Global Strategy on Digital Health 2020-2024
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FOREWORD

(to be written)
DIGITAL TECHNOLOGIES: SHAPING THE FUTURE OF GLOBAL HEALTH

1. The 2030 Agenda for Sustainable Development\(^1\) highlights that the spread of information and communications technology and global interconnectedness has great potential to accelerate socio-economic development, including health, to bridge the digital divide and to develop knowledge societies. It includes SDG target 9.c to significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2030.

2. The outcome document of the High-level Meeting of the United Nations General Assembly on the overall review of the implementation of the outcomes of the World Summit on Information Society\(^2\), held in New York on 15 and 16 December 2015, highlights the technology-enabled breakthroughs in Government in the provision of health care, with greater numbers of people having access to services and data that might previously have been out of reach or unaffordable. Heads of State and Government recognized that information and communications technologies are fundamentally altering the way individuals and communities interact, consume and spend their time, with new and unforeseen health and social consequences, many of which are positive and some of which raise concerns. Heads of State and Government committed to harness the potential of information and communication technologies to achieve the 2030 Agenda for Sustainable Development, noting that they can accelerate progress across the health-related SDGs.

3. Stressing the important role played by the private sector, civil society and technical communities in information and communication technologies, United Nations General Assembly resolution 73/218 encourages strengthened cooperation among stakeholders from both developed and developing countries, and encourages WHO, within its respective mandate and strategic plan, to contribute to the outcomes of the World Summit on Information Society, and emphasize the importance of allocating adequate resources in this regard.

4. Recognizing that information and communication technologies present new opportunities and challenges as enables for the achievement of the health-related SDGs, there is a growing consensus in the global health community that the strategic and innovative use of digital and frontier information and communication technologies will be an essential enabling factor towards ensuring that 1 billion more people benefit from universal health coverage, that 1 billion more people are better protected from health emergencies, and that 1 billion more people enjoy better health and well-being (WHO’s triple billion targets included in its GPW13). Vice versa, it is also a time of immense opportunity: the remarkable evolution and diffusion of information and communications technologies, underpinned by the contributions of both the public and private sectors, which have seen penetration into almost all corners of the globe, created new opportunities for social interactions, enabled new business models and contributed to economic growth and development in all other sectors, means that global digital health will increasingly become mainstreamed in shaping the broader digital economy and society of the 21st Century. Progress towards primary care

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\(^1\) Resolution 70/1

\(^2\) Resolution 70/125
and universal health coverage will be accelerated by using information and communication technologies to increase access to primary health care services, facilitate diagnosis and treatment of diseases; optimize resource allocation; enhance access to medical records and longitudinal patient monitoring; support health workers at the point of care. Predicting, mapping and monitoring the spread of diseases; monitoring and reporting on adverse events including drug and patient safety; and tracking supplies of medicines and vaccines are among other common uses. In addition, the Internet of Things (IoT), Artificial Intelligence (AI), Big Data Analytics, Blockchain and other digital and frontier biotechnologies have the potential to enhance health significantly by improving efficiency, medical diagnostics, data-based treatment decisions, self-management of care, and strengthen routine care by increasing access and enabling leaders to take data-led action to improve care.

5. Progress towards protecting people from health emergencies will be accelerated by using information and communication technologies to issue early warning and alerts, develop outbreak predictions, improve the response to outbreaks and epidemics, coordinate response, and connecting to expertise in the field.

6. Progress towards improving health and well-being will be accelerated by empowering the individual to make informed choices by providing an enabling environment, strengthening health literacy through education, and implementing population-wide and targeted mass and social media campaigns.

7. the relationship to existing resolutions The foundation for this strategy is the 2030 Agenda for Sustainable Development, and the outcome document of the high-level meeting of the United Nation General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society (2015), in which it took stock of the progress made in the implementation of the outcomes of the World Summit (2005), addressed potential information and communications technology gaps and identified areas for continued focus, including in the area of digital health

8. In 2005 the World Health Assembly through its resolution on eHealth (WHA58.28) urged Member States “to consider drawing up a long-term strategic plan for developing and implementing eHealth services to promote equitable, affordable and universal access to their benefits”. Countries and stakeholders were urged to direct their efforts towards creating a consistent eHealth vision in line with the country’s health priorities and resources, developing an action plan to deliver the proposed vision, and creating a framework for monitoring and evaluating eHealth implementation and progress. Today more than 120 Member States – including low-and middle-income countries (LMICs) – have developed their strategies and policies.

