

Draft global strategy on digital health 2020–2024

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DIGITAL TECHNOLOGIES: SHAPING THE FUTURE OF GLOBAL HEALTH

1. In 2005 the World Health Assembly in resolution WHA58.28 on eHealth 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 a 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 – have developed such strategies and policies.
2. In 2013, the Health Assembly adopted resolution WHA66.24 on eHealth standardization and interoperability, which urged Member States *“to consider developing ... policies and legislative mechanisms linked to an overall national eHealth strategy”*.
3. Recognizing the 2030 Agenda for Sustainable Development¹ highlights that the spread of information and communications technology and global interconnectedness has great potential to accelerate human progress, to bridge the digital divide and to develop knowledge societies. Target 9.c of Sustainable Development Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation) aims 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.
4. 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 (New York, 15 and 16 December 2015) highlighted 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.² The participating ministers and heads of delegation 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. The participating ministers and heads of delegation committed themselves to harnessing the potential of information and communications technologies to achieve the 2030 Agenda for Sustainable Development, noting that they could accelerate progress across the health-related Sustainable Development Goals.
5. Stressing the important role played by the private sector, civil society and technical communities in information and communication technologies, the United Nations General Assembly in resolution 73/218 (2019) *“encourages strengthened and continuing cooperation between and 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 the Information Society and emphasize the importance of allocating adequate resources in this regard.
6. Recognizing that information and communications technologies present new opportunities and challenges for the achievement of all 17 Sustainable Development Goals, there is a growing consensus in the global

¹ Adopted in United Nations General Assembly resolution 70/1 (2015).

² United Nations General Assembly resolution 70/125 (2015).

health community that the strategic and innovative use of digital and cutting-edge information and communications 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 Thirteenth General Programme of Work, 2019-2023).

7. Although it is recognized that the digital transformation of health care will be disruptive, technologies such as the Internet of things, artificial intelligence, big data analytics, blockchain and other digital and ground-breaking technologies, have the potential to enhance health by improving medical diagnosis, data-based treatment decisions and self-management of care.
8. Progress towards protecting people from health emergencies will be accelerated by using information and communications technologies to issue early warning and alerts, predict outbreak, improve the response to outbreaks and epidemics, coordinate response, and connect to expertise in the field.
9. 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.
10. WHO in close collaboration with organizations such as the International Organization for Standardization and the International Telecommunication Union has responded to countries' emerging eHealth demands by building evidence, disseminating knowledge, facilitating collaboration, sponsoring discussion forums and developing guidance to help policymakers and public servants to 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.¹ WHO also engaged in global efforts to advance the use of information and communications technology in health development through its research, guidelines, capacity, policy and advocacy support in countries and regions.
11. Recognizing that despite the considerable progress made by some countries, many countries still require institutional support for the development and consolidation of national eHealth and/or digital health strategies and the implementation of their action plans, 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 adopted resolution WHA71.7 on digital health. The Health Assembly requested the Director-General *"to develop ... in close consultation with Member States and with inputs from relevant stakeholders ... a global strategy on digital health, identifying priority areas including where WHO should focus its efforts"*. It requested the Director-General also to provide normative guidance in digital health, including *"through the promotion of evidence-based digital health interventions"*. WHO subsequently issued its guideline with 10 evidence-based recommendations on digital interventions for health system strengthening.²

¹ WHO. Global Observatory for eHealth (www.who.int/goe, accessed 17 December 2019).

² WHO guideline recommendations on digital interventions for health system strengthening: evidence and recommendations. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/311980>, accessed 17 December 2019).

13. 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 and interoperability with data security, privacy and confidentiality in mind.

PURPOSE

14. The purpose of this global strategy is to advance and apply digital health technologies towards achieving the vision of health for all.
15. 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”. This definition encompasses eHealth, in line with that used in the report by the Director-General noted by the Executive Board.¹ 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.
16. The global strategy for digital health must be fit-for-purpose and fit-for-use for all Member States including those with limited access to digital technologies, goods and services.
17. This draft of 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 collaboration and to support countries in their national programmes towards improved healthcare service delivery, implementing national health strategies and achieving universal health coverage and the health-related Sustainable Development Goals. It also aims to promote research, improve evidence and share information on digital health to ensure a solid foundation to accelerate the achievement of Sustainable Development Goal 3 (Ensure healthy lives and promote well-being for all at all ages).
18. The global strategy is expected to lead to concrete actions and results within a five-year time frame, from 2020 to 2024.
19. The global strategy builds on resolutions adopted by the United Nations General Assembly² and the World Health Assembly,³ related WHO global and regional reports,⁴ regional strategies, the two-part report of the

¹ Document EB142/20 on mHealth, noted by the Executive Board at its 142nd session (see document EB142/2017/REC/2, summary records of thirteenth meeting, section 2), 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)”.

² United Nations General Assembly resolutions 73/218 (2019) and 70/125 (2016).

³ Resolutions WHA58.28 (2005), WHA66.24 (2013), WHA69.24 (2016) and WHA71.7 (2018); various resolutions of the regional committees include EM/RC53/R.10 (2006), AFR/RC56/R8 (2006), AFR/RC60/R3 (2010), CD51.R5 (2011), AFR/RC63/R5 (2013) and WPR/RC69/8 (2018).

⁴ WHO Regional Office for South-East Asia. Regional strategy for strengthening ehealth in the South-East Asia Region, WHO (2014-2020). Manila: Regional Office for South-East Asia; 2015 (<https://apps.who.int/iris/handle/10665/160760>); World Health Organization. Regional Office for Europe. From innovation to implementation: eHealth in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2016 (<https://apps.who.int/iris/handle/10665/326317>); PAHO. Strategy and plan of action on eHealth: final report. Document CD56/INF/17 (2018) (https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=56-directing-council-english-9964&alias=45846-cd56-inf-17-e-strategy-poa-ehealth-846&Itemid=270&lang=en, accessed 17 December 2019).

ISO Technical Committee on Health Informatics on eHealth architecture,¹ the three-part National eHealth strategy toolkit,² Member States' current digital health situation and status, actions, strategies, policies and investments, and recommendations of various United Nations panels on digital and innovation topics. The implementation of the global strategy will be able to draw on several existing resources.³

GUIDING PRINCIPLES

20. The guiding principles aim to orient the global strategy towards the appropriate and sustainable adoption of digital health.

