



White Paper

for the 1st digital health
meeting in West Africa
(WA)

19 to 20 December 2018 – Dakar / Senegal

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Table of Contents

GLOSSARY.....	2
.....	3
PREAMBLE: THE POTENTIAL OF A CONNECTED HEALTH SECTOR IN AFRICA.....	3
OPENING OF THE DIGITAL HEALTH MEETING IN WEST AFRICA.....	4
STRATEGIC VISION OF AMREF HEALTH AFRICA IN FAVOUR OF DIGITAL HEALTH IN AFRICA.....	6
PRESENTATION OF THE DIGITAL HEALTH CONTEXT IN WA.....	8
CORPORATE ROUND TABLE: DISCUSSIONS AMONG KEY STAKEHOLDERS ON DIGITAL HEALTH STRATEGIES IN SENEGAL – IVORY COAST – BENIN – BURKINA FASO – NIGER – MALI.....	13
PITCH PRESENTATIONS OF ICT HEALTH SOLUTIONS IN WEST AFRICAN COUNTRIES: SHARING OF EXPERIENCE AND EXPERTISE PRESENTATION.....	23
INTRODUCTION OF WORKSHOPS: INNOVATION IN PUBLIC HEALTH POLICIES THROUGH DIGITAL TECHNOLOGY: WHAT ARE THE BEST PRACTICES?	24
FEEDBACK FROM 1 ST WORKSHOP: WHAT ARE THE SUCCESS FACTORS IN DESIGNING DIGITAL SOLUTIONS?	26
FEEDBACK FROM 2 ND WORKSHOP: WHAT ARE THE CHALLENGES IN LINKING DIGITAL SOLUTIONS WITH HEALTH CARE POLICIES?	29
PITCH PRESENTATIONS OF SOLUTIONS DEVELOPED IN WEST AFRICAN COUNTRIES: RECOGNITION OF EXPERIENCE AND EXPERTISE.....	32
INTRODUCTION OF WORKSHOPS: WHAT ARE THE INNOVATIVE DRIVING FACTORS FOR SUSTAINABLE DIGITAL HEALTH SOLUTIONS?.....	33
FEEDBACK FROM 3 RD WORKSHOP: UNDERSTANDING THE CHALLENGES FACING PUBLIC/PRIVATE PARTNERSHIPS IN FAVOUR OF HOLISTIC DEVELOPMENT OF EHEALTH.....	35
FEEDBACK FROM 4 TH WORKSHOP: WHAT ARE THE POSSIBLE ECONOMIC MODELS FOR SUSTAINING EHEALTH INITIATIVES THAT REDUCE INEQUALITIES IN ACCESS TO HEALTH CARE?	37
CLOSURE	41
THE 10 CONCLUSIONS OF THE DIGITAL HEALTH MEETING IN WEST AFRICA.....	43



GLOSSARY

AFD:	French Development Agency
Digital Health Care:	Refers to all areas in which information and communication technologies are used in health care services, as defined by the World Health Organisation. We therefore considered the following scope of coverage: <ul style="list-style-type: none"> · linked health care, which brings together e-health, telemedicine and m-health. · e/m-learning · Health Information Systems (HIS) or Hospital Information Systems (HIS).
DHM:	Digital Health Meeting
ECOWAS:	Economic Community of West African States
HIMSS:	Healthcare Information and Management Systems
HR:	Human Resources
HSS:	Health Systems Strengthening
ICT:	Information and Communications Technology
ITU:	International Telecommunication Union
NGO:	Non-Governmental Organisation
P/P:	Public / Private
SDG:	Sustainable Development Goals
UHC:	Universal Health Coverage
WA:	West Africa
WAHO:	West African Health Organisation
WHO:	World Health Organisation
WHO Afro:	WHO Regional Office for Africa



PREAMBLE: THE POTENTIAL OF A CONNECTED HEALTH SECTOR IN AFRICA

According to the World Health Organisation (WHO), **digital innovations contribute to the achievement of Sustainable Development Goals (SDGs)**, including access to Universal Health Coverage (UHC). Indeed, digital tools are now considered **levers to improve and accelerate access to health, hence strengthening health systems**. Digital health breaks down geographic barriers and alleviates disparities between citizens and stakeholders in the health sector. It is also an instrument for steering public health and coordinating care between the various local, national, private and public health stakeholders.

The potential for training health workers, prevention and health information, remote consultations and patient follow-up **is immense and is proving successful in Africa**. Where projects are considered effective and replicable, it is now a matter of moving them **from the pilot phase to scale-up phase**. But for this dynamic to be sustainable and equitable, the use of information and communication technologies (ICTs) for health services must be conceived for and with health care providers and citizens in mind. It must respond to the priorities of national health policies, be developed, thought out and financed with a long-term perspective. Sustainable economic models have yet to be found and tested. For this to happen, the involvement and vigilance of African governments, the involvement of digital sector companies, the active participation of citizens and coordination among all stakeholders in the digital health ecosystem is essential. At a time when Senegal, Mali, Niger, Ivory Coast, Burkina Faso and Benin have launched their national digital health strategies and are structuring a national coordination of connected health issues, **it is essential to determine how to concretely power these public policies**.

At Amref Health Africa, our experience has convinced us that the potential of ICT has a key role to play in the strengthening of public health systems in sub-Saharan Africa. We have integrated the need to do more and better with less, so we are integrating ICT into our projects as an accelerator of progress and outcomes. These tools are not sufficient on their own, but are a means to be integrated into intervention models. They are now being used in health programmes to promote sustainable change.

Together, as African and international health stakeholders, we can transform this digital revolution into sustainable health change!



OPENING OF THE DIGITAL HEALTH MEETING IN WEST AFRICA

Dr Bara Ndiaye – *Regional Manager of Amref Health Africa in WA*

Housseynou Ba – *Regional E-Health Advisor for Africa, WHO*

Henri Leblanc – *General Delegate of Amref in France - Pôle Francophone*

Yoro Moussa Diallo – *Secretary General for the Ministry of Communication, Telecommunications, Posts and the Digital Economy in Senegal*

Amadou Thierno Gaye – *Director General of Research and Innovation for the Ministry of Higher Education, Research and Innovation in Senegal*

Dr Ibrahima Khaliloulah Dia – *Coordinator of the Digital Health Unit and Health Observatory – Senegal*

At the heart of public health priorities lies three of the main objectives of digital health development: the establishment of a strategy focused on health system strengthening (HSS), investment in the human capital of health services and the ambition to break down socio-cultural, financial and geographical barriers between communities and health structures.