9. The World Health Organization (WHO) in strong collaboration with organisations such as the International Organization for Standardization (ISO) and the International Telecommunication Union (ITU) responded to countries’ emerging eHealth demand by building evidence, disseminating knowledge, facilitating collaboration, sponsoring discussion forums and developing guidance to help policymakers and public servants understand the power and complexity of eHealth. WHO
embraced the role of documenting the evolution and impact of eHealth in countries through its Global Observatory for eHealth\(^3\). WHO also engaged in global efforts to advance the use of information and communication technology (ICT) in health development through its research, guidelines, capacity, policy and advocacy support in countries and regions.

10. In 2013, WHO Member States endorsed a resolution on eHealth standardization and interoperability (WHA66.24), which urged countries “to collaborate with stakeholders to draw up a roadmap for implementation of eHealth and health data standards at national and subnational levels” and “to develop policies and legislative mechanisms linked to their national eHealth strategies”.

11. Taking into consideration the important progress made by some countries, it is important to note that many countries still require institutional support for the development and consolidation of national eHealth/digital health strategies, and the implementation of their action plans, the latter of which usually requires more resources and capabilities.

12. Recognizing the need to strengthen digital health implementation, in May 2018 the Seventy-First World Health Assembly passed WHA71.7 resolution on digital health. The resolution requested the Director-General “to develop in close consultation with Member States and with inputs from stakeholders, a global strategy on digital health, identifying priority areas including where the World Health Organization (WHO) should focus its efforts”. It also tasked WHO with providing normative guidance in digital health, including “through the promotion of evidence-based digital health interventions”, leading to WHO Guideline Recommendations on Digital Interventions for Health System Strengthening.\(^4\)

13. In addition, the resolution urged Member States:

“...[T]o assess their use of digital technologies for health, including in health information systems at the national and subnational levels, in order to identify areas of improvement, and to prioritize, as appropriate, the development, evaluation, implementation, scale-up and greater utilization of digital technologies, as a means of promoting equitable, affordable and universal access to health for all, including the special needs of groups that are vulnerable in the context of digital health”.

14. Digital health must be an integral part of health priorities and benefit people in a way that is ethical, safe, reliable, equitable and sustainable. It must be developed with accessibility, scalability, replicability, interoperability and security in mind.

\(^3\) WHO Global Observatory for eHealth: www.who.int/goe

\(^4\) WHO Guideline Recommendations on Digital Interventions for Health System Strengthening: https://apps.who.int/iris/handle/10665/311980
PURPOSE

15. The purpose of this Global Strategy is to advance and apply digital health towards achieving the vision of health for all.

16. In the context of this Global Strategy, digital health is understood to mean “the field of knowledge and practice associated with the development and use of digital technologies to improve health”.

17. This definition encompasses eHealth, in line with WHO’s Executive Board report (WHO EB142/20) of 2017. Digital health expands the concept of eHealth to include digital consumers, with a wider range of smart-devices and connected equipment. It also encompasses other uses of digital technologies for health such as the Internet of Things, artificial intelligence, big data and robotics.

18. The Global Strategy for Digital Health must be useful for all Member States, including those with limited access to digital technologies, goods and services.

19. The Global Strategy sets out a vision, strategic objectives and a framework for action to advance digital health, globally and in countries. It aims to encourage international collaborations and to support countries in their national programmes. It also aims to promote research, improve evidence and share information on digital health to ensure a solid foundation.

20. The Global Strategy is expected to lead to concrete actions within the five-year timeframe, from 2020 to 2024. However, the strategic objectives aim to set the overall direction for a longer period.

21. The Global Strategy builds on previous UN General Assembly and WHA resolutions, related WHO global and regional reports, regional strategies, the ISO TC 215 two-part report on eHealth architecture, the three-part National eHealth Strategy Toolkit and Member States actions, strategies, policies and investments as well as recommendations of various UN panels on digital and innovation topics. The implementation of the Strategy can draw on several existing resources.

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5 WHO EB142/20 of 2017 stated that “Today the term ‘digital health’ is often used as a broad umbrella term encompassing eHealth as well as developing areas such as the use of advanced computing sciences (in the fields of “big data”, genomics and artificial intelligence, for example)”.