I. ACKNOWLEDGE THAT INSTITUTIONALIZATION OF DIGITAL HEALTH IN THE NATIONAL HEALTH SYSTEM REQUIRES A DECISION AND COMMITMENT BY COUNTRIES

21. The global strategy acknowledges that each country owns its digital health strategy. Along their path towards the health-related Sustainable Development Goals, 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 AN INTEGRATED STRATEGY

22. 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 digital ecosystem and guided by a robust strategy that integrates leadership, financial, organizational, human and technological resources. History shows that ill-coordinated or disjointed digital health initiatives lead to vertical or stand-alone information and communications technology solutions that, although well-intended, often result in information fragmentation and, consequently, poor delivery of services.

III. PROMOTE THE APPROPRIATE USE OF DIGITAL TECHNOLOGIES FOR HEALTH

23. The 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, health care professionals and systems against misinformation and the misuse of information, cyberattacks, fraud and exploitation, racism and human rights violations.
24. The “digital determinants of health”, such as literacy in information and communication technologies and access to equipment, broadband and the Internet, become more important as digital health becomes more

¹ISO. Part 1 - Health informatics: capacity-based eHealth architecture roadmap. Part 2 – architectural components and maturity model. TR 14639-1. Geneva: International Organization for Standardization; 2014.

²WHO, ITU. National eHealth strategy toolkit. Geneva: World Health Organization and International Telecommunication Union; 2012 (<https://apps.who.int/iris/handle/10665/75211>) (<https://apps.who.int/iris/handle/10665/752119>, accessed 17 December 2019).

³WHO. WHO guideline: recommendations on digital interventions for health system strengthening: evidence and recommendations. Geneva: World Health Organization; 2019 (<https://apps.who.int/iris/handle/10665/311980>, accessed 17 December 2019); WHO. Global Observatory for eHealth (www.who.int/goe, accessed 17 December 2019); Global Digital Health Partnership. Global alignment on digital health priorities (https://www.gdhp.org/media-hub/news_feed/global-alignment-on-digital-health-priorities, accessed 17 December 2019); Principles for Digital Development (<https://digitalprinciples.org>, accessed 17 December 2019); Digital Investment Principles. The principles of donor alignment for digital health (<https://digitalinvestmentprinciples.org/>, accessed 17 December 2019); Health Data Collaborative. Data for health and sustainable development (<https://www.healthdatacollaborative.org>, accessed 17 December 2019); District Health Information Software 2 (DHIS2) (<https://www.dhis2.org/>, accessed 17 December 2019); WHO. Partnerships for Safer Health Care programme (https://www.who.int/patientsafety/patients_for_patient/en/, accessed 17 December 2019).

prevalent. The global strategy underscores the need to ground digital foundations within national strategies and emphasizes the need to work with different sectors and stakeholders at all levels.

25. The appropriate use of digital health takes the following dimensions into consideration: patient safety; ethical use; data security, privacy and confidentiality; cost-effectiveness; and affordability. It should be people-centred, trust-based, evidence-based, effective, efficient, sustainable, inclusive, equitable, and contextualized. The growing global challenge of digital waste on health and the environment must also be appropriately managed.

IV. RECOGNIZES THE URGENT NEED TO ADDRESS THE MAJOR IMPEDIMENTS FACED BY LEAST-DEVELOPED COUNTRIES IMPLEMENTING DIGITAL HEALTH TECHNOLOGIES

26. There is a pressing need to remove 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 VISION AND STRATEGIC OBJECTIVES

VISION

27. The vision of the global strategy is **to improve health for everyone, everywhere by accelerating the development and adoption of appropriate digital health solutions** to rapidly achieve the health-related Sustainable Development Goals and the triple billion targets of WHO's Thirteenth General Programme of Work, 2019-2023.
28. Digital health will be valued and adopted if it supports equitable and universal access to quality health services; enhances 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 radically change matters as it improves the efficiency and cost-effectiveness of care, allowing for new business models in the delivery of services.
29. The implementation of appropriate digital health technologies is a key component of a national strategy but may be difficult to accomplish especially in low- and middle-income countries. Exploring the potential of global solutions should be considered as part of the shared agenda of Member States, at the same time as 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

30. The four strategic objectives set out in the global strategy are interrelated and 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

31. . This strategic objective aims to align countries and stakeholders to collectively take advantage of global opportunities and meet challenges, identify and communicate risks, and focus on threats associated with the use of digital technologies both to improve health and to enable universal health coverage, the core of the health-related Sustainable Development Goals. This objective encourages action on common opportunities and challenges that are relevant to all countries and stakeholders, regardless of their situation.
32. *Maximizing the impact of both new and existing collaborations and partnerships in the digital health environment.* Digital health knowledge and investments are shared across domains; hence this strategic objective aims to maximize collaborations and partnerships with other organizations in the United Nations system, countries and other stakeholders and to help to build new ones.
33. *Assess and promote cutting-edge health technologies.* Pioneering health technologies are creating new and advanced health care services and solutions. This sub-objective helps to ensure that the quality and outcome of the new health technologies are assessed in order to enable their timely adoption and promotion. Policies and regulations are needed to ensure the investment, sustainability, quality and safety of both digital health products and cutting-edge health technologies that not only are used in health care but that may also be directly marketed to individuals. Global guidance is required for their adoption and integration into existing systems and services at the national level.

SO2 – ADVANCE THE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES

34. Strategic objective 2 aims to stimulate and support every country to own, adapt and strengthen its strategy on digital health in a way that best suits its vision, health situation, available resources and core values.
35. A national strategy on digital health should consider the following core components: (1) leadership and governance; (2) investment and operations; (3) services and applications for scaling up and sustainability, while (4) standards and interoperability are respected; (5) a flexible infrastructure; an (6) adaptable workforce and (7) legislation, ethics policies and compliance. These should all be developed while the necessary alignment of country stakeholders is ensured in order that the needs and expectations with given resources be met.
36. .The strategic objective aims to develop cross-sectoral partnerships at national, regional and global levels to align resources and investments to ensure the sustainability and growth of digital health. Developing partnerships sustainability of digital health advances would accelerate their adoption by Member States.
37. 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 into health systems.

38. To strengthen health systems by introducing digital technologies, a key objective is to find ways to build capacity and create a digitally-capable health workforce. Needs will vary from country to country, but they often include basic capacities, such as leadership and governance, and the development of a skilled health and technological workforce.