In this regard, **ICTs have been presented as an opportunity to address constraints on access to care and use of quality services, the steering of public health policies and informed decision-making based on reliable health information.**

During the 2018 Digital Health Meeting (DHM), many participants in the digital health ecosystem were strongly committed and involved in the deployment of innovative health initiatives that link digital solutions and the improvement of the supply and/or demand for quality health services. Despite the efforts made, it was stressed by all the participating stakeholders that the **persistent of silos** in the modes of intervention and the **scope of deployment of initiatives at the level** of the countries of intervention **is still relatively slow and limited.**

« *It is up to us, collectively, not to make digital technology a new mirage, but a robust and agile lever to serve the priorities of our health systems and population services. To do this, let us*



exchange, share, debate and learn from each other. Let's identify the wrong leads and establish the points of convergence», Henri Leblanc, General Delegate of Amref in France – Pôle Francophone.

The partnerships to be established between stakeholders in the ecosystem, the coordination of interventions, as well as the regulatory and legal framework, were identified as the links to be strengthened to improve sustainable access to health care.

The testimonies from Senegal, Ivory Coast, Benin, Niger, Mali, Burkina Faso and the presence and active participation of key stakeholders in digital health was introduced as a measure of success in structuring **a community of dynamic practice that is dedicated to West Africa.**

«We must collectively answer the questions that will move us forward: Are our solutions sustainable for scaling up? How can we coordinate our efforts and solutions? How to go beyond pilot projects? Which investments, which partnerships for which social and health impact? How can digital solutions concretely feed public policies?» Henri Leblanc, General Delegate of Amref in France – Pôle Francophone.

Thus, at Amref Health Africa, this is the path we have taken by initiating this first edition of the DHM in WA and by defining together through debate, on the basis of concrete digital health solutions and ambitious national roadmaps:

- the **success factors** in the conception of digital solutions;
- the **lessons learned** in linking digital solutions with health policies;
- the **types of public/private partnerships** in favour of a holistic development of digital health;
- the **economic models** to sustain digital health initiatives that reduce inequalities in health care access.



STRATEGIC VISION OF AMREF HEALTH AFRICA IN FAVOUR OF DIGITAL HEALTH IN AFRICA

Dr Bara Ndiaye – *Regional Manager, Amref Health Africa in WA*

While sub-Saharan Africa accounts for 11% of the world's population, it bears 24% of the morbidity and benefits from less than 1% of global health spending. It also suffers from a severe shortage of qualified medical personnel, with only 3% of health workers. Infrastructure itself is too inadequate to cover the population. Access and quality of services and health care remain a real challenge on the continent.

Digital health solutions could enable 1.6 billion people to access health care services according to the SMARTer2030 report published by GeSI and Accenture (2015), connecting an additional 2.5 billion people to a "knowledge-based economy" by 2030.

Indeed, the World Association of Mobile Operators (GSMA) estimates that sub-Saharan Africa will have more than half a billion individual mobile subscribers by 2020, while the total number of SIM connections, which had reached 731 million at the end of 2016, will reach nearly 1 billion in three years' time. **Today, ICT offers the opportunity to create tailor-made, durable and sustainable tools to improve health systems, particularly in areas where there is a shortage of health personnel and infrastructure.** ICT strengthens the quality of diagnostics (via telemedicine, training development - initial and continuing - for health care workers through distance education), improves patient follow-up, health care channels and the quality of health data for informed decision-making, including strategic orientations that have been integrated into Amref's programmes since the 2000s. In Senegal, between 2005 and 2011, a 30% increase in digital health projects was recorded; ²/₃ of them are still in the pilot phase. **The fragmentation of initiatives** (pilot projects, duplications and silo thinking in the development of initiatives) **and the lack of coordination and consultation is a handicap to the interoperability of solutions, and their linkage to national guidelines remain some of the key challenges of digital health in West Africa.** The Kenyan organisation, Amref Health Africa in West Africa, reports that Francophone Africa is lagging behind.



In this respect, Amref Health Africa has developed a digital health strategy aligned with its 2018-2022 programmatic priorities to increase sustainable access to health services through innovative solutions. This strategy aims to:

- Develop and sustain human resources for health in order to catalyse the achievement of the UHC
 - e-campus platform;
 - PRECIS platform;
 - Leap platform.
- Develop and provide sustainable health services and solutions to improve access to and use of quality preventive, curative and promotional health services
 - M-Jali;
 - Cellal E Kisal platform;
 - Telemedecine;
 - Interactive digital platform on information about sexual and reproductive health of adolescents and young people.
- Contribute to increased investments in health to achieve UHC by 2030
 - Advocacy and mobilisation platform.

« Amref Health Africa's commitment to digital health is a promise to support African communities and health systems in their efforts towards innovation and delivery of quality services for women and children. The actions undertaken during these meeting will, I hope, help us to obtain this promise for future generations who will be the future of Africa ». Dr Bara Ndiaye – Regional Manager, Amref Health Africa in WA



PRESENTATION OF THE DIGITAL HEALTH CONTEXT IN WA

Housseynou Ba – *Regional E-Health Advisor for Africa, WHO*

Facilitator: Ali Drissa Badiel – *Head of the International Telecommunication Union in WA*

In 2005, during the 58th World Health Assembly, the WHO adopted **a resolution in favour of creating an e-health strategy** in order to reconcile digital technology, HSS and UHC.

In an effort to **link digital health solutions to national priorities**, these solutions should be integrated into governments' e-health strategies **in order to ensure national coordination of initiatives developed by digital health agencies/cells.**

In this respect, it seems crucial that the public authorities address the issue. In addition, since 2013, WHO has been inviting Member States **to develop interoperability and portability standards** to facilitate the implementation of a reference framework (standards) **and promote the structuring of a legal and regulatory framework.**

During the DHM, the WHO Regional Office for Africa (WHO Afro) reiterated its desire to **guide the scaling up of the solutions developed by linking them to a solid monitoring and evaluation system in order to draw lessons learned** (areas for improvement) **and to feed the existing national systems** (essential interoperability). In addition, it is necessary to determine priorities in terms of support and assistance needs in order **to adapt the technical assistance of international organisations to institutional bodies** (coordination framework, data protection, human resources (HR) capacities, etc.). Three manuals offering **technical assistance and deployment support at the initiative level** were mentioned:



- **WHO Classification & guidelines for digital health interventions:**
<https://apps.who.int/iris/bitstream/handle/10665/260480/WHO-RHR-18.06-eng.pdf;jsessionid=E865DD370BD42DB4B6BBCB2E246C4C9E?sequence=1>
- **A practical guide to conducting research and assessment:**
<https://www.who.int/reproductivehealth/publications/mhealth/digital-health-interventions/en/>
- **The global digital health Atlas:** Open source web platform designed to support governments, technologists, implementers and donors to better coordinate digital health activities globally. This online platform provides users with the information they need to improve the planning, coordination and use of digital health information systems
<https://digitalhealthatlas.org/fr/-/>

A **mapping of digital health uses in WA** was presented, reiterating that **11 countries in the region currently have a validated e-health strategy in place**. Nevertheless, it should be noted that in the region, **only 6.6% of countries have electronic patient records and 60% are developing telemedicine** in their territory. Indeed, in WA, **the challenge of large-scale deployment is a major one and is mainly a legal and regulatory one**. In this regard, the low availability of personal data protection laws was mentioned (46.7%). **WHO has pointed out that only 6.6% of WA countries have so far implemented an effective digital health strategy**. The comparison with other regions of the continent was highlighted, showing **the efforts that will be needed to catch up**, particularly in view of the progress made by Southern Africa (75% of countries have a strategy, 16.7% have effectively implemented it and 58% have data protection laws) and Eastern Africa (70% of countries have a strategy, 60% actually implement it and 70% have data protection laws).