6 73/218 and 70/125


8 Regional Strategy for Strengthening eHealth in the South-East Asia Region, WHO (2014-2020); From innovation to implementation - eHealth in the WHO European Region (2016); PAHO CD56/INF/17(2018);

9 ISO TR 14639-1 Capacity-based eHealth architecture roadmap (2014)


11 WHO recommendations on digital interventions [https://apps.who.int/iris/handle/10665/311980];
WHO Global Observatory for eHealth [www.who.int/goe];
Global Alignment on Digital Health Priorities [www.gdhp.org];
Principles for Digital Development [https://digitalprinciples.org];
Principles of Donor Alignment for Digital Health [https://digitalinvestmentprinciples.org];
Health Data Collaborative [https://www.healthdatacollaborative.org]; DHIS2 - [https://www.dhis2.org];
WHO Partnerships for Safer Health Care programme (PFP5) [https://www.who.int/patientsafety/patients_for_patient/en/]
GUIDING PRINCIPLES

22. The guiding principles aim to orient the Global Strategy towards the appropriate and sustainable adoption of digital health.

I. ACKNOWLEDGE THAT THE DIGITAL HEALTH ADOPTION PROCESS IS A COUNTRY’S DECISION

23. This Global Strategy acknowledges that each country owns its digital health strategy. Along their journey towards the health-related SDGs, countries will adopt digital health in a way that best suits their national health policy, vision, goals, health needs, available resources and values.

II. RECOGNIZE THAT SUCCESSFUL DIGITAL HEALTH INITIATIVES REQUIRE A UNIFIED STRATEGY

24. Digital technologies are an essential component and an enabler of sustainable health systems and universal health coverage. To realize their potential, digital health initiatives must be part of the wider health system and guided by a robust strategy that integrates leadership, financial, organizational, human and technological resources in alignment with other country initiatives. History shows that ill-coordinated digital health initiatives lead to vertical or stand-alone ICT solutions that, although well-intended, often result in information fragmentation and, consequently, poor delivery of services.

III. PROMOTE THE APPROPRIATE USE OF DIGITAL TECHNOLOGIES

25. This Global Strategy promotes the appropriate use of digital technologies to support equity in access to digital resources so that no one is left behind. It promotes the protection of people, populations and systems against misinformation and the misuse of information, cyber-attacks, fraud and exploitation, racism and human rights violations.

26. The “digital determinants of health”, such as ICT literacy, access to equipment, broadband and the Internet, become more important as digital health becomes more prevalent. The Global Strategy underscores the need to address digital foundations within national strategies and emphasizes the need to work with different sectors and stakeholders at all levels.

27. The appropriate use of digital health takes the following dimensions into consideration: safety, ethical use, cost-effectiveness and affordability. It should be people-centred, evidence-based, effective, efficient, sustainable, inclusive, equitable, and contextualized.

IV. RECOGNIZE THAT THERE IS A PRESSING NEED TO ADDRESS THE MAJOR IMPEDIMENTS THAT LEAST-DEVELOPED COUNTRIES FACE IN ENGAGING WITH AND ACCESSING DIGITAL HEALTH TECHNOLOGIES

28. There is a pressing need to address the major impediments that developing countries face in engaging with and accessing new digital health technologies, such as an appropriate enabling environment, sufficient resources, infrastructure, education, capacity, investment and connectivity, as well as issues related to technology ownership, setting standards and technology flows.

THE STRATEGIC VISION, OBJECTIVES AND FRAMEWORK FOR ACTION

VISION
29. The vision of this global strategy is to improve health for everyone, everywhere by accelerating the development and adoption of appropriate digital health solutions towards achieving the health-related SDGs and the GPWs triple billion targets.

30. Digital health will be valued if it supports equitable and universal access to quality health services; increasing health systems sustainability, accessibility and the affordability of care; and strengthens and scales up health promotion, disease prevention, diagnosis, management, rehabilitation and palliative care. The vision further seeks to enhance research, innovation and collaboration across sectors. It recognizes that digital health can be a game-changer as it improves the efficiency and cost-effectiveness of care, allowing for new business models in the delivery of services.

31. The implementation of appropriate digital health technologies is a key component of a national strategy but may be difficult to accomplish especially in LMICs. With this in mind, exploring the potential of global solutions should be considered as part of the shared agenda of Member States. While also generating evidence on the implications for access, cost, quality, safety and sustainability of applying these global solutions in health systems within vastly different country contexts.

STRATEGIC OBJECTIVES

32. The Strategy’s four strategic objectives are designed to be pursued in parallel. They are intended to provide guidance and coordination on global matters and to strengthen synergies between initiatives and stakeholders. This in turn is expected to improve digital health at all levels.