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

39. This strategic objective focuses on strengthening the governance of digital health at national and international levels through the creation of sustainable and robust governance structures and building the capacity for digital health at global and national levels. Governance for digital health aims to strengthen the capabilities and skills needed for countries to promote, innovate and scale up digital health technologies.
40. The strategic objective aims to strengthen governance through the creation of convening platforms for sharing best practices.
41. The strategic objective promotes standards for safety, security, privacy, interoperability, confidentiality and the ethical use of data within and outside the health sector. Actions to strengthen governance should include defining principles and reaching agreements for data sharing, for example, in disease surveillance in the case of emergencies and outbreaks, for procurement, patient safety, investment plans and policy. It should also include principles and ethical models for data sharing, reuse, and management in the conduct of research on human subjects, including the use of data in such advanced technologies as artificial intelligence and big data.
42. It also aims to improve measurement and monitoring of and research on the application of digital health in the health sector. The research agenda should meet 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, to establish and promote accountability and to justify the financial investment. The agenda should also address the need to stimulate the development and testing of technologies, methods and infrastructures that overcome obstacles to the application of digital health to health priorities. This agenda is closely linked to capacity-building in research methods and data analytics.

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

43. This strategic objective places people at the centre of digital health through the adoption and use of digital health technologies in scaling up and strengthening health service delivery. The individual is an essential component in the delivery of a trust-based, people-centred care. This focus covers not only patients, families and communities but also the health workers who need to be prepared to deploy or use digital health technologies in their work. Planning for capacity-building includes workforce assessment, ranging from professionals in information and communication technologies to health workers providing care services. Being intrinsically multi- and inter-disciplinary, capacity-building entails instilling capabilities, attitudes and skills which may range from computer sciences, strategic planning, finance and management

to health sciences and care delivery, depending on digital health application and its context. Assessment of the workforce should also consider the implications for the health labour market of introducing digital technologies and their management.

44. Attitudes to, practices in and public awareness of digital health should also be addressed. Possible actions include improving health literacy at the population level, engagement of patients, families and communities, and education of patients about health. Better responding to the social and commercial determinants of health to improve digital health-enabled health systems will need the engagement of non-health sectors and actors.
45. The strategic objective advances digital health literacy, gender-equality and inclusive approaches to adoption and management of digital health technologies.

FRAMEWORK FOR ACTION

46. The framework for action aims to facilitate the implementation of the global strategy by providing a structure for collaboration. Working collectively towards shared objectives, local and global partners can accommodate diversity and consider concepts, tools, methods, road maps, funding and other resources to help implementation and support countries in advantageously applying digital health technologies.
47. The framework for action is guided by four major components: commit (encourage countries, partners and other stakeholders to commit themselves to the implementation of the global strategy on digital health); catalyse (generate and sustain a conducive environment and create, scale up and maintain processes that will facilitate collaboration towards implementing the global strategy); measure (create and adopt processes for monitoring and evaluating the effectiveness of the global strategy); and enhance and iterate (undertake a new cycle of actions based on what has been experienced, measured and learned). The framework for action is accompanied by an action plan outlining policy options, actions and outputs.

I. Commit

48. In order to reach the strategic objectives of the global strategy, the Secretariat, Member States and stakeholders should maintain their commitment and contributions, respecting national priorities, capabilities and resources.

II. Catalyse

49. This component envisages the generation of a cooperative environment that is conducive to the introduction of appropriate digital health technologies and the creation, scaling up and maintaining of processes that will facilitate and accelerate the implementation of the global strategy and its objectives.
50. The Secretariat will provide support for collaboration between partners and stakeholders as needed to ensure progress. This support will include building on synergies, facilitating technical collaboration, and developing global digital health public goods that can be shared and used globally.

III. Measure

51. This component calls for the continuous assessment of 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 technologies.
52. It will also need to identify a set of quantifiable indicators related to the action plan and aligned with the strategic objectives. These will be used to measure subsequent progress and contribute to accountability. This evaluation will help to monitor whether overall implementation is on track and the required resources and collaborations are in place.
53. The Secretariat will measure the effectiveness of the global strategy from data gathered globally and will report findings to Member States.

IV. Enhance and iterate

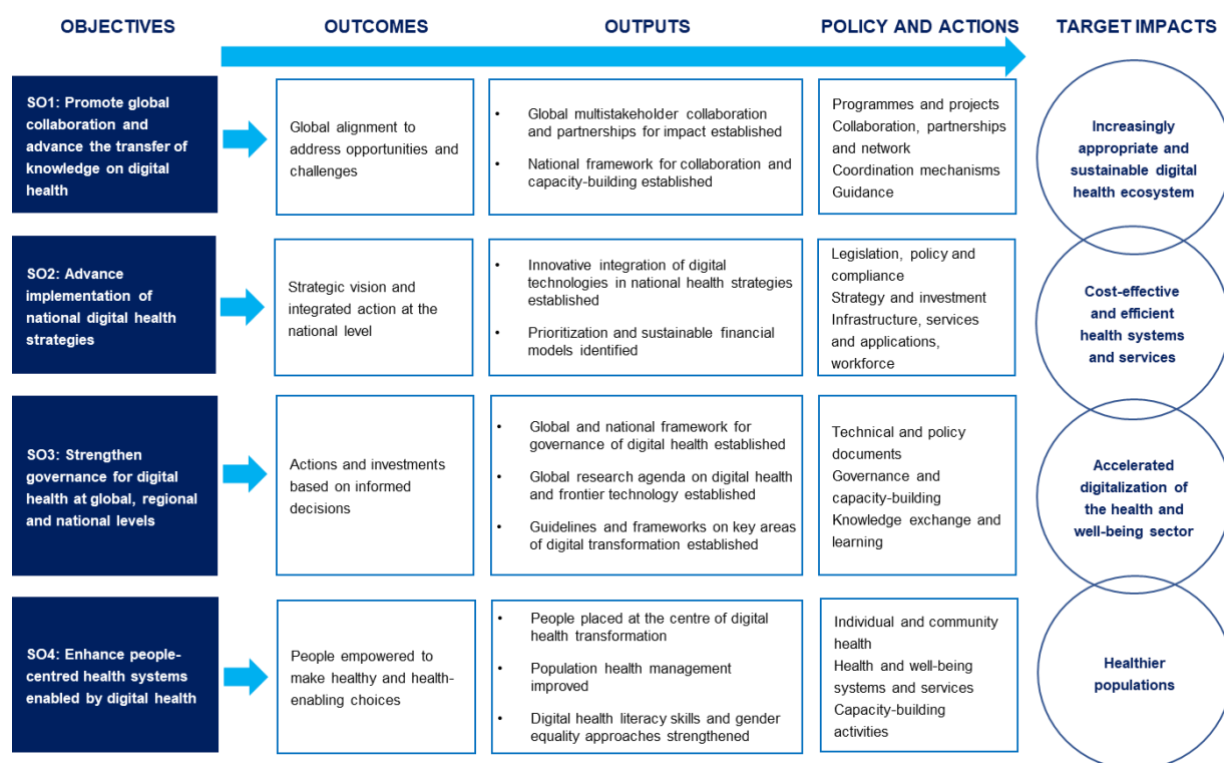
54. This component will respond to feedback on the progress of global strategy in adapting to emerging digital health technologies. The action plan will be reviewed annually to determine whether a new cycle of new actions is needed to deliver on the strategic objectives.
55. WHO and its partners will propose, exercise and continuously refine the global strategy's as well as its iterative assessment and decision-making processes in line with the measure component.

