from the PNDS, which had already described the Senegal health context for its own strategy development.

Learning from trends and experiences: A review of six country strategies (Tanzania, Rwanda, Mali, South Africa, Uganda, and Kenya) and the Asia regional eHealth strategy developed by AeHIN was completed in order to gain some insight into how eHealth helps address their healthcare systems, challenges, and strategic priorities. As suggested in the WHO/ITU toolkit, the review focused on African countries with development context, goals, and challenges comparable to Senegal’s. However, that research did not include an assessment of eHealth services and applications in use in those countries as recommended by the WHO/ITU toolkit. Instead a survey (See Appendix 3) was conducted in Senegal to identify and record all eHealth applications and services. This survey informed the development of a Senegal national eHealth registry, which maps all Senegal eHealth applications (including their instigators, areas of health, geographic coverage, and funding mechanisms). The MOHSA envisions the eHealth registry as a long-term resource which will give the MOHSA a comprehensive view into the Senegal eHealth landscape and offer insight into which efforts could effectively be strengthened or scaled up.

Draft an initial vision: The WHO/ITU toolkit recommends drafting an initial vision based on the strategic eHealth context, current trends, and best practices—regardless of the limitations of the current eHealth environment. The goal for this stage is to allow governments to project the requirements for an ideal eHealth environment, giving greater scope for opportunity. Stakeholders in the ad hoc committee agreed to use a vision statement crafted by the eGovernance Commission at its two-day workshop in 2014.

Identify the required components: The WHO/ITU toolkit describes seven components of eHealth—the building blocks required to construct a national eHealth environment. The Senegal plan was informed by the toolkit, but selected five strategic priority areas appropriate to the Senegal context rather than the toolkit’s seven components.

Gather information on the eHealth environment: The WHO/ITU toolkit recommends this activity to identify the existing and planned eHealth application with the aim of re-using or sharing, and also identifying critical factors to account for in the implementation phase. This activity was conducted in Senegal as discussed but much earlier in the process than the toolkit recommends.

Assess opportunities and gaps: As noted in the WHO/ITU toolkit, an assessment of the current eHealth environment is a critical step necessary to identify opportunities, gaps, and barriers to developing a national eHealth vision. This activity was carried out during a workshop in June 2015, and was presented as a SWOT analysis from which emerged the strategic direction of the plan.

Refine the vision and develop strategic recommendations: This step is intended to adjust the scope of the initial eHealth vision in light of the opportunities and gaps identified in previous steps. In Senegal, this activity was

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3 A planning tool that allows a program or organization to look at its strategic positioning by identifying and examining strengths, weaknesses, opportunities, and threats
conducted in an iterative fashion as recommended in the toolkit. For each eHealth component outlined in the strategy in Senegal, recommendations were made and labeled as priority measures with indicators and targets.

7. Recommendations

As noted in the methods section, nine key informant interviews were carried out with members of the ad hoc committee and other stakeholders to support this report. Their views and reflections regarding the implementation of the eHealth Strategy are summarized below.

Recommendations to ensure the eHealth Strategic Plan is a useful document

Institutionalization

- Establish an institutional framework that will organize and coordinate all eHealth interventions.
- Establish a strong national steering committee that will stimulate action and integrate M&E in its operations.
- Ensure a multi-sectoral approach, with all services and directions within MOHSA engaged in the implementation and monitoring and evaluation (M&E) of the strategy.
- Integrate eHealth throughout the health pyramid (the hierarchical structure of the health system), and consider decentralization, with a focal person supervising the eHealth systems at national, regional, and district levels.

Funding and human resources

- Clearly state roles and responsibilities, clarify next steps, and allow all services to participate and contribute technically and financially.
- Adequately fund eHealth and clearly engage to roll out successful pilot initiatives.
- Consider good management of the human resources for health at national level to ensure appropriate eHealth services delivery.

Dissemination

- Political validation of the eHealth strategy needs to happen soon after the technical validation completed in August 2015.4
- Share, promote, and integrate the strategic plan in the annual work plans of all services within MOHSA.
- The strategy should be carried at the highest level. It should be clear, pragmatic, and have key players relate to it.

Monitoring & Evaluation

- Integrate priority measures from the strategy as outputs, in the MOHSA’s “multi-annual planning and spending document.”
- Provision of a monitoring and evaluation plan is fundamental. The plan should highlight systematic mechanisms to ensure that the strategy is implemented effectively.

Recommendations for successful strategy implementation

- Competing interests and organizations may negatively impact the implementation of the strategy. A successful implementation of the strategy will help the government to better harmonize and leverage its limited resources.