SO1 – PROMOTE GLOBAL COLLABORATION AND ADVANCE THE TRANSFER OF KNOWLEDGE ON DIGITAL HEALTH

33. Sharing best practices on the prioritization of digital health investments at national and international levels: The Strategic Objective aims to align countries and stakeholders to collectively address global opportunities, identify and communicate risks, and focus on threats associated with the use of digital technologies to improve health and enable universal health coverage, the core of the health-related SDGs. This objective encourages action on common opportunities and challenges that are relevant to all countries and stakeholders, regardless of their situation.

34. Leveraging new and existing collaborations and partnerships in the digital health ecosystem: Digital health knowledge and investments are shared across domains; hence this objective aims to maximise collaborations and partnerships with other UN agencies, countries, and other stakeholders, and to help build new ones.

35. Assess and promote frontier health technologies: Frontier health technologies are at the forefront of new and advanced health care services and solutions. The objective helps assess the quality and outcome of the frontier health technologies to enable timely adoption and promotion of such technologies. Policies and regulations are needed to ensure the investment, sustainability, quality, and safety of digital health products and frontier health technologies that are used not only in health care but that may also be directly marketed to individuals. Global guidance is required for their adoption and integration with existing systems and services at the national level.

36. Develop partnerships for sustainability of digital health to accelerate adoption by Member States: The strategic objective aims to develop partnerships at national, regional, and global levels to align resources and investments to ensure sustainability and growth of digital health.
SO2 – ADVANCE THE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES

37. Strategic Objective 2 aims to stimulate and support every country to adopt, own, evolve, and strengthen its digital health strategy in a way that best suits its vision, health situation, available resources, and core values to advance implementation of the national digital health strategies.

38. A national digital health strategy should consider these core components: 1) leadership and governance (including legislation and policy); 2) investment and operations; 3) services and applications for scale and sustainability; while adhering to standards and interoperability 4) infrastructure and 5) workforce. These should all be developed while ensuring the necessary alignment of country stakeholders to meet the needs and expectations within given resources.

39. Although each country is expected to develop and own its strategy from inception to implementation, this strategic objective aims to build human and institutional capacity for the safe and appropriate use and scale-up of digital health by strengthening the commitment and systematic engagement of all stakeholders in every country. The objective underpins the promotion of innovative integration of digital technologies to reform health and well-being domains including the building blocks of health systems.

40. To strengthen health systems using digital technologies, a key objective is to develop capacity building approaches that enable a digitally capable health workforce: Although needs vary from country to country, they often include foundational capacities such as leadership, governance, and the development of a skilled health and ICT workforce.

SO3 – STRENGTHEN GOVERNANCE FOR DIGITAL HEALTH AT GLOBAL AND NATIONAL LEVELS

41. This objective focuses on strengthening digital health governance at national and international levels by creating sustainable and robust governance structures and capacity for digital health at Global as well as national levels. Governance for digital health aims to strengthen the capabilities and skills needed for countries to embrace, scale up advance and innovate in digital health.

42. The objective aims to strengthen governance through creation of convening platforms to enable sharing of best practices on national digital health governance within Member States.

43. The objective promotes standards for security, privacy, confidentiality and the ethical use of data towards action for health (“data for health” rather than “health data” to encompass sources outside of the traditional health sector). The global agenda should address principles and agreements that unlock the power of data for action by enabling data sharing in various settings, for example, in disease surveillance in the case of emergencies and outbreaks, for procurement, patient safety, investment plans and policy. It should also address principles and ethical models for data sharing, reuse, and management in the conduct of research on human subjects, including for the use of such frontier technologies as AI, big data, etc.

44. It improves measurement, monitoring, and research on the application of digital health in the health sector. The research agenda should address the need to improve and disseminate evidence and information on the use of digital health at all levels. Research on and evaluation of digital health
outcomes and impact are essential to support its safe implementation, and to establish and promote accountability and justify the financial investment. The agenda should also address the need to stimulate the development and testing of technologies, methods and infrastructures that address bottlenecks in the application of digital health to address health priorities. This agenda is closely linked to capacity building in research methods and data analytics.