IMPLEMENTATION OF THE STRATEGY AND ACTION PLAN

56. The global strategy on digital health aims to support and respond to the growing needs of countries to implement appropriate digital technologies in accordance with their health priorities and to make progress towards universal health coverage and the health-related Sustainable Development Goals. It also responds to the objectives of WHO's Thirteenth General Programme of Work, 2019-2023.
57. The Secretariat will work closely with Member States, other bodies in the United Nations system, international partners and other stakeholders to implement the global strategy. Various stakeholders will take the strategic objectives forward at national, regional and global levels. These stakeholders mainly include, but are not limited to, intergovernmental and international organizations; non-State actors such as nongovernmental and civil society organizations, donors and aid agencies, foundations and development banks; universities and research institutions; health insurance groups and other health-care funders; the private sector and technology developers; and the health-care community, patients and the public.
58. The specific actions for the period 2020-2024 require a timetable and milestones. The milestones should identify activities where the Secretariat, Member States, international partners and other stakeholders can jointly agree to support national priorities for digital health development. One of the first milestones will be the development of a core set of quantifiable process indicators related to the objectives of the action plan. These will be used to measure subsequent progress and contribute to accountability. They would mostly focus on action taken by Member States and the Secretariat.
59. Financing for implementation of the global strategy will require specific resource mobilization. For Member States, this implies developing investment strategies to allow for new capital expenditures, focusing on national measures for governance of digital health, health information systems architecture, capacity-building and determining the best way of satisfying requirements, in addition to reprogramming existing

funds for maintenance and periodic updating of operating environments. It will be crucial to prioritize the policy elements required and implement proposed actions to deliver results and expected health outcomes, all depending on the resources available and existing constraints. The Secretariat will seek to secure funding to initiate support for the activities outlined within the global strategy, including establishment of a dedicated department for digital health and innovation and coordination of digital health across all departments and the three levels of the Organization. At the same time new donor contributions will be sought to support Member States in their implementation of the strategy.

60. The extent of the implementation of the global strategy on digital health will depend on the national context, national priorities for health and well-being as well as infrastructure and workforce needs and capacity in each country. Not all policy options and actions may be relevant, necessary or require immediate attention. Each Member State should consider its own health priorities, its current digital health situation, the planned or aspirational future state of digital health, resource constraints, capacity limitations, risks and other influential factors.
61. All policy options and proposed actions outlined in the action plan may vary depending on the level of digital health maturity a country envisages for planning, development and implementation purposes. Member States are encouraged to review their local context and determine the most suitable, strategic, cost-effective and optimal policies and actions that will have the greatest impact on improving health and achieving universal health coverage, the Sustainable Development Goals, and other goals and national policy objectives. The Secretariat and WHO's partners will continue to adapt and adjust their support to meeting the priorities of Member States.

Figure 1. Framework for action for the global strategy on digital health

62. The implementation timeline of the policy options, actions and proposed outputs will vary and the secretariat will report a detailed progress in the implementation of the strategy to the World Health Assembly in 2023. The Annex 1 describes the proposed short term (1-2 years), medium term (2-4 years) long term (more than 4 years) actions, from the member states, the secretariat and partners to implement the global strategy on digital health.

STRATEGIC OBJECTIVE 1: PROMOTE GLOBAL COLLABORATION AND ADVANCE THE TRANSFER OF KNOWLEDGE ON DIGITAL HEALTH

Impact: *Increasingly appropriate and sustainable digital health ecosystem*

63. Given that digital technologies can be used to improve a population's health, digital health transformation makes sense only within a framework of partnership and collaboration; consideration of digital health in isolation should be avoided if failure is to be prevented. Hence, alignment between partners to support capacity-building will play an important role in the successful implementation of any digital health strategy. Specifically, global collaboration and

transfer of knowledge on digital health are essential components for encouraging action to take advantage of common opportunities and meet challenges that are relevant to all countries and stakeholders in order to promote an appropriate and sustainable digital health system. The Secretariat will take a leading role in fostering greater global, regional and local collaboration.

64. Political commitment is essential for identifying, analysing and sharing the progress and lessons learned on digital health at the national level, especially about the challenges related to the financing models for scaling up and sustaining effective digital health programmes. In addition, mechanisms for promoting dialogue and implementing key collaborations are needed to fight against the digital divide and to bridge the gap between countries on digital health.

Collaboration can promote and facilitate innovations of global digital health public global goods.

Policy options and actions

65. The following policy options and actions are proposed:

- (1) endorse the global strategy on digital health and establish mechanisms for implementing key collaborations on agreed-upon appropriate use of digital technologies to achieve health and well-being goals
- (2) establish a knowledge management approach to identify and share good practices, evidence and lessons learned on digital health across countries and international communities
- (3) align countries and stakeholders to address collectively global, regional and national challenges and opportunities; identify, manage and communicate risks; and mitigate threats associated with the use of digital technologies to improve health and enable universal health coverage, the core of the health-related Sustainable Development Goals.

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Outputs

66. The following outputs are envisaged:

- (1) digital health is prioritized at global, regional and national levels through dedicated bodies and mechanisms for governance
- (2) multistakeholder groups are convened on a regular basis to support the scaling up of digital health and innovation in order to accelerate health-related Sustainable Development Goals.