In view of the challenges identified in WA, summarised below, and contributing to the understanding of the accumulated backlog, **the partnership with the International Telecommunication Union (ITU) was promoted as a structuring framework to support the deployment of e-health strategies in the sub-region**. In this respect, a series of best practices were presented in light of the recurring weaknesses observed.



Pillar for scaling up	Weaknesses	Keys to success
Policy/strategy	Solutions that do not respond to the Government's needs in terms of SDGs, instability of decision-making centres/turn over	Political engagement and will, leadership from the Ministry of Health, commitment from technical and financial partners in health
Institutional	Limited impact on the health system	Anchoring, intersectoral collaboration between health and ICT stakeholders, essential P/P partnerships
Infrastructures / techniques	Non-reusable solutions and limited effects	Networks and accessibility, standards/referentials, interoperability, infrastructure (coverage/performance)
Operational	Duplication & fragmentation Difficulty in taking into account the daily lives of users Short-term solutions	Quality of HR, regulatory & legal framework, support from users and health professionals (digital trust)
Impact	Difficulty in evaluating, managing and sharing initiatives	Monitoring and evaluation of implementation and impact on the health system



Financial	No economies of scale	Long-term investment
	High cost for scaling up	
	Lack of visibility on investments	

The **WHO/ITU partnership developed to address the challenges of scale-up has been divided into 4 strategic areas:**

- digital health **leadership** and its **governance bodies**;
- the **skills of digital health leaders**: building capacity in digital health;
- a **digital health platform** & a **national framework interoperability** for digital health;
- a **priority focus on access and sustainability of initiatives**: a robust P/T partnership framework and viable business models.

It was mentioned that **connectivity and the use of ICTs is constantly increasing** in WA despite **wide disparities**. Indices related to the utilisation of ICT increased more rapidly (+0.31%) than access and skills (+0.10%), according to data from ITU¹. **The path to large-scale deployment is open, to States and stakeholders to take advantage of this momentum and offer digital health the space and capacity to develop to its full potential.**

¹ Measure the Information Society 2017 - ITU



CORPORATE ROUND TABLE: DISCUSSIONS AMONG KEY STAKEHOLDERS ON DIGITAL HEALTH STRATEGIES IN SENEGAL – IVORY COAST – BENIN – BURKINA FASO – NIGER – MALI

Dr Ibrahima Khaliloulah Dia – *Coordinator of the Digital Health Unit and the Health Observatory – Senegal*

Eunice Pedro – *Director of Information Technology and Pre-archiving at the Ministry of Health – Benin*

Dr Boukary Ouedraogo – *Director of Health Information Systems – Burkina Faso*

Dr Franck Simon Blehiri – *National Coordinator for the Development and Use of Information and Communication Technologies (ICT) in the field of Health – Ivory Coast*

Ahmed Mamane – *Head of the ICT Division at the Ministry of Public Health, and e-Health Focal Point – Niger*

Dr Hammadoun DIA – *E-Health Focal Point at the Ministry of Health – Mali*

Facilitator: **Pr Dorothee Kinde Gazard** – *Honorary Minister of Health – Benin*

« The digitisation of health in Africa, specifically in West Africa, is an approach that offers hope for developing countries. With the political will increasingly displayed by States, it is important to draw on each other's experiences and capitalise on them in order to achieve a better structuring of e-health in our countries. This panel will help us to do that. » Professor Dorothee Kinde-Gazard.

²In **view of this situation**, an inventory has been drawn up for each of the countries present in the sub-region, **highlighting the link between digital health strategies and the ecosystem in place**. Attention was drawn to the fact that the community of practice for digital health in West Africa has a key role to play in ensuring access to and ownership of innovative solutions. At the national level, **coordination and consultation efforts must be put in place** to limit the fragmentation and duplication of initiatives, as well as the deployment of projects on a pilot scale only.

² Map No. 4533 UNITED NATIONS October 201



The objective, at the sub-regional level, is **to set up a multisectoral network of influence**, made up of all stakeholders in digital health, in order to identify / **map experiences, develop efficient solutions** and articulate to national priorities the digital technologies and innovations that have demonstrated a positive impact on public health. This network must also make it possible to **mobilise and coordinate strategic investments** in favour of the development of digital health in the sub-region (pooling resources and promoting synergies).

MALI

Created and ratified in **2008** as part of the modernisation of Mali's health system, the Ministry of Health has set up the **National Agency for Telehealth and Medical Informatics** « *Agence Nationale de Telesante et d'Informatique Medicale (ANTIM)* ». ANTIM is a national public institution of a scientific and technological nature. Its mission is to promote and develop telehealth and medical informatics in Mali.

Mali has a **multitude of pilot projects aligned with the country's strategic guidelines**:

- initial and continuing training in telehealth and medical informatics: introduction of medical informatics into the training curriculum for health workers and provision of scholarships for the training of physicians in Canada;
- implementation of an electronic health system: decision support tools, telemedicine;
- creation and management of a database with a budget of CFAF 3 billion anchored at the level of the Ministry of Health;
- harmonisation and standardisation of processes, equipment and software in the health sector: adoption of a law on computerisation and development of software for the health information system.



Challenges affecting Mali:

- coordination and feedback problems: NGOs do not necessarily communicate upstream on their operational strategy; they involve the deployment of activities without prior consultation and request funding at the end of their project to ensure the sustainability of initiatives;
- interoperability remains a priority.

SENEGAL

With UHC and the development of a new health map, Senegal's Ministry of Health and Social Action wishes to strengthen its efforts to reduce inequalities in health and disease. The opportunities offered by ICT must be mobilised to improve the performance of the health system. It is within this framework that the Cell of the Health and Social Map, Digital Health and Health Observatory was created to coordinate and facilitate the development of digital health projects included in the 2018 - 2023 strategic plan. In 2015, health spending represented nearly 10% of public spending. In this context, investing in digital health becomes essential for the Senegalese government. **Institutional anchoring was reiterated as an absolute priority to make digital technology an effective tool for objective public health services.**

A study on e-health solutions in Senegal was carried out, identifying some 50 initiatives. A **high degree of fragmentation was noted, indicating insufficient coordination within the ecosystem** (duplication and pilot projects) **and negatively affecting the scaling up of efficient solutions. The inability to analyse health data generated by these projects due to the non-interoperability of the systems** was also **observed**. In this respect, the strategy for scaling up the DHIS2³ was highlighted, as well as the digitisation of mutual health insurance schemes; recalling the need to feed these platforms via the ad hoc digital health solutions developed.