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4 This step has not been completed as of the writing of the report in June 2016.
• Disparities in access to new technologies vary depending on location (e.g., urban versus rural). It is critical to address basic requirements like electricity to ensure equity in term of access.

• Encourage collaboration and partnerships. A lack of collaboration and partnership may lead to duplications of efforts.

• MOHSA should adopt an inclusive approach to implementation, building on the efforts of communities, NGOs, and community groups. Social mobilization, information, and trainings can increase buy-in and adoption of the eHealth Strategic Plan acceptability among community members.

• Inadequate funding would represent a significant challenge during the implementation phase. MOHSA should work hard to mobilize funding based on the priorities laid out in the plan and avoid being sidetracked by the donors—that is, ensure that MOHSA remains focused on its own agenda.

• Non-adherence to the strategic priorities defined in the plan by any players would be a barrier to successful implementation. MOHSA should ensure broad stakeholder engagement in the development and roll-out of the implementation plan to facilitate buy-in.

• An impractical action plan would be also a barrier to implementation. To prevent that, the roles, responsibilities and next steps should be clearly spelled out.

**Recommendations for monitoring the strategy implementation**

• The national eHealth steering committee should oversee the monitoring unit.

• eHealth results and outcomes should be published to rationalize the funding.

• The role of government is to:
  - Ensure that the plan is adopted
  - Organize M&E meetings and define their frequency
  - Create tools to monitor activities in the field
  - Involve the medical regional offices
  - Define a consultative framework
  - Conduct periodic and summative evaluations during the implementation
  - Ensure that all eHealth initiatives are in line with the strategy
  - Use lessons learned to update the Plan periodically.

• The role of stakeholders is to:
  - Play a support role. Support may come in the form of human resources, materials and equipment, and logistics.
  - Comply with the strategy and support its M&E.
  - Follow the recommendations from the eHealth technical group and act as a source of information.
Recommendations to other countries planning an eHealth strategy

The earlier K4Health literature review and multi-national key informant interviews yielded a number of best practices and recommendations. They set the stage for the process in Senegal as the K4Health team presented them early in the process. These best practices included:

- Leadership by the ministries of health
- Development of a governance and coordination mechanism
- Harmonization of approaches between health experts and ICT experts
- Integration with existing initiatives—for example, in Rwanda, electronic identity cards are integrated with eHealth programs
- Engagement with and coordination between public and private stakeholders
- Identify the human and financial resources needed
- Look for the impacts of ICT rather than the technology itself
- Use actors and systems already in place
- Act to protect confidentiality of personal health data
- Build in measurement and evaluation in the resulting strategy

In this context the views below were expressed by individuals who participated in the Senegal eHealth Strategy development process. These are concrete recommendations based on experience (both personal and collective).

- Allocate sufficient time to develop a credible scientific document. Anticipate the financial resources needed.
- Start with a baseline evaluation and/or a situational analysis that includes reviewing existing eHealth projects and players.
- Apply a consultative, participatory approach, whereby key players with diverse expertise are brought together for brainstorming sessions.
- Refer to countries that have an operational strategic plan and learn from their model while taking into account socio-economic factors.
- Assess your country’s infrastructure.
- Ensure that your country has appropriate legal norms in place.
- Establish a realistic activity calendar.
- Seek high level support for the strategy.
- Refer to the WHO/ITU toolkit.
Conclusion

The eHealth strategy development process in Senegal was an inclusive and participatory effort. While these efforts were largely limited to governmental agencies, donors, and select implementing partners, the governance approach offers a pathway to wider participation moving forward. An important undertaking in this effort was the development of a dynamic national eHealth registry to record and update ongoing initiatives to support decision making for the government. The WHO/ITU toolkit proved to be a valuable resource that countries can use to start or refine their national eHealth strategy. Leadership by the government, awareness of global trends and national priorities, and participation by stakeholders in a collaborative process all contributed to the successful development of the Senegal eHealth Strategy.
Appendix I: Excerpt of Organogram, MOHSA

Organogram: Ministry of Health and Social Action, Senegal
Appendix 2: Key informant interview guide

Strategy development process
1) How did you become aware of the national eHealth strategy planning effort?

2) Were you aware of the WHO/ITU guidelines for eHealth strategy planning before the effort in Senegal began?

3) Can you describe how you participated in the national eHealth strategy development?
   (a) What was your first encounter with the effort?
   (b) How was your group involved in the effort?
   (c) What committees or groups, if any, did you participate in?

Strategic ideas or framing concepts
4) How were the priorities and goals of the strategy decided and developed?