STRATEGIC OBJECTIVE 2: ADVANCE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES	
<i>Impact:</i>	<i>Cost-effective and efficient health systems and services</i>

67. Digital health development is at different stages and being implemented in multiple ways in each country. Better collaboration (Strategic objective 1) coupled with strategic and timely policies and actions to address and implement various components of digital health¹ can foster greater returns on investment and better health outcomes and impacts. Strategic searches for means to satisfy articulated needs and priorities will be essential.
68. Advancing the implementation of digital health strategies and solutions fit for purpose relies on many factors, such as the country's digital health maturity level, the impact on universal health coverage and primary health care and the impact on healthcare costs. Access to digital health technologies can also contribute to decreasing the digital divide through enabling literacy about digital health. Governments will need to invest in the education and training (including continued professional development) of the health workforce and in the establishment and maintenance of technological infrastructure and environments. The latter will also have implications in terms of the skills needed to maintain the technologies.
69. It is also expected that the digitalization of health care will result in the creation of new type of workforce profiles as well as the optimization of existing roles and potential phasing out of redundant tasks. Governments will need to consider the consequences for the entire health workforce for ensuring that appropriate working conditions are maintained and that adequate support and management are provided for all health workers.
70. The policies and actions under Strategic objective 2 aim to build human and institutional capacity for the safe and appropriate use and scale-up of digital health technologies. As digital health makes greater inroads into health systems globally all stakeholders should ensure that ethics, cybersecurity and data protection² are considered at early stage and supported with appropriate policies. Careful consideration is necessary to setting priorities, evaluating the associated costs and benefits, considering the strategy for and constraints on financing of digital health, and accordingly implementing activities rationally.

¹ WHO, ITU. National eHealth strategy toolkit. Geneva: World Health Organization and International Telecommunication Union; 2012 (<https://apps.who.int/iris/handle/10665/75211>) (<https://apps.who.int/iris/handle/10665/752119>, accessed 17 December 2019).

² Data protection includes dynamic consent, secondary use of health data, re-use of data and information, and the imperative to protect personal data against loss or misuse. Recognition of the legal, reputational and financial consequences is essential.

Policy options and actions

71. The following policy options and actions are proposed:

- (1) stimulate and support every country to adopt, own, evolve and strengthen its national digital health strategy in a way that enhances the level of country maturity regarding digital health to achieve positive health outcomes in line with the national health plans and universal health coverage
- (2) ensure that institutions, decision-makers and personnel involved in the provision of health-care services and all end-user communities and beneficiary populations are adequately engaged in the design and development phases
- (3) facilitate a systematic engagement of all relevant stakeholders in the realization of the vision and its strategic objectives as part of an integrated digital health ecosystem at the national level
- (4) define an architecture blueprint or road map, adopt open-source standards and aim for reusable systems or assets including interoperability of health information systems in order to establish an innovative integration of different digital technologies using shared services
- (5) adopt legal and ethical frameworks for assuring patient safety, data security, confidentiality, privacy and data recoverability.
- (6) identify and promote sustainable financing models in support of digital health development, implementation, integration and maintenance.

Outputs

72. The following outputs are envisaged:

- (1) a national digital health strategy or equivalent strategic framework exists, is integrated in the national health strategy and is actively used to guide development and accelerate progress towards the health-related targets of the Sustainable Development Goals and in the context of digital transformation of health systems
- (2) prioritization of national investment in digital health is made in support of primary health care and universal health coverage.

STRATEGIC OBJECTIVE 3: STRENGTHEN GOVERNANCE OF DIGITAL HEALTH AT GLOBAL, REGIONAL AND NATIONAL LEVELS

Impact:	<i>Accelerated digitalization of the health and well-being sector</i>
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73. The adoption of digital technologies plays an increasing role as an enabler of the transformation of the health and well-being sector owing to the spread and uptake of innovation and of information and communication technologies. To ensure successful digital health transformation, the prioritization of human, technological and financial resources are required.
74. Collaboration (Strategic objective 1), leadership and coordination of stakeholders play a key function in the process of adoption and implementation of digital health (Strategic objective 2), but to accelerate and make sustainable the digitalization of the health and well-being sector, actions and investments need to be based on informed decisions.
75. To strengthen good governance of digital health a well-functioning coordination mechanism and a research agenda that aligns health priorities and digital solutions need to be established. Good governance with feedback and accountability mechanisms with change-management policies is essential. Furthermore, a plan to strengthen literacy skills in digital health needs to be in place.

Policy options and actions

76. The following policy options and actions are proposed:
- (1) strengthen governance of digital health at national and international levels by creating sustainable and robust governance structures, including regulatory frameworks, and the capacity for digital health at global and national levels
 - (2) assess and promote cutting-edge health technologies to facilitate actions and investments based on informed decisions
 - (3) ensure competencies in digital health are included in the education and training curricula of all health professionals and allied workers
 - (4) promote capacity-building for governing body leaders and policy-makers to take informed decisions to support digital health investments.

Outputs

77. The following outputs are envisaged:

- (1) governance exists, in accordance with Secretariat-led international health data regulation, that enshrines health data as a global public health good and outlines principles of equitable data-sharing principles for research, artificial intelligence and analytics.
- (2) a framework for regulating, benchmarking or certifying artificial intelligence and digital health medical devices is being implemented by Member States
- (3) global guidance on planning, development and use of virtual hospitals and digital therapeutics is developed
- (4) a guideline on global interoperability standards for digital health is developed in collaboration with stakeholders and adopted.

STRATEGIC OBJECTIVE 4: ADVOCATE PEOPLE-CENTERED HEALTH SYSTEMS THAT ARE ENABLED BY DIGITAL HEALTH

Impact:	<i>Healthier populations</i>
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78. Digital health that demonstrates global collaboration (Strategic objective 1), is effectively implemented (Strategic objective 2) and has good governance mechanisms (Strategic objective 3) provides opportunities to accelerate progress towards meeting national health priorities, in reaching universal health coverage, attaining Sustainable Development Goal 3, and achieving WHO's triple billion targets for 2023 as articulated in the Thirteenth General Programme of Work 2019-2023. Digital technologies and improved data governance capacity with good ethical standards are important catalysts for accelerating achievement of the targets of Goal 3 by 2030. With the adoption of appropriate digital health technologies, actionable and relevant data at all levels of health systems provide the foundation for monitoring progress towards these goals and objectives.

79. The actions under this Strategic objective aim to ensure digital health policies, practices and procedures place people at the centre of digital health transformation. Policy options and actions can help to ensure that global and national standards, regulations and policies are defined to protect and preserve the quality of health delivered with digital health technologies. The result will be to foster the conditions and the enabling environment to ensure that the tools, applications and services function as intended and is assessable to everyone, including special groups such as people from low resource settings, elderly and people with disabilities.

Policy options and actions

80. The following policy options are proposed:

- (1) place people at the centre of digital health through the adoption and use of digital health technologies and development of appropriate literacy; the focus will cover not only patients, families and communities but also health workers
- (2) develop approaches to the management of health at the population level through digital health applications that move health and well-being from reactive-care models to active community-based models
- (3) establish monitoring and evaluation models to facilitate monitoring the contribution of digital systems to health system processes, health workforce processes, and individual and community health needs
- (4) strengthen gender-equality approaches and accessibility for people with disabilities to promote inclusive digital society with enhanced digital health skills.