³ District Health Information Software 2: open source platform for collecting, analysing and disseminating health data



The **Cell of the Health and Social Map and Digital Health** plays a role in coordinating all e-health initiatives taken by the public and private sectors and managing their deployment in order to optimise healthcare provided by the organisation throughout the country (distance learning, telemedicine, remote prevention via mobile communication techniques, etc.).

According to the vision adopted for the Digital Health Strategic Plan: « *By 2023, the Digital Health Strategy will enable Senegal to sustainably improve universal health coverage for populations and ensure decision-making by stakeholders based on high-quality and secure information* ».

The first phase will be devoted to the development of a five-year investment plan and the establishment of intersectoral governance bodies (steering committee with a rotating presidency between the Minister in charge of Health and the Minister in charge of the Digital Economy and a Technical Committee). The following priorities were highlighted:

- to communicate on the Digital Health strategic plan and train the stakeholders within the ecosystem;
- to develop a framework for consultation & coordination of initiatives;
- to digitise health records to facilitate the collection, reporting, analysis and interpretation of health data;
- to be part of the WHO-ITU partnership, based on the proposed methodology and modus operandi.

Strong leadership by decision-makers is crucial for the successful roll-out of ICT in the health sector. It was reiterated that **intersectoral governance between the ICT and Health Ministries is essential** to the success of a strategy and today, this is one of the major challenges in its deployment.

In close relation with the Senegal Digital Plan, the challenge will be to ensure the interconnection of all health and social structures by relying on the infrastructures of telecommunications operators and Internet service providers. Senegal already has a legal arsenal on the protection of personal data that needs to be supplemented to better regulate remote health care activities (health information system based on DHIS2, digitised patient file, etc.)



Challenges affecting Senegal:

- fragmentation of initiatives;
- weakness of the methodology applied to the management of digital health and the organisation of digital health stakeholders in the ecosystem;
- failure to align digital health solutions with national priorities;
- insufficient institutional anchoring and coordination among digital health stakeholders.

NIGER

Based on proven experience (telemedicine agency created in 2007), the objective of the strategic plan for e-health (2019-2023) is to implement **a close partnership between the health and ICT sectors**. Based on a public-private partnership, the deployment of the national e-health strategic plan aims to:

- strengthen the capacities of health workers;
- set up a telemedicine system;
- optimise the patient care journey using mobile telephone (digitised patient record).

A steering committee will be set up to ensure the institutional implementation of the strategy.

The "smart villages" initiative was presented as the basis of the strategy to make ICT a real crosscutting development tool. The implementation of this project consists of digitally opening up around 15,000 villages in the country in order to accelerate and facilitate the connection of more than 85% of the population. The health component includes: remote consultations, a digitised patient record, primary prevention activities, shared medical imaging, etc.

Challenges affecting Niger:

- limitations of NGO/association initiatives: no robust evaluation, which limits the sustainability of projects;
- insufficient reconciliation between start-ups and mobile phone operators.



IVORY COAST

A National Strategic Plan for the Development of e-Health was drawn up in 2012. It was reiterated that the **political authorities have been strongly committed to ICT** since 2011 with the implementation of the e-government project (E-government) aimed at modernising public administration.

High level interest in e-health led in 2014 to the creation of the **National Coordination for the Development and Use of Information and Communication Technologies in the Health Sector (NCDTIC)** and the establishment of the National Telemedicine Centre. However, a **budget for the sustainability of digital health has not been included** in the government's budget priorities.

Ivory Coast is characterised by a **large number of e-health projects implemented in the country in line with the government's vision**: electronic vaccination record, epidemiological surveillance, e-learning for health professionals in telemedicine / tele-expertise and tele-prescription, information system and database that is accessible online, digitalised patient records.

In view of the socio-sanitary context (level of quality of care, continuity of health services), the Ivorian government has made the digitisation of the Ivorian society a major priority, with health care at its core, a cross-curriculum area. Indeed, the country's Strategic Digitalisation Plan covers all key sectors namely; education, agriculture, governance, trade and health.

The necessary synergies between ministries were highlighted as sources of success for the deployment of the National Strategic Plan for the Development of E-Health. In this regard, reference was made to a proposed decree for **the elaboration of a regulatory and legal framework; the State being the custodian of health data.**

Challenges affecting Ivory Coast:

- what is the investment from the public budget for these capitalised initiatives and what is the commitment to their sustainability?



BURKINA FASO

The Directorate of Informatics and Telehealth Services (DSITS) in the Ministry of Health is responsible for developing strategies for the application of health-related information and communication technologies; developing and monitoring the implementation of the sectoral strategy in collaboration with the relevant structures; and designing, coordinating and monitoring the implementation of digital health activities.

To date, there are **many initiatives using ICTs in the health sector**: 88 in total, of which only 3 solutions are interoperable.

In 2016, a **consultation framework was created bringing together all the stakeholders** involved in health and digital technology in order to exchange, pool resources, improve the quality of data through the harmonisation and integration of tools into the health information system, capitalise on the lessons learned from the various experiences and thus not only optimise the coordination of initiatives but also transfer of skills.

Without strong government leadership, a reference framework to address the problem of fragmentation of applications has nevertheless been developed as well as a digital code for the **protection of personal data**. It should be noted that a national data centre is currently being created and a round table on long-term predictive financing of e-health solutions has been set up.

Challenges affecting Burkina Faso:

- long-term ownership of initiatives by public authorities: weaknesses in technical capacity and insufficient financial capacity;
- Lack of communication between stakeholders in the ecosystem and a coordinated consultation framework.



BENIN

The Government of Benin has shown a strong interest in integrating digital health into its public health priorities. Adopted in 2017, **Benin's National e-Health Strategy** (2018-2022) aims to identify, harmonise and plan actions to be implemented in order to have a real impact on the health system and pool financial, human and material resources for effective implementation (robust monitoring and evaluation) and sustainability of e-health services.

The strategy development process began with a workshop at the end of which the vision, mission and strategic objectives were defined on the basis of the National Health Development Plan and linked to the Government's Programme of Action. The latter focuses on strengthening basic social services and social protection. The strategic objectives are set out in a 5-year action plan, focusing on 3 major programmes at an estimated cost of approximately \$21 million.

The 1st programme is linked to ICT infrastructure, with the establishment of a National Digital Health Network (NDHN). The 2nd concerns applications and services: multimedia platform for unified information and communication, hospital and health information systems, integrated computerised management system, telemedicine, and m-health. The 3rd programme consists of the creation of an enabling environment for the development of digital health: legal and administrative provisions related to data security issues, technical and interoperability standards, capacity building, and the promotion of the use of digital health.