5) What were the most important ideas discussed during the planning effort?
   (a) Did those relate to your organization's current mission, vision, and goals? If so, how? If not, how did they differ?

6) Did you participate in the development of the governance model?
   (a) If so, tell me more.
   (b) What do you think of the model?

7) Did you participate in the development of the eHealth registry?
   (a) If so, tell me more.
   (b) What do you think of the registry?

8) Did your idea of what the strategic plan should be or contain change during the planning process?

Stakeholders and organizational context
9) Who were the stakeholders involved in the development of the eHealth strategy?

10) What challenges or barriers did you encounter in the development of the eHealth strategy? How did you mitigate those?

11) What approach did you adopt to reach consensus on the outputs?

12) Overall, what provision strengthened this effort and led to the development of the strategy in a relatively short period of time?

13) How do you think the strategy will be used by the majority of public health implementers in Senegal?

14) What are the most critical factors in making sure it is a useful national document?

Coordination and Implementation
15) How would an eHealth strategy impact your daily work?
16) What challenges or barriers do you foresee stakeholders facing in implementing the strategy?  
(a) How might we address those as the strategy is implemented?  

17) How can government and stakeholders best monitor the strategy’s implementation?  
   (a) What is the role of each?  

Wrap up  

18) Are there any documents we should be aware of in our inquiry?  
   (a) If so, how might we obtain them?  

19) What piece of advice would you give other countries who wish to develop an eHealth strategy?  

20) Are there any thoughts that come to mind that you have not shared?
Appendix 3: Senegal’s eHealth Registry survey guide

Original French version accessible via the link below:
https://www.dropbox.com/s/uwzmyftycd1kirb/Questionnaire%20Registre%20e-Sante%20Senegal_April2015.docx?dl=0

Organization details
1) How many eHealth tools have you developed or contributed to develop?
2) Intervention name
3) Organization name
4) Type of organization (non-governmental organization; international organization; private company; social enterprise; bilateral organization; government agency; civil society; international organization)

Description
5) Can you briefly describe this initiative?
6) What is the stage of development? (Pre-prototype; Prototype; Pilot; Limited Demonstration; Expansion)
7) What are the health goals of this initiative?
8) What is the health area targeted by this initiative? (Infectious, parasitic and Vector-borne Disease; Family Planning and Reproductive Health; Maternal Health; Newborn and Child Health; Non-communicable Disease; Nutrition; Violence; Unintentional Injuries)
9) What software is being used for this initiative?
10) Is it open source or Proprietary?
11) What IT tools are you using? (Android feature phone; Android smartphone; Android tablet; Basic phone; communicating sensors…)
12) What eHealth application applies to this initiative? (Financial transactions and incentives; Information system; Service delivery and support; Supply management; Workforce development and performance support; Management of immunization supplies; Social and behavioral change communication; Telemedicine)
13) What eHealth application function applies to this initiative? (Financial transactions and incentives; Information systems; Service delivery and support…)
14) What eHealth domain applies to this initiative? (eHealth; mHealth; Telemedicine; eLearning)
15) Has this initiative been evaluated?
16) Is there any web based resource or publication about his initiative?
17) What is the geographical location for this initiative?
18) What is the timeframe for this initiative?
19) Who are the beneficiaries?
   (a) How many beneficiaries?
Funding, partnership and management mechanism
20) Who are your partners?
   (a) Implementing partners?
   (b) Private sector?
21) What is the contact information for the focal point?
22) How was this initiative funded? What donor organization funded this initiative?
24) What is your business model?
24) What is your governance model? (What supervision and management mechanisms are put in place to ensure sustainability?)
25) Would you orient me to another organization that you know of that has implemented eHealth in Senegal?
Appendix 4: Key informants list

1. **Matar Camara**, MD, Technical Advisor, Directorate-General Health, MOHSA
2. **Cheikh Tidiane Ba**, MD, National Programme Coordinator, United Nations Population Fund –Senegal
3. **Samaba Cor Sarr**, PhD, Investigator, Directorate of Planning, Research and Statistics, MOHSA
4. **Alain Diedhiou**, Lawyer, Directorate of Planning, Research and Statistics, MOHSA
5. **Bamba Ciss**, Statistician/IT, Division of Health Information systems, MOHSA
6. **Philippe Guinot**, Country Director, PATH-Senegal
7. **Marie Sarr**, MD, National Programme Coordinator, Tuberculosis, Senegal
8. **Amadou Niang**, MD, Technical Assistant, Center for Telemedicine at Universite Cheikh Anta Diop, Senegal
9. **Barthelemy Latyr Sene**, ITM, WHO-Senegal
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