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**FRAMEWORK FOR IMPLEMENTING THE GLOBAL STRATEGY ON DIGITAL
HEALTH IN THE WHO AFRICAN REGION**

Report of the Secretariat

EXECUTIVE SUMMARY

1. Since 2005, the World Health Assembly (WHA) has adopted a number of resolutions (WHA58.28, WHA66.26 and WHA71.7) to encourage Member States to develop and implement digital health strategies in order to contribute to the achievement of the Sustainable Development Goals (SDGs) and universal health coverage (UHC). The Regional Committee for Africa further adopted a resolution to advance eHealth solutions in the African Region (AFR/RC60/R3).
2. By the end of 2019, thirty-three Member States in the African Region had developed digital health strategies. There is significant progress in the utilization of digital health solutions in the Region. However, the majority of Member States use digital health solutions in pilot mode. In addition, only a few Member States have complied with the implementation methodology recommended in the WHO national eHealth strategy toolkit, which is aimed at ensuring scale-up and sustainability of digital health use.
3. Several challenges remain, including limited digital health leadership capacity at national level, limited multisectoral arrangements for digital health, inconsistent adoption of standards and interoperability frameworks, limited data protection and system security regulations. Other notable challenges include limited financial resources, and the low level of health worker involvement in digital health. At the regional level, the lack of sharing of evidence limits the development of best practices.
4. To mitigate these challenges, WHO adopted a global digital health strategy in 2020. The purpose of the global strategy is to advance and apply digital health technologies towards the achievement of the SDG-3 vision of “health for all” as well as the other health-related SDGs. The global strategy sets out a vision, strategic objectives and a framework for action to advance digital health technologies for better health outcomes, globally and in Member States. It encourages international collaboration and Member State digital health support at national level. It also aims to promote research, improve evidence and information sharing, as well as best practices on digital health, to ensure a solid foundation for national scale-up of digital health services.

5. WHO in the African Region has developed a framework to guide implementation of the global strategy among Member States. The framework takes into account Member State and regional contexts, and presents overarching goals, SMART objectives, and strategic targets for actualizing elements of the global strategy in the African Region. It outlines guiding principles, including action points to ensure effective implementation among Member States.

6. The Regional Committee reviewed and adopted this framework.

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ABBREVIATIONS

EMR	electronic medical record
ICTs	information and communication technologies
ITU	International Telecommunication Union
MoH	ministry of health
RC	Regional Committee
SDGs	Sustainable Development Goals
TAG	Technical Advisory Group
UHC	universal health coverage
WHA	World Health Assembly
WHO	World Health Organization

INTRODUCTION

1. WHO defines digital health as the cost-effective and secure use of information and communication technologies (ICTs) in health and health-related fields.¹ Digital health encompasses a range of services and systems, including health and medical informatics, telehealth, eLearning² and mHealth.³ It has the potential to contribute to health systems strengthening by making available fast, reliable and updated health information.

2. In 2013, the WHO Regional Committee for Africa adopted Resolution AFR/RC63/R5, urging Member States to promote digital health. It also recommended strengthening leadership and coordination for digital health and making necessary investments.

3. In May 2018, the Seventy-first World Health Assembly adopted a resolution on digital health (WHA71.7)⁴. The resolution requested the Director-General, inter alia, to develop in close consultation with Member States and with inputs from stakeholders, a global strategy on digital health, identifying priority areas where WHO should focus its efforts.

4. In 2019, WHO developed a global strategy on digital health⁵ that was presented and adopted at the Seventy-third WHA. The purpose of the global strategy is to advance and apply digital health technologies towards the vision of health for all. It sets out a vision, strategic objectives, and a framework for action to advance digital technologies for health, globally and among Member States.

5. WHO in the African Region has proposed an implementation framework, which is intended to guide Member States in the implementation of the global strategy. The framework provides opportunities to facilitate the attainment of the WHO Thirteenth General Programme of Work and consolidate the Declaration of Astana.⁶

CURRENT SITUATION

6. The development and use of ICTs in the African Region has accelerated in the last decade. The penetration rate of mobile telephony increased from 32.2% in 2008 to 83.2% in 2020; the mobile broadband penetration rate increased from 1.7% in 2008 to 33.1% in 2020, and the rate of individual internet users increased from 4% in 2008 to 30% in 2020.⁷

¹ World Health Organization: Digital Health; 2020 (<https://www.who.int/ehealth/en/>, accessed 17 January 2021)

² Learning conducted via electronic media, typically on the Internet.