Outputs

81. The following outputs are envisaged:

- (1) literacy in using and understanding digital health technologies and systems is prioritized and the tool is accessible by all populations.
- (2) a framework allowing individual feedback in validating the performance of digital health tools and services is implemented and used
- (3) global minimum standards for electronic patient health records are established, adopted and applied
- (4) global guidance on personalized medicine is developed.

MONITORING AND EVALUATION

82. The action plan calls for Member States and the Secretariat to dynamically monitor the maturity level of digital health in countries and institutions and to assess the implementation of digital health strategies through standard agreed-upon metrics. These measures should include both the status and performance of digital health interventions and include established monitoring and evaluation models to facilitate monitoring of the contribution of digital health to health system processes, health workforce processes and individual health needs.

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83. Steps will be taken to implement a value measurement model to evaluate the action plan and the set of outputs, in collaboration with national centres or observatories to report on contribution of digital systems to progress towards attainment of universal health coverage, the Sustainable Development Goals and the goals of WHO's Thirteenth General Programme of Work, 2019-2023. Establishing a monitoring and evaluation framework that promotes continuous improvement of overall digital health ecosystem and feeds into public health initiatives is also warranted.
84. Consideration should be given to aligning the digital health performance monitoring indicators with a national and/or global framework for action (see Fig. 1) for linking the global strategy on digital health and action plan with policy options and actions, outputs, outcomes, and impacts. The Secretariat would continue to develop and refine a monitoring and evaluation framework for implementation of the global strategy, taking into consideration the need to use readily-available information and to minimize any additional burden of data collection on Member States.
85. For Member States, tools, platforms and a maturity model for systematically tracking individual digital health interventions through national monitoring and evaluation of digital health are emerging rapidly. For monitoring overall progress in adoption and use of digital health technologies, a set of internationally recognized indicators and measures for digital health should be identified and formally adopted by Member States. These could, for example, be applied in the context of measuring progress in achieving each of the four strategic objectives identified by this global strategy.

GLOSSARY

Artificial intelligence: An area of computer science that emphasizes the simulation of human intelligence processes by machines that work and react like human beings.

Appropriate use of digital technologies: Information and communications technology that takes into account safety, ethical use, cost-effectiveness and affordability and is people-centred, evidence-based, effective, efficient, sustainable, inclusive, equitable and contextualized.

*Big data:*¹ The emerging use of rapidly-collected, complex data in such unprecedented quantities that terabytes (10^{12} bytes), petabytes (10^{15} bytes) or even zettabytes (10^{21} bytes) of storage may be required. The unique properties of big data are defined by four dimensions: volume, velocity, variety and veracity. As more information is accruing at an accelerating pace, both volume and velocity are increasing.

Digital divide: Refers to the gap between demographics and regions that have access to modern information and communications technology and those that do not or have restricted access. This technology can include the telephone, television, personal computers and the Internet.

*Digital health:*² The field of knowledge and practice associated with the development and use of digital technologies to improve health.

Internet of things: The Internet of things is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to computer interaction.

Telehealth: Telehealth involves the use of telecommunications and virtual technology to deliver health care outside traditional health-care facilities. Telehealth, which requires access only to telecommunications, is the most basic element of “e-health”, which uses a wider range of information and communications technologies.

*Telemedicine:*³ The delivery of health-care services, where distance is a critical factor, by all health-care professionals using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and the continuing education of health-care workers, with the aim of advancing the health of individuals and communities.

¹ Wyber R, Vaillancourt S, Perry W, Mannava P, Folaranmi T, Celi LA. Big data in global health: improving health in low-and middle-income countries. Bulletin of the World Health Organization 2015; 93:203-208 (doi: <http://dx.doi.org/10.2471/BLT.14.139022>, accessed 18 December 2019).

² This definition encompasses eHealth, in line with that in document EB142/20 on mHealth, noted by the Executive Board at its 142nd session (see document EB142/2017/REC/2, summary records of thirteenth meeting, section 2), which 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)”. 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.

³ WHO. Telemedicine: opportunities and developments in Member States – report on the second global survey on eHealth. Global Observatory for eHealth series – Volume 2. Geneva: World Health Organization; 2010 (http://www.who.int/goe/publications/goe_telemedicine_2010.pdf, accessed 18 December 2019).

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Proposed actions for Member States, the Secretariat and partners for implementing the global strategy on digital health

STRATEGIC OBJECTIVE 1: PROMOTE GLOBAL COLLABORATION AND ADVANCE THE TRANSFER OF KNOWLEDGE ON DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
Proposed actions by Member States	- Promote and participate in collaborations and partnerships for sustainability of digital health to accelerate adoption. - Identify and share information about gaps, priorities and resources needed for research in digital health.	- Establish centres of excellence or innovation hubs to assess and promote digital health solutions that are aligned with country-defined needs. - Establish or leverage on existing collaborative and coordination mechanisms driven by adherence to sound common principles to engage with stakeholders and private sector to develop, implement, and finance an appropriate and sustainable digital health ecosystem. Document and share information about digital health maturity level (in infrastructure, knowledge, technologies and use) and their impacts on progress towards universal health coverage, Sustainable Development Goals and WHO's Thirteenth General Programme of Work, 2019-2023.	- Facilitate joint learning through communities of practice and curriculum-based training initiatives to enhance country capacity on digital health. - Foster intersectoral engagement and support expansion of digital health solutions within integrated systems and across government portfolios.
Proposed actions by the Secretariat	- Scan the landscape of digital health networks and partnerships (for instance, participants, principles, goals and activities) at national, regional and global levels to promote and participate in collaborations and partnerships to promote successful global digital health transformation. - Develop capacity-building (methodologies, tools and training materials) to help Member States to identify, systematize and	- Establish mechanisms for joint action on agreed-upon appropriate use of digital health tools to achieve global, regional and national health goals. - Support the development of a global digital health research agenda. - Gather, map and share globally digital health business cases and facilitate exchange of lessons learned between countries and portfolios.	- Establish a knowledge management approach for sharing and emphasizing the role of digital health investments on catalysing the achievement of national health priorities, universal health coverage, Sustainable Development Goals and WHO's Thirteenth General Programme of Work, 2019-2023. - Document and share digital health global repository of knowledge and propose interventions to enhance the impact of digital