How do we operationalise the findings of the sub-region to ensure that effective digital health solutions are scaled up and consistent with the national priorities of the WA countries?

Synthesis of recommendations at national level: tools

- Several types of institutional anchoring have been observed - Strong political will remains crucial: providing leadership and a strong institutional foundation for digital health;
- Ensure the training of human resources in digital health;
- Carry out an exhaustive mapping of digital health interventions:
 - o take ownership of the initiatives by creating a national health portal.
- Develop tools to support the development and deployment of solutions based on best practices:
 - o use tools with simple technologies for sustainability;
 - o seize the opportunity of the high penetration of mobile telephone observed;
 - o guide countries on lessons learned (national and regional sharing of best practices).
- Ensure connectivity and adequate infrastructure for the deployment of digital solutions (public/private partnership).

Synthesis of recommendations at the national level: governance

- Ensure a multisectorality of digital health by defining a standard digital health architecture to link solutions;
- Indicate the sources of financing and anticipate on the financing of scaling up and sustainability;
- Develop a repository to ensure interoperability of solutions (cf. DHIS2); What about a single repository accessible on a regional platform;
- Set up a data centre at national level to facilitate the transmission of coordinated data and its use;
- Ensure the interoperability of e-health solutions and their articulation with national policies;
- Ensure the management and support of changes in practices and skills:
 - o support the scaling up of pilot projects that have been evaluated.



Synthesis of recommendations at regional and institutional level: coordinated management

- Strengthen communication and information on digital health for a better appropriation of what already exists by countries:
 - o July 9: International Day of the West African Health Organisation / focus on e-learning.
- Develop and disseminate a reference framework by June 2019 (WHO):
 - o Ensure mutualisation: adapt WHO standards/recommendations to the West African sub-region within a regional platform
- Provide support to all stakeholders involved in the introduction of ICT into the training of health workers (ITU);
- Standardise coordination and consultation frameworks: criteria, process for selecting initiatives, transfer plan, guidelines, etc. (WAHO)
- Widely disseminate a directory of best practices in digital health, with priority given to e-learning (WAHO).
- Provision of Amref Health Africa's expertise: technical assistance to stakeholders in the field of digital health in the sub-region.



PITCH PRESENTATIONS OF ICT HEALTH SOLUTIONS IN WEST AFRICAN COUNTRIES: SHARING OF EXPERIENCE AND EXPERTISE PRESENTATION

Sante Sud, Data Sante Mali: information and communication technologies for access to maternal health and family planning. Sante Sud has set up a computerised Individual Shared Medical Record (ISDR), based on the DataSante software, to serve healthcare teams and their patients in rural health centres.

Click Info Ado (RAES) – Senegal: digital platform for the sexual education of young people and adolescents accompanied by a guide for parents and teachers.

Gret/Djantoli – Burkina Faso: mobile telephone for community health. The objective is to increase the use of good nutritional practices and mother and child health services through a continuous health monitoring service, an awareness service and a mobile application for referral and monitoring of the care of malnourished children.

Amref Health Africa – Senegal: Cellal e Kisal (health and well-being for mother and child). Optimised coordination of care for mother and child health via 3 components: a mobile application used by community relays to link with health structures, an e-health platform for health workers enabling them to monitor digitised medical records and access e-learning content, on a tablet and computer, and a telemedicine case for carrying out advanced examinations in remote areas (ultrasound, electrocardiogram, etc.).

Hope – Senegal: digital platform for the promotion and development of blood donation; A contribution for the entire ecosystem through the promotion and development of blood donation, a tool to help manage a country's blood transfusion systems and to map blood bags for medical care.



INTRODUCTION OF WORKSHOPS: INNOVATION IN PUBLIC HEALTH POLICIES THROUGH DIGITAL TECHNOLOGY: WHAT ARE THE BEST PRACTICES?

Laurence Hart, *Director of the Agence Française de Développement (AFD) agency - Dakar*

Valerie Faillat – *General Delegate of the Sanofi Espoir Foundation*

Digital health has great potential to support the strengthening of national systems. However, it is essential to move from the pilot stage to programmes conducted on a broader scale with interoperable digital solutions that are integrated into a structured and inclusive national health system. It is also essential to ensure close monitoring of initiatives and to provide impact studies that will provide the necessary levels of evidence to transfer the devices to the authorities.

Thus, **the digital transformation of the health sector** and more particularly the contribution of digital health stakeholders to national policies **refer to four components** for which the essential prerequisites were discussed during the discussions held in the workshops:

- **institutional:** strong political commitment, robust institutional and legislative framework, governance mechanisms with strong leadership, structured regulatory and legal framework;
- **strategic:** standards and reference framework available, harmonised monitoring and evaluation system, functional coordination and consultation framework, support for the integrated change management process;
- **technical:** guaranteed health human resources capacity building (necessary ownership by the profession / mobilisation of health professionals on the use of tools and associated capacity building) and interoperability of e-health solutions aligned with national priorities, connectivity and functional infrastructures;
- **financial:** guaranteed allocations dedicated to digital health, investment mechanism and a well-considered financial models for scaling up.



The **Sanofi Espoir Foundation** presented the **Synapse - Maternal Health** platform, an interconnected and dynamic reference system, which is a unique tool for identifying stakeholders in maternal and neonatal health and projects, gathering available resources, and responding to specific needs in an effective and sustainable way.

The Synapse - Maternal Health - aims to map and categorise existing maternal health initiatives, resources and stakeholders within a single platform, with the aim of creating a rich and interactive directory of people and projects that will facilitate new collaborations.

<https://www.youtube.com/watch?v=PQsDABg7iLc>

While the maternal health landscape remains fragmented, the application of this model will become increasingly critical to addressing current gaps in maternal health problems.

The teams on the platform offer additional support to all participants in the 2018 DHM. As part of this assistance, all the organisations present benefit from a profile created on the platform. To complete it, contact Daniela at daniela@thesynergist.org

Agence Française de Développement (AFD) presented the new partnership platform: **Digital Africa, which aims to bring together digital initiatives and ecosystems on the African continent.** The objective is to support African entrepreneurial dynamics, stimulate digital innovation and support the emergence of entrepreneurs with an impact on the continent in partnership with key players in the fields of health, education, etc.

This launch was part of a major digital event Vivatech, during which French President Emmanuel Macron announced a 65 million euros programme to support African start-ups: seed funding, support and technical assistance as well as support for incubators and accelerators.

The Digital Africa initiative aims **to bring together the numerous stakeholders in the entrepreneurial ecosystem into a single platform** (entrepreneurs, support structures, investors, the general public, large companies, universities, institutions and associations, etc.).

<https://digital-africa.co/>



FEEDBACK FROM 1ST WORKSHOP: WHAT ARE THE SUCCESS FACTORS IN DESIGNING DIGITAL SOLUTIONS?