³ mHealth (also written m-health) is an abbreviation for mobile health, a term used for the practice of medicine and public health supported by mobile devices.

⁴ World Health Organization: Digital Health; 2018 (https://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_R7-en.pdf, accessed 21 October 2020)

⁵ World Health Organization: Global strategy on digital health 2020-2025 (https://www.who.int/docs/default-source/documents/g4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf?sfvrsn=f112ede5_38, accessed 11 November 2020)

⁶ World Health Organization: Declaration of Astana. Geneva; 2018 (<https://www.who.int/primary-health/conference-phc/declaration>, accessed 31 March 2021)

⁷ International Telecommunication Union: Statistics; 2020 (<https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>, accessed 23 January 2021)

7. In December 2020, thirty-four Member States⁸ of the WHO African Region developed digital health strategies. However, only 12 of them have implemented these strategies.⁹

8. The last survey carried out in 2015 by the Global Observatory for eHealth¹⁰ shows that mHealth is the most widely used digital health service in the Region (24 Member States)⁹. Others are social media (21 Member States)¹¹, telemedicine (20 Member States)¹², eLearning (17 Member States)¹³, electronic records (six Member States)¹⁴, big data¹⁵ (two Member States)¹⁶ and others (human resource information systems, laboratory information systems, supply chain and logistics management information systems (11 Member States)).¹⁷

9. The production and use of medical data, especially in electronic medical record systems require legal instruments for the protection of data and the security of computer networks. In 2016, only 11 Member States had regulations for security and integrity of medical data.¹⁸

10. In 2017, the WHO Regional Office for Africa finalized a partnership with the International Telecommunication Union (ITU) on scaling up digital health uptake in the Region. The agreement focuses on establishing platforms for interoperability, building the capacity of the digital health workforce, digital health partnerships, and usage of digital health medical devices.

11. In 2020, the COVID–19 pandemic triggered an unprecedented demand for digital solutions in screening populations, tracking infections and minimizing direct human contact. Thus, by leveraging the use of digital technologies in Africa, different health crises can be managed better through effective and more efficient digital mechanisms.

ISSUES AND CHALLENGES

12. **Inadequate use of digital health:** The use of ICTs in health is a new phenomenon. The health sector has generally relied on paper systems for health services. This has led to the slow uptake of digital health services. Appropriate change management methods, capacity building initiatives and

⁸ Benin, Botswana, Burkina Faso, Cameroon, Cabo Verde, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Eswatini, Gabon, Gambia, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, United Republic of Tanzania, Togo, Uganda, Zambia, Zimbabwe.

⁹ Cabo Verde, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Mauritius, Rwanda, South Africa, United Republic of Tanzania, Uganda, Zambia, Zimbabwe.

¹⁰ World Health Organization: Global Observatory for eHealth; 2015 (<https://www.who.int/observatories/global-observatory-for-ehealth>, accessed 12 December 2020)

¹¹ Botswana, Cabo Verde, Central Africa Republic, Comoros, Côte d'Ivoire, Ethiopia, Ghana, Guinea-Bissau, Kenya, Benin, Madagascar, Malawi, Mali, Niger, Senegal, Seychelles, South Africa, South Sudan, Uganda, Zambia, Zimbabwe

¹² Botswana, Burkina Faso, Burundi, Cabo Verde, Central African Republic, Ethiopia, Gambia, Ghana, Benin, Kenya, Madagascar, Malawi, Mali, Mauritania, Niger, Rwanda, Senegal, Seychelles, Uganda, Zimbabwe

¹³ Burkina Faso, Cabo Verde, Comoros, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Madagascar, Malawi, Mali, Niger, Rwanda, Senegal, South Africa, South Sudan, Uganda, Zimbabwe

¹⁴ Botswana, Cabo Verde, Lesotho, Malawi, Zambia, Ethiopia

¹⁵ Harvard Business Review: Big data. The management and revolution; 2012 (<https://wiki.uib.no/info310/images/4/4c/McAfeeBrynjolfsson2012-BigData-TheManagementRevolution-HBR.pdf>, accessed 30 March 2021)

¹⁶ Cabo Verde, Rwanda

¹⁷ Botswana, Côte d'Ivoire, Ethiopia, Ghana, Lesotho, Malawi, Mali, Niger, Senegal, Sudan, Uganda

¹⁸ World Health Organization: Global eHealth for survey; 2015 (<https://www.who.int/goe/survey/2015survey/en/>, accessed 2 December 2020)

techniques for the introduction of ICTs for health are also limited. The parallel systems in conflict, fragile and post-conflict countries, with increased demand for data is another challenge.