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STRATEGIC OBJECTIVE 1: PROMOTE GLOBAL COLLABORATION AND ADVANCE THE TRANSFER OF KNOWLEDGE ON DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
	share good practices and lessons learned on digital health. - Promote health innovations where appropriate including cutting-edge digital technologies, such as the use of artificial intelligence, blockchain and big data analytics, and other emerging techniques and solutions in the health sector. - Create a gold-standard to facilitate networking and partnerships that can be adapted at national, regional and global levels based on different levels of cooperation (level 1: exchange of knowledge; level 2: exchange of resources; level 3: exchange of data). - Classify the different tools and technologies included in the digital health ecosystem, and develop ways to assess and monitor their efficacy. - Develop, promote and support the adoption of technical documents and guidelines, ethical and legal frameworks, and planning and implementation toolkits.	- Promote digital health collaborations and partnership models within and across organizations on the use of software global goods, open-standards, and common digital health architecture. - Review annually the global agenda for action to build the future of the digital health and information and communications technology workforce; and the digital capacity of the health workforce. - Manage or engage in partnerships that serve public health system objectives (including interoperability and standards, coordinated investment and health data monetization). - Facilitate dialogue and collaboration among the public sector and other stakeholders, including the private sector, to ensure digital health transformation is appropriate and sustainable, leaving no one behind.. - Introduce the international health data regulation that will enshrine the value of health data as a global public health good and call for action by all digital health stakeholders to align with principles on issues of monetization of health data.	health technologies towards universal health coverage, Sustainable Development Goals and WHO's Thirteenth General Programme of Work, 2019-2023. - Define comparative metrics and develop benchmarking tools and assessment frameworks for digital health solutions, goods and innovations, and the health content specific to program areas and use cases. - Address and develop strategies to incorporate lessons learned and to mitigate shared challenges in ethics, legal frameworks and governance in digital health including data privacy and sharing and ensuring safety and protection of individuals within the digital health environment.
Proposed actions by partners	Participate in collaborations and partnerships for sustainability of digital health to accelerate adoption.	Manage or engage in partnerships that serve public health system objectives (including interoperability and standards,	Promote centres of excellence or innovation hubs to assess and implement digital health solutions that are aligned with country-defined needs and

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Proposed actions for Member States, the Secretariat and partners for implementing the global strategy on digital health

STRATEGIC OBJECTIVE 1: PROMOTE GLOBAL COLLABORATION AND ADVANCE THE TRANSFER OF KNOWLEDGE ON DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
	- Develop capacity-building to help Member States to identify, systematize and share good practices and lessons learned on digital health. - Promote collaborations and partnership models within and across organizations on digital health initiatives including on the use of software global goods, open-source standards and common architecture for digital health.	- coordinated investment, and monetization of health data). - Establish a knowledge-management approach for sharing and emphasizing the role of digital health investments in catalysing the achievement of national health priorities, universal health coverage, Sustainable Development Goals and WHO's Thirteenth General Programme of Work, 2019-2023.	health related Sustainable Development Goals(SDGs).

STRATEGIC OBJECTIVE 2: ADVANCE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES			
	Short-term	Medium-term	Long-term
Proposed actions by Member States	- Conduct a stakeholder analysis and identifying suitable actions to engage each group. - Establish well-informed and effective national coordination mechanisms for governance of digital health. - Involve stakeholders in the planning and implementation of digital health, including professional associations and patient and	- Identify adequate funding to support the cost of acquisition or licensing, implementation and maintenance of necessary hardware infrastructure, software, workforce capacity and other technical and financial resources required. - Promulgate a set of open health data standards to be used in digital health	- Monitor the performance and progress of digital health by adapting or using available tools or maturity model¹, including tools and training materials, on the status of development and implementation progress of the digital health strategy. - Support the development and implementation of a resilient national digital health architecture

¹ WHO's [Digital Health Atlas](#) is an example platform for inventorying monitoring progress of individual digital health interventions.

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STRATEGIC OBJECTIVE 2: ADVANCE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES			
	Short-term	Medium-term	Long-term
	family organizations. Promote engagement with communities, health-care workers and those in other sectors by identifying (1) champions to help take advantage of and promote digital initiatives, and (2) central and cross-sectoral governance mechanisms for health-related innovations. - Expand the digital health workforce and promote capacity-building to develop, update and implement national strategies and investment plans for digital health. - Implement management procedures for programmes, risks, change and compliance. - Review, develop, and/or revise specific laws and policies, if necessary, with respect to data privacy, security, confidentiality, standardization, exchange, accessibility and interoperability. - Share good practices and lessons learned with other countries and the international community, through existing or new regional and global networks.	interventions with a compliance and enforcement mechanism. - Maintain awareness of emerging or cutting-edge digital health technologies and assess applicability and use where appropriate and feasible. - Promote national scientific, professional and patient associations as active participants in digital health development and the national digital health agenda.	blueprint, using known enterprise architecture framework or methodology. Establish and implement policies regarding practice, payment and accreditation for delivering digital health services.
Proposed actions by the Secretariat	Identify and engage with relevant stakeholders and regulatory bodies and regional (non-United Nations) actors related to digital health per region and/or within Member States.	Facilitate dialogue to engage Member States and stakeholders to obtain sustainable national political, social and economic commitment and mandate for digital health through appropriate national and subnational policies, procedures, and legislation that governs digital health.	- Share good practices and lessons learned with countries and international community, through WHO regional offices, existing and existing regional and global digital health networks. - Support countries to build trust in the use of emerging and existing digital health technologies

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Proposed actions for Member States, the Secretariat and partners for implementing the global strategy on digital health

STRATEGIC OBJECTIVE 2: ADVANCE IMPLEMENTATION OF NATIONAL DIGITAL HEALTH STRATEGIES			
	Short-term	Medium-term	Long-term
	- Support capacity-building to develop, update and implement national strategies and investment plans for digital health. - Develop or adapt a maturity model, investment prioritization including tools and training materials, on the status of development and implementation progress of digital health strategies that can be adapted at local, regional and national levels. - Develop tools for impact assessment that can measure the effectiveness of the interventions using digital health.	- Advocate digital health architectural blueprints or road maps, adoption and use of open-source standards and reuse of shared assets or services and systems including interoperability standards. - Facilitate the use of organizations involved in standards development and partner agencies to advance the use of appropriate standards to ensure interoperability between systems and across domains. - Develop norms and standards on digital competencies through WHO's programme on health workforce capacity-building. This will include using partnerships with collaborating centres and affiliated professional associations to strengthen the role of health workers in providing cost-effective, efficient and safe health services through digital means as appropriate.	by ensuring placing importance on quality, safety and ethical considerations.
Proposed actions by partners	- Ensure end-user communities and beneficiary populations are adequately engaged in the design, development, deployment, scale-up and sustainability phases. - Improvise and promote sustainable financing models in support of digital health development, implementation, integration into health systems and maintenance.		Ensure digital health transformation enables and accelerates the achievement of health related SDGs