Ibrahima Ba – *Adviser to the Information Technology Agency of the State of Senegal*

Rapporteur: Odile Balizet – Consultant specialised in capitalisation

On the basis of the results obtained, the stakeholders in digital health exchanged best practices and pitfalls encountered in the development and deployment of their solutions. This **capitalisation phase is a long-term process that demonstrates its importance when transferring skills to the authorities**. In this respect, **change management was highlighted as a fundamental element in the sustainability of the systems**. Indeed, **the pooling of knowledge and expertise was presented as essential** in anticipating difficulties and registering the areas of improvement capitalised by others in its own programming issues.

The exchanges highlighted the following points of attention:

- **connectivity and infrastructure constraints** (accessibility and quality);
- **fragmentation** of interventions involving the necessary mapping of stakeholders and projects as well as alignment of objectives to the national priorities that are listed in the digital health strategies;
- **lack of leadership from institutional bodies** and **weak governance systems** (methodology);
- **weakness in the monitoring and evaluation systems** for the solutions developed;
- **poor deployment of funds** to support scaling-up of solutions;
- **a multitude of platforms and applications**: lack of a repository and low interoperability of solutions;
- **lack of continuous support** for users;
- **inadequate framework for consultation and coordination**;
- **absence of a legal and regulatory framework and/or lack of knowledge of existing rules enforced by stakeholders in the ecosystem**;



A fundamental question was raised about the **imbalance in competition created by NGO funding** in developing digital solutions. Also, the question of the **rapid development of this market** presupposes that state services set a **minimum number of rules in order to ensure sustainability, interoperability and the dissemination of solutions**, but that at the same time they promote creativity and innovation.

Summary of recommendations in health care policy

- Define a regulatory and legal framework as well as solution quality criteria to guide developers and ensure interoperability of solutions;
- Encourage the training of computer scientists specialising in digital health in order to guarantee a quality mediation between health and digital technology;
- Define a mapping of the stakeholders and their solutions and set up a library of available resources to facilitate synergies and the sharing of these synergies;
- Set up a harmonised monitoring/evaluation system (proxi and impact indicators) for existing digital health strategies and associated projects that ensure reliability in the analysis and interpretation of data;
- Ensure national coordination of capitalised experiences at the sub-regional level

Summary of recommendations at the level of project leaders

- Co-construct solutions in consultation with health services and future beneficiaries to meet their needs as closely as possible;
- Build attractive and simple interfaces (colours, environmental vocabulary, paper register headings, etc.) that facilitate the work of future end-users and causes them to not being able to operate without the digital system;



- Take into account the environment: connectivity, electricity, etc. and favour offline mode to avoid connection costs and save the captured data;
- Consolidate all applications on a single platform for ease of use;
- Choose open source software to minimise costs and predict the evolution of digital solutions;
- Include in the budgets timings for continuous training (and/or formative supervision) of users and for adapting solutions to changing regulations and needs;
- Establish a framework for consultation with technical and financial partners;
- Support the change process over time;
- Integrate the analysis of the sustainability of tools (financing and skills and capacity transfer model) into the solution development process.

These recommendations, which are based on the experiences of the workshop participants, are factors for the success of the experiences presented and will help avoid some of the pitfalls.



FEEDBACK FROM 2ND WORKSHOP: WHAT ARE THE CHALLENGES IN LINKING DIGITAL SOLUTIONS WITH HEALTH CARE POLICIES?

Anne Roos Weil – Project Team Leader Health and Social Protection Division – AFD

Rapporteur: **Dr Ibrahima Khaliloulah Dia** – Coordinator of the Digital Health Unit and the Health Observatory – Senegal

Project leaders have uncovered a sometimes complicated national support for the solutions they propose. For their part, the national representatives highlighted the coordination problems they encounter in the face of fragmented solutions.

What recommendations can be made to better link innovations with national public health policies, so as to strengthen the systems in which they are integrated?

Challenges:

- **mutual acculturation:** the timings of institutions and innovation project leaders are not the same. A common language and a common culture must be established to move forward together;
- **strategic framework:** it is important that e-health strategies provide a framework while remaining open at the operational level so as not to restrict innovation. The regulatory framework should make it possible to set national guidelines according to healthcare priority needs and at the same time allow for the development of the ecosystem;
- **Cost quantification:** the quantification of financing needs for the sustainability of the project must be planned beforehand and with a shared responsibility between project leaders and the State. This exercise must be supported by the donors.



Summary of recommendations for the regional level (WAHO, WHO-ITU)

- Support member countries in their discussions on e-Health governance models ;
- Support the implementation of the repositories;
- Set up links of the WHO-ITU platform on national health portals;
- Organise a WAHO forum on best practices every 2 years (in particular on e-learning), and capitalise on the e-Health Day for the ECOWAS region (9 July);
- Set up a regional platform for managing health data from national data centres/warehouses;

Challenges for project leaders:

- **Coordination / consultation** (de-compartmentalisation);
- **Evaluation of the relevance of solutions** (needs analysis, selection of priority areas for action, economic feasibility and capacity study for national stakeholders to take over the system, etc.).

Summary of recommendations for project leaders

- Co-construct with the State from the onset of the project and with the entire ecosystem of stakeholders;
- Plan actions for change management – in particular the sensitisation of health professionals (introduction of medical informatics in the training of doctors);
- Based on the needs of the State (strategic priorities) and existing needs;
- Ensure the interoperability of solutions with the national health information system;
- Anticipate the plan for the sustainability and transfer of skills;
- Anticipate maintenance costs for the State;
- To be based on technologies mastered by the State.



Challenges for Ministries of Health:

- **Connectivity and infrastructure**, which remains a State domain;
- **Clarification of expectations** in terms of data hosting and more generally the role of the State in relation to other stakeholders in the ecosystem;
- **Anticipation of the required funding** to ensure the sustainability of projects;

Summary of recommendations for Ministries of Health

- Facilitate the identification of the right interlocutors in their departments ;
- Set up an interoperability reference system (HIMSS...);
- Be in line with best practices identified by WAHO/WHO;
- Increase the expertise of internal resource persons to analyse solutions (normative framework);
- Engage in collaboration with the Ministries of Higher Education;
- Set up a health data warehouse / Data Centre;
- Have a centralised approach around the Personal Medical Record rather than towards the multiplication of vertical projects;
- Maintain effective coordination of digital health groups.



PITCH PRESENTATIONS OF SOLUTIONS DEVELOPED IN WEST AFRICAN COUNTRIES: RECOGNITION OF EXPERIENCE AND EXPERTISE

OPISMS – Ivory Coast: electronic vaccination book. Features SMS reminders on upcoming vaccine appointment dates and current health risks. It allows online access to vaccination records, and provides a guarantee of traceability of the vaccinations that have been carried out. This service communicates with an information collection platform, which allows statistical analyses and vaccine mapping to be carried out in Ivory Coast.