**SO4 – ADVOCATE FOR PEOPLE-CENTERED HEALTH SYSTEMS THAT ARE ENABLED BY DIGITAL HEALTH**

45. Strategic objective 4, places people at the centre of digital health by people-centric adoption and use of digital health technologies in scaling and strengthening health service delivery: The human factor is an essential component in the delivery of people-centred care. This includes not only patients, families and communities but also acknowledges the health workers who need to be prepared to deploy or use digital health in their work. Planning for capacity building includes workforce assessment, ranging from ICT professionals to care providers. Being intrinsically multi- and inter-disciplinary, capacity building evolves around integrating capabilities, attitudes, and skills that may range from computer sciences, strategic planning, and finance and management, to health sciences and care delivery, depending on the strategy and its context. Assessment of the workforce should also consider the health labour market implications of introducing digital technologies and their management.

46. Social attitudes, practices and public awareness should also be addressed. Examples include improving population health literacy, patient, family and community engagement, and patient health education.

47. The objective advances digital health literacy and gender-equality approaches to digital health adoption and management

**FRAMEWORK FOR ACTION**

48. The framework for action aims to facilitate the implementation of the global strategy by providing an organized collaborating environment. Working collectively towards shared objectives, local and global partners can accommodate diversity and consider concepts, tools, methods, roadmaps, funding, and other resources to help advance the global agenda and support countries in their digital health journey.

49. The Framework for Action is guided by four major actions: Commit (encourage countries, partners and other stakeholders to commit to the Global Digital Health Strategy); Catalyse (create, scale and sustain an environment and processes that will facilitate and induce collaboration towards delivering the Strategy); Measure (create and adopt processes for monitoring and evaluating the Strategy’s effectiveness); and Enhance and Iterate (take a new cycle of actions based on what has been experienced, measured and learned).
I. COMMIT

50. COMMIT countries and stakeholders to attract, engage and support the global strategy and its strategic objectives.

51. To deliver on the strategic objectives of the global digital health strategy, WHO, countries and stakeholders should continuously commit and contribute based on their capabilities and resources.

II. CATALYSE

52. CATALYSE by creating, scaling up, and sustaining the collaborating environment and processes that will facilitate and accelerate the delivery of the Global Strategy and its objectives.

53. WHO will support partners’ and stakeholders’ collaboration as needed to ensure progress, including building on synergies, facilitating technical collaboration, and development of sharable assets that can be used globally.

III. MEASURE

54. MEASURE and continuously assess whether the Global Strategy on Digital Health has been true to its purpose and effective in helping countries to improve their use of digital health and advance the Global Agenda on Digital Health.

55. Identify a set of quantifiable indicators related to the action plan’s objectives and aligned with the framework for action process. These will be used to measure subsequent progress and contribute to accountability. This evaluation can help to monitor whether overall implementation is on track and resources and collaborations are in place.

56. WHO will measure the effectiveness of the Global Strategy from data gathered globally. Findings will be reported to Member States.

IV. ENHANCE AND ITERATE

57. Enhance and iterate the global strategy’s progress in adapting to emerging digital health technologies. The action plan will be reviewed annually and revised as needed to deliver on the strategic objectives.

58. WHO and its partners will propose, exercise and continuously refine the Global Strategy’s enhancement and iterative assessment and decision-making processes in alignment with the MEASURE action. The network of countries and stakeholders has an important role in this process, by providing perceptions, insights and recommendations.
STRATEGY IMPLEMENTATION

59. The Global Strategy on Digital Health is led by WHO to support and respond to the growing needs of countries to implement appropriate digital technologies to address their health priorities and to make progress towards universal health coverage and the health-related SDGs. It also responds to WHO's delivery on its GPW13.

60. WHO works closely with its Member States, other bodies of the United Nations system, international partners and other stakeholders to implement the strategy. A variety of stakeholders will take the strategic objectives forward, at national, regional and global levels. They are not limited to, but mainly include intergovernmental and non-governmental organizations; donors and aid agencies, foundations and development banks; universities and research institutions; health insurance groups and other health care funders; private sector and technology developers; and the healthcare community, patients, and the public.

61. The specific actions identified in Annex 1 for the period 2020-2024 require a timetable and milestones which WHO in consultation with Member States will provide within the first 12 months of the implementation of the strategy. The milestones should identify activities where WHO, Member States, international partners and other stakeholders can commit themselves. One of the first milestones will be to develop a set of core quantifiable process indicators related to the action plan’s objectives. These will be used to measure subsequent progress and contribute to accountability. They would mostly focus on action taken by Member States and by the Secretariat.

Link: ANNEX I: Action Plan for the Global Strategy on Digital Health 2020-2024