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STRATEGIC OBJECTIVE 3: STRENGTHEN GOVERNANCE OF DIGITAL HEALTH AT GLOBAL, REGIONAL AND NATIONAL LEVELS			
	Short-term	Medium-term	Long-term
Proposed actions by Member States	• Scan national start-ups working on innovative solutions to identify those that may have an impact on health and well-being. • Develop an implementation plan around digital health technologies for health care delivery and public health. • Ensure the capacity of training institutions to establish and/or expand digital health literacy, provide life-long learning opportunities for digital health, and to have such digital health programmes properly accredited by the relevant authorities.	• Develop research and promote capacity-building for governments, policy-makers, practitioners and the public in general to take informed decisions, generate trust and support digital health investments. • Analyse digital health ecosystem and propose concrete policy actions to advance the achievement of the targets of universal health coverage, the Sustainable Development Goals and WHO's Thirteenth General Programme of Work, 2019-2023 using digital health technologies.	• Develop target-product profiles and priority characteristics for digital health applications especially relevant to the needs of low-resource settings; define challenges and draw a road map for increased access. • Invest in and maximize the opportunities made available by digital health technologies to strengthen capacity building of health workers.
Proposed actions by the Secretariat	• Establish criteria for assessing the relevance and impact of digital health solutions, for example including priority characteristics relevant to low-resource settings. • Facilitate the use of global technology registries for digital technologies and projects at country and global levels that support the unique registration, monitoring and coordination of digital investments (for example, WHO's Digital Health Atlas). • Develop evidence-based technical documents on different topics related to digital health, such as cost-effectiveness and affordability, ethical use, privacy and security, and safety. • Use inputs from experts (for example, the members of WHO's technical advisory group on digital health) to develop or update the	• Develop a WHO framework for assessing and regulating digital health technologies. • Promote exchange of best practices, good governance, infrastructure architecture, programme management, and use of standards to promote interoperability for digital health. • Develop guidance on new areas being enabled by digital health technologies such as virtual hospitals, digital therapeutics, personalized medicine and others. • Use WHO collaborating centres on digital health to advise, support activities and facilitate knowledge exchange and learning within and between countries.	• Track advancements across the global digital health ecosystem and propose concrete policy actions to advance progress towards the achievement of the targets of the Sustainable Development Goals using digital health. • Develop research and promote capacity-building to enable Member States and other stakeholders to take informed decisions in order to support sound digital health investments.

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STRATEGIC OBJECTIVE 3: STRENGTHEN GOVERNANCE OF DIGITAL HEALTH AT GLOBAL, REGIONAL AND NATIONAL LEVELS			
	Short-term	Medium-term	Long-term
	pipeline of technical documents (for instance, handbooks, toolkits and guidelines) on digital health interventions to improve health and well-being. - Assess and promote innovative solutions that can have an effective impact in the future of health and well-being. - Assess and benchmark Artificial intelligence for health products and systems.	Produce guidance on ground breaking health system processes and practices supported by digital technologies	
Proposed actions by partners	Support and contribute to good governance of digital health, adherence to national policies and programmes, and compliance and use of standards required.	Develop research on cutting-edge health technologies and share the evaluation results of the implementation of digital health interventions.	Support practices and innovations that deliver positive health outcomes and enhances overall quality of health care delivery aligned with SDGs.

STRATEGIC OBJECTIVE 4: ADVOCATE PEOPLE-CENTERED HEALTH SYSTEMS THAT ARE ENABLED BY DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
Proposed actions by Member States	- Identify and engage with professional, patient associations and civil society that are active participants in digital health development and innovations. - Review the different education and training programmes on digital health by institution, level of degree, specialty and cost, and analyse current trends at the national level.	- Develop a digitally capable and gender-balanced health workforce. - Ensure competencies on digital health are included in the education and training curricula of all health professionals and allied workers, and at all levels of formal education and informal training.	- Forster population's digital health literacy and raise awareness of patients' rights and the concept of dynamic consent. - Digital health solutions are used to take action on social determinants of health. - Synthesize national research and disseminate evidence on the contributions of digital health interventions to the performance of health

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Proposed actions for Member States, the Secretariat and partners for implementing the global strategy on digital health

STRATEGIC OBJECTIVE 4: ADVOCATE PEOPLE-CENTERED HEALTH SYSTEMS THAT ARE ENABLED BY DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
	Promote the use of population health management and gender-equality approaches through digital health applications to move health and well-being from reactive care models to active community-based models.	Developing population health management approaches through digital health solutions that move health and well-being from reactive care models to active community-based models.	systems and on the effect on overall people's health and wellbeing.
Proposed actions by the Secretariat	- Disseminate best practices for engaging professional and patients' associations, which are active participants in digital health development and the implementation of the global strategy on digital health. - Identify the core competences of digital health literacy that might be included in education and training curricula of health professionals and allied workers. - Promote ethics, governance and security in handling and processing data for research or for other data sharing requirements.	- Promote digital health interventions for addressing social determinants of health. - Support Member States and stakeholders to use person-centric, digital health devices and systems to enhance health workforce performance, facilitating evidence-based decision-support and improve trust on ethics and privacy of digital health. - Support Member States to identify and implement appropriate digital health interventions combined with appropriate health and data content across interoperating digital systems to address quality, coverage and equity goals within the health system. - Scan the landscape of projects and initiatives that use population health management and gender-equality approaches through digital health solutions to move health and well-being from reactive care models to active community-based models.	- Develop and promote the use of tools that support the digitalization of health service centres with a focus on patient's managed quality of service. - Synthesize international research results and disseminate evidence on the contribution of digital health interventions to performance of health systems and the effect on people-centred outcomes including universal health coverage with an essential package of interventions.

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STRATEGIC OBJECTIVE 4: ADVOCATE PEOPLE-CENTERED HEALTH SYSTEMS THAT ARE ENABLED BY DIGITAL HEALTH			
	Short-term	Medium-term	Long-term
Proposed actions by partners	• Develop education and training programmes on digital health literacy. • Support countries to adopt and effectively use person-centric digital systems for the health workforce, facilitating evidence-based decision-support, and health systems' accountability. • Support countries to identify and implement appropriate digital health interventions combined with appropriate health data across interoperating digital health systems to achieve quality of care, coverage and accessibility.		• Develop and promote the use of tools that support digitalizing processes at health service centres with a focus on patients' rights, standardized processes and managed quality of service.

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