Jokkosante – Senegal: a secure web and mobile computing application that provides equitable access to medicines through 3 complementary mechanisms: the circular economy (combating self-medication and the illegal sale of medicines), cross-financing and online point of exchange. This communal digital pharmacy currently has nearly 3,700 users and 25 affiliated health facilities.

Leap/Mjali & e-campus – Kenya: mobile, scalable and interactive training solution to train community agents. In order to provide community health workers with increased access to harmonised, continuous, diploma and quality training, Amref has developed LEAP® which offers community health workers continuous m-learning opportunities, peer collaboration, real-time assessment and enhanced supervision. M-jali is a health data management system attached to the platform to record/transmit collected data and track patients.

eCampus is an innovative and ideal platform for training human resources for health. Available on the Web, smartphone, tablet, computer, it is compatible with all operating systems and web browsers. It supports online or offline training.

International Master's Degree on Digital Health in Africa – Ivory Coast

This course, which is part of the African Higher School of ICT (ESATIC) in Abidjan, is the first of its kind specialised e-health professional training course in Africa. It aims to optimise the performance of health personnel and structures in Africa through the mastery and use of ICTs in the health care sector.



INTRODUCTION OF WORKSHOPS: WHAT ARE THE INNOVATIVE DRIVING FACTORS FOR SUSTAINABLE DIGITAL HEALTH SOLUTIONS?

Beatrice Garrette – Executive Director of the Pierre Fabre Foundation

Henri Leblanc – General Delegate of Amref in France – Pôle Francophone

In the area of e-health, there are **major difficulties in establishing a viable and sustainable development model** despite a highly dynamic pool of stakeholders in the sector: **regulatory and legal obstacles**.

Technologies can help to make the health system more efficient and ultimately improve the patients' quality of life, but implementation takes time. e-Health is also transforming the work of professionals and their relationship with patients. The holistic development of e-health **requires reliable and sustainable partnerships** (control, good management, reliability and data security).

The Pierre Fabre Foundation has decided to **commit itself to promoting e-health initiatives that promote access to quality care for the most disadvantaged populations** in countries with limited resources. It is within this framework that the **Observatory of E-Health in the South** (ODESS) was created, with the objectives of **identifying, documenting, promoting and assisting in the development of innovative projects using ICTs in the health field**. Five major areas are being addressed:

- the training of health professionals;
- telemedicine (diagnosis and remote consultations);
- patient follow-up and medical data;
- information, education and behaviour change;
- financial access to care, micro-insurance.



Extensive sourcing work, both in the field and remotely, makes it possible to identify relevant initiatives to integrate the Observatory's open and evolving database.

The website set up by the Foundation is the visible part of the Observatory's database. It **highlights e-health initiatives with the general public, health and ICT stakeholders and potential partners**. An **annual conference** is also held at the Foundation's headquarters and awards are given to the most outstanding and promising initiatives. They will then receive financial and technical support for one year. This day is also a space for exchanges between stakeholders and potential partners in e-health ecosystems. **The Observatory also aims to publish studies** and reference documents on e-health in Southern countries.

In order to meet the training needs of e-health stakeholders (medical staff, startupperes and officials from Ministries of Health), the Pierre Fabre Foundation is funding in 2019 the creation of an innovation laboratory and an inter-university diploma in e-health (IUD) within the University of Science, Technology and Technology of Bamako (USTTB), in conjunction with the universities of Dakar and Abidjan.

www.odess.io

www.digisantema

li.info



FEEDBACK FROM 3RD WORKSHOP: UNDERSTANDING THE CHALLENGES FACING PUBLIC/PRIVATE PARTNERSHIPS IN FAVOUR OF HOLISTIC DEVELOPMENT OF EHEALTH

Beatrice Garrette – Executive Director of the Pierre Fabre Foundation

Rapporteur: **Dr Gaoussou Camara**, Senior Lecturer – University of Alioune Diop, in Bambey / Senegal

Highlights of the discussions:

The discussions at this workshop revealed that Public/Private Partnership is an important tool provided that the roles of each party are defined and respected. Thus, the various exchanges made it possible to develop a set of recommendations to the public and private sectors for a holistic development of e-health.

Summary of general recommendations

- Elaboration of an institutional framework by the State

1. Legal

- Protection and ownership of patient data.

2. Regulatory

- Define the priority needs that will form the basis of a consultation framework;
- Technique;
- Interoperability of e-health solutions.

Summary of recommendations for the public sector

- Creating an enabling environment for innovation and entrepreneurship:
 - o training, research, incubation;
 - o supporting the creation and sustainability of companies:



- taxation, social and solidarity status.
- single point of access for agreements made with the Ministry of Higher Education and Research, the Ministry of Health, and the Ministry of Technology, Information and Communication;
- generation of funding for the Ministry of Health to finance the strategy and its implementation (tax proposal).

Summary of recommendations for the private sector

- Response to priority needs;
- Proposal including sustainability strategies;
- Proposal of interoperable and open solutions;
- Protection of personal data;
- Data sharing:
 - with the Ministry of Health for statistical and monitoring purposes;
 - with researchers.
- Intra-NGO coordination;
- Clarification of the business model to reduce the cost of access to essential health care;
- Guarantee the purpose of public/private partnerships in improving the health of the population.



FEEDBACK FROM 4TH WORKSHOP: WHAT ARE THE POSSIBLE ECONOMIC MODELS FOR SUSTAINING EHEALTH INITIATIVES THAT REDUCE INEQUALITIES IN ACCESS TO HEALTH CARE?

Henri Leblanc – General Delegate of Amref in France – Pôle Francophone

Rapporteur: **Rokhaya Solange Ndir**, Head of Corporate Social Responsibility and Partnerships Department Orange – Sonatel

Digital health is of interest to many stakeholders and different ministries because of its **potential to develop economic activity and to improve the accessibility and efficiency of health care provision**. For private stakeholders, it's a matter of giving structure **to what is currently largely fragmented and difficult to understand**. This will require the development of **strategies between partners**.

At the heart of a competitive landscape, **business models are one of the fundamental elements of a sustainable digital health strategy**. They require a relevant, competitive offer, while guaranteeing the structure's viability over time and its ability to generate value and margins for action. It is therefore a question of **identifying a balance between opportunities and constraints; an economic model is evolutionary by nature**.

During the workshop, it was reiterated that a strong investment in digital health in Africa had been made but that the return on investment is still too low. The solution providers discussed the success factors and challenges of business models in order to determine:

- key partners;
- the cost structure;
- the sources of income.



Several questions were raised:

- how do we construct an economic model for a transition to scale-up?
- what is the legal and regulatory framework?
- what is the market ? How to finance sustainability?
- how to support the government sector?