13. **Limited institutionalization of digital health within ministries of health:** Generally, most Member States have not institutionalized the role of digital health as a government cadre. Digital health is placed as a unit in the monitoring and evaluation department or the information system department. This limits the scope of implementation, hampers the performance of strategies, and constrains coordination and attainment of results.

14. **Limited financing for digital health:** Digital health is generally not adequately funded by Member States. In 2015, eighty per cent of digital health projects were funded by external partners. There is weak integration of digital health into the national health development agenda and poor budget allocations for digital health in Member States. Public health sector budgets are generally insufficient for the national health system (less than the 15% advocated by the Abuja Declaration on health sector financing). Thus, most digital health activities are funded by development partners, leading to the verticalization of digital health services and limited investments in areas not supported by development partners. This impacts the sustainability of digital health projects in an era when digital solutions play a central role in the COVID-19 response.

15. **Limited digital health national champions:** Governments have a strong mandate to provide oversight and coordination to digital health projects deployed in their countries. However, most health officials are not sufficiently aware of the potential contribution of digital health to health systems strengthening and achievement of UHC. As such, there are few national champions advocating and advancing digital health. This limited advocacy negatively impacts the implementation of strategies.

16. **Limited standards and interoperability of systems:** Most Member States in the Region do not have harmonized digital health standards. However, health technologies used for such services as medical imaging, laboratories, and medical data coding have begun utilizing health data standards. Leveraging these standards for use in digital health remains a critical gap.

17. **Lack of an economic model and difficulty in sustaining digital health services:** The lack of a viable economic model has a lasting impact on the sustainability of digital health projects. The last survey conducted by the Global Observatory for eHealth in 2015 showed that most projects are in the pilot or informal stages in the African Region.¹⁹ This has led to a limited demonstration of the impact and economic benefits of digital health.

THE REGIONAL IMPLEMENTATION FRAMEWORK

Vision, Goal, Objectives, Targets and Milestones

18. **Vision:** Appropriate digital health solutions are developed, adopted and used to achieve the vision of “health for all” in all Member States.

¹⁹ Health helpline (75% projects), Emergency toll-free telephone services (61%), reminders for attending appointment (75%), Mobile telehealth (88%), EMR (60%), clinical decision support (60%).

19. **Goal:** Ensure the effective implementation of the global digital strategy with maximum sustainable impact in all Member States.

20. **Objectives**

- (a) Strengthen digital health governance structures among Member States by 2023.
- (b) Advocate for people-centred health systems enabled by digital health solutions by 2026.
- (c) Advance and implement digital health strategies among Member States by 2030.
- (d) Promote collaborations on digital health and advance the transfer of knowledge by 2030.

21. **Targets by 2030**

- (a) All Member States have digital health strategies.
- (b) All Member States have multisectoral institutional arrangements for the implementation of digital health strategies.
- (c) 60% of Member States have mechanisms to produce a digital health-ready workforce.
- (d) At least 60% of Member States have mature digital health systems.

22. **Milestones**

By 2023

- (a) 80% of Member States have developed their digital health strategies.
- (b) 80% of Member States have been trained in digital health governance using the WHO AFRO-ITU digital health curriculum.
- (c) 60% of Member States have completed and uploaded their digital health inventory of systems into the WHO Digital Health Atlas.
- (d) 50% of Member States have developed and costed their national digital health architecture.

By 2026

- (a) 95% of Member States have developed their digital health strategies.
- (b) 70% of Member States have completed and uploaded their digital health inventory of systems into the WHO Digital Health Atlas.
- (c) 40% of Member States have arrangements in place for capacity building of the health workforce.
- (d) 60% of Member States have scaled to national level at least one prioritized digital health intervention.
- (e) 50% of Member States have standardized regulations for digital health.
- (f) 60% of Member States have data standards and interoperability frameworks.