The following key points also emerged from the discussions:

- solutions should not represent an additional cost to the people;
- transformation and impact must be observed by and for each stakeholder;
- the relevant ministry must take a greater interest in the solutions developed by start-ups;
- it is necessary to work on the basis of a reference framework, a common framework;
- it is essential to listen more to the voices of users and beneficiaries;
- an economic model must be consensual, and take into account the expectations of each of the stakeholders involved;
- developing an economic model involves collective work to provide coordination in initiatives, for which high-level leadership is essential.
- contracts between NGOs and financial partners including funding are for a defined time frame and this poses problems during the sustainability phase. The majority of start-ups are developed using equity capital. An issue on the fact that some NGOs offering digital solutions (and grant recipients) are moving towards social impact entrepreneurship models was observed.

How do we build an economic model for a transition to a sustainable solution? The following prerequisites were mentioned:

- Consider the durability and social impact of the solutions;
- Be part of a legal and regulatory framework (market regulation, personal data protection, etc.) that needs to be strengthened;
- Determine who finances the processing and what value is produced in a health care market;



- Assess the human and financial resource capacities for a scale-up supported by the authorities (limits of economic models based on free access);
- Involve States in the development of solutions and ensure that they are integrated into the health system:
 - o take into consideration the extra cost to the population, the solution must not be a surplus on health expenses:
 - determine the motivation of health personnel to whom tasks are assigned.
 - o integrate solutions into proven systems by ensuring coordination of initiatives;
 - o involve all stakeholders from the outset, including public service stakeholders;
 - o measure transformation and impact for public and private: what is the added value?
- Create a multisectoral consultation framework:
 - o A national group that brings together all digital health stakeholders and solution developers.

Summary of recommendations for the construction of viable and sustainable economic models:

At the level of institutional bodies

- Create an institutional framework for the development of solutions in line with strategic priorities and orientations:
 - o ensure strong leadership and governance
- Guaranteeing state regulation:
 - o data regulation: data protection;
 - o develop calls for investment in favour of solution providers – Limit the fragmentation of solutions.



At the level of project leaders

- Mastering priorities and identifying public health challenges for the development of digital solutions in line with needs:
 - o solutions must involve States from the development stage.
- Ensure the interoperability of digital health devices linked to existing solutions (cf. frame of reference):
 - o change in practices, attitudes and behaviours must be considered in the development model, with particular emphasis on the management of the change to be followed and supported;
- Develop a master plan for the deployment of large-scale digital solutions:
 - o Differentiate the economic model of a program (multi-stakeholder) and a solution;
 - o Think about the model for the development of solutions – evaluate the cost structure for long-term skills transfer and good ownership;
 - o Determine the sources of revenue and cost valuation taking into account financial realities & involve public authorities (association of all stakeholders):
 - Develop a mixed financing model:
 - Involve operators & foundations / CSR (connectivity / infrastructure, etc.).
 - o Ensure support for social transformation – plan for the transfer of skills to the competent authorities.



CLOSURE

How can the various initiatives that provide digital health solutions concretely inform and strengthen public policies in West Africa? These first meetings, initiated by Amref Health Africa, Africa's leading NGO in the field of public health, with the contribution of stakeholders in the sector, in collaboration with [the Agence Française de Développement](#), [Pierre Fabre Foundation](#), [Sanofi Espoir Foundation](#), [Club Sante Afrique](#) and with the support of the [WHO](#) and the [Ministry of Health and Social Action in Senegal](#), made it possible to confirm the appetite of stakeholders, launch a regional dynamic around effective solutions, and define a community-of-practices in order to transform this digital revolution into lasting health change.

West Africa faces major social and health challenges for which the development of digital health represents a real point of support to strengthen national health systems. Convinced by this potential, several West African countries have already launched their national digital health strategy plans but still face obstacles in transforming these solutions into effective instruments for public health management and health care coordination.

Thanks to the 100 participants from the sub-region, we were able, during the DHM, to exchange, capitalise, and strengthen partnerships to feed national digital health strategies. The experience and expertise from digital health initiatives has proven to be valuable in enhancing the service of health stakeholders to ensure access to quality health care.

Representatives from the Ministry of Health in Senegal, Benin, Ivory Coast, Niger, Burkina Faso and Mali were able to discuss their development model and present their deployment plan. Many digital health solutions were presented by NGOs, start-ups to highlight expertise and experience accumulated. The workshops were able to identify lessons learned from innovative digital initiatives and clarify the necessary articulation of health policies. The levers for sustainable digital health solutions were also addressed to ensure an optimal coordination framework and develop viable financing models.



« Innovations are being developed across the continent. Africa is inventing innovative, agile health models that seek to be economically sustainable. In the knowledge that the overall success of these models will be based on close coordination among all stakeholders, both private and public, we are pleased to have initiated these first meetings with a firm pragmatic approach, » said Henri Leblanc, Amref's General Delegate in France.

« Amref's commitment to digital health is a promise to support African communities and health systems in their efforts towards innovation and the quality of services for women and children. The actions taken at these Meetings will, I hope, help us to keep this promise for future generations who constitute the Africa of tomorrow » added Dr Bara Ndiaye, Regional Manager of Amref Health Africa in West Africa.

The 2 directors agreed that: « These meetings are just one step, we will remain involved in this new community to translate these first results into positive achievements on the ground that will be implemented in the sub-region ».

THE 10 CONCLUSIONS OF THE DIGITAL HEALTH MEETING IN WEST AFRICA

The DHM highlighted:

A request for framing and structuring digital health in West Africa:

1. stakeholders must take ownership of and be part of the States' strategies and roadmaps; a reference framework must be defined with the principles of interoperability and alignment with national strategies;
2. it is essential to strengthen support for national authorities in charge of digital health (capacity building, technical assistance, training, support for intra-regional coordination);
3. the issue of personal data protection must be systematic at all levels and among all stakeholders; it is necessary to strengthen the regulation and legal framework;
4. digital health must be promoted, embodied at a high level in countries;
5. With the aim of better coordination, a dynamic of sharing experience and expertise among digital health stakeholders, the latter must pool their efforts to develop a framework for consultation and coordination tools in the sub-region.

A requirement for a participatory and multisectoral approach in the design and development of solutions:

6. the mechanisms must first be based on the health needs, practice and reality of health stakeholders in remote regions and data collection. Solutions must be designed and developed for and with the users and beneficiaries;
7. connectivity and quality of infrastructure must be considered, it is essential to favour solutions that are robust and adapted to the context;
8. for the scaling up of solutions, the economic model must be thought of collectively. These questions must be anticipated at the beginning of a project;
9. stakeholders must assume that digital technology is changing health practices and that in this respect, it is essential to think about digital health from the perspective of change management;
10. the coordination among digital health stakeholders was reiterated as fundamental in this complex ecosystem. Consultation was defined as a mandatory process to make digital solutions effective and efficient tools for national health systems.