GUIDING PRINCIPLES

23. The framework will contribute to the attainment of the Thirteenth General Programme of Work and the health-related SDGs through:

- (a) **Government ownership:** Governments will provide leadership, requisite resources and galvanize stakeholders to pursue an inclusive and participatory approach to planning and implementation of digital health activities.
- (b) **Multisectoral collaborations:** Collaboration between the health sector and other government departments including the private sector will be harnessed to build on comparative advantages for planning and implementing digital health.
- (c) **Equity and rights-based approaches:** Data disaggregated by age, sex, socioeconomic status and geographical region will facilitate the identification of vulnerable groups and their access to effective digital health services.
- (d) **Community ownership:** All communities will access adequate information, knowledge and skills to ensure their full engagement as equal partners in health in accordance with the principles of UHC.
- (e) **Accountability:** Mainstreaming potential impacts of digital health services in national policies will be essential to the implementation of appropriate accountability measures.
- (f) **Universal health coverage:** Using digital health services to improve the health system is essential to the achievement of universal access to health services.
- (g) **Funding and sustainability:** Governments will demonstrate a commitment to improving domestic funding through partnerships for sustainable digital health programmes.

ACTIONS PROPOSED

24. Although the road towards addressing topical challenges and realizing the goals of the global digital health strategy may appear complex, progress can be achieved with political commitment, sustainable financing, effective collaboration, and robust country support mechanisms. Thus, the following priority interventions have been identified for Member States, WHO and partners:

- (a) **Development of national digital health strategies at Member-State level:** Member States will review and update national digital health strategies and develop them where they are lacking, to reflect the local situation and ensure establishment of dedicated agencies to guide implementation, monitoring and evaluation of digital health, through multisectoral collaboration with network operators, strengthening of numeric sovereignty and ensuring closer monitoring of servers located abroad. Furthermore, they will create multisectoral coordination for the adoption of these strategies and ensure that relevant entities in the digital health ecosystem are identified and aligned with the strategy.
- (b) **Standardization and interoperability:** Establish national technical committees at the level of each Member State to elaborate the guidelines and technical specifications to guarantee interoperability between national digital health systems. This committee will be made up of representatives of the ministries of health and ICT, academia, and private sector ICT entities.
- (c) **Digital health platform:** Develop digital health platforms integrating all the applications and services required by health facilities in Member States. WHO AFRO will support Member States in the implementation of this platform by providing technical support and helping to mobilize financial resources.

- (d) **Identification of priority areas for digital health interventions:** Member States, with WHO support, will put in place a system by which priority areas are identified, streamlined, and staged for national scale-up. These will be aligned with national health targets and national development goals.
 - (e) **Formation of digital health champions at the national and subregional level:** To foster digital health maturity, integration and continuity, Member States will identify digital health champions to advocate for digital health. These champions will ensure that digital health is both articulated and integrated at all levels of the health system using appropriate avenues such as online tools and assemblies.
 - (f) **Partnerships for the implementation of digital health programmes:** Establish partnerships with telecommunication operators and the private sector to ensure the financing of digital health projects and guarantee their sustainability through an economic model that allows access of populations to digital health services. WHO AFRO and the ITU will develop a toolkit to guide Member States in their negotiations with development partners.
 - (g) **Collaborations for improved COVID-19 response:** Promote global collaborations on the use of digital health solutions to advance the COVID-19 response and other health emergency-related responses. This involves strengthening governance and other institutional responses for people-centred health systems approaches enabled by digital health solutions.
 - (h) **Funding digital health programmes:** The WHO African Region and the ITU will develop guidance to help Member States in organizing roundtable discussions for financing their digital health strategy. These guides will help Member States to form strategic partnerships with development partners. Member States should seek innovative approaches to increase domestic funding.
 - (i) **Packaging of minimum global good tools for implementation:** WHO will identify and select for recommendation appropriate digital health systems and services that have demonstrated wider application and evidence of efficacy and results. These will be used to promote UHC and as a means of delivering the minimum package of digital health solutions and services used by health facilities such as digital health platform, health information management, health facilities management, telemedicine and Behealthy Bemobile Platform to contribute to the strengthening of national health systems.
 - (j) **Formulation of a digital health curriculum:** WHO has developed a digital health curriculum to transform and support digital health learning at the national level. Member States will use this curriculum and adapt it to their local contexts and needs, and target national leaders across multisectoral spectrums – telecom operators, universities, ministries of ICT and the private sector – on digital health leadership and governance.
 - (k) **Monitoring and evaluation:** For the strategies to be responsive and adapted to the national digital health environment, Member States will ensure that arrangements for monitoring and evaluation, as well as response mechanisms, are in place and aligned with national targets. The Regional Director shall report to the Regional Committee on the progress of implementation of this framework every three years.
25. The Regional Committee examined and adopted the actions proposed in this framework.