Growing up **2030**
in a digital world

GOVERNING HEALTH FUTURES
THE LANCET & FINANCIAL TIMES COMMISSION

POLICY BRIEF

How digital technologies can support young people's health along the age continuum

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KEY MESSAGE

Digital health technologies are helping to expand coverage and quality of health care for young people from conception to early adulthood, including in contexts where health systems are weak and where large populations of young people have no access to health workers. The health, wellbeing, and views of children and youth should be a primary consideration for digital health policymakers and technology developers.

The use of digital technologies, both within and beyond the health sector, holds great potential to accelerate progress towards universal health coverage (UHC) and to improve the health and wellbeing of children and youth. The World Health Assembly resolution on digital health, unanimously approved by WHO Member States in 2018, demonstrates clear recognition of the potential for digital health technologies to support health systems in health promotion and disease prevention, and to accelerate the availability, accessibility, quality, and affordability of health services.[1]

Digital transformations of child and youth health services

A growing shift from facility-based health care to patient-centred care pathways has been made possible by digitalisation.[2] As illustrated in the Figure below, digital health technologies can be used by health system managers, health workers, and caregivers to support young people's health at all stages of the age continuum, from conception to early adulthood.

Digital and data-driven technologies are helping to expand coverage of essential health care for children and youth, including in contexts where health systems are weak and where large populations of young people have no access to health workers. For example, telehealth and eHealth services enable young people in remote and rural areas to consult with health professionals. For parents and caregivers who are connected, digital platforms are an important source of information and advice on pregnancy and child health, nutrition, and development issues, complementing face-to-face support provided by health professionals.

Digital health tools also provide more options for young people to access child- and youth-friendly services and for traditionally underserved groups, such as children and youth with disabilities and sexual and gender minorities, to find responsive services that meet their needs.[3] Frontline health workers who provide child and youth health services can enhance the coverage and quality of their care by using mobile applications to monitor patients and consult with specialists, and continue building their knowledge and skills through online training.[4,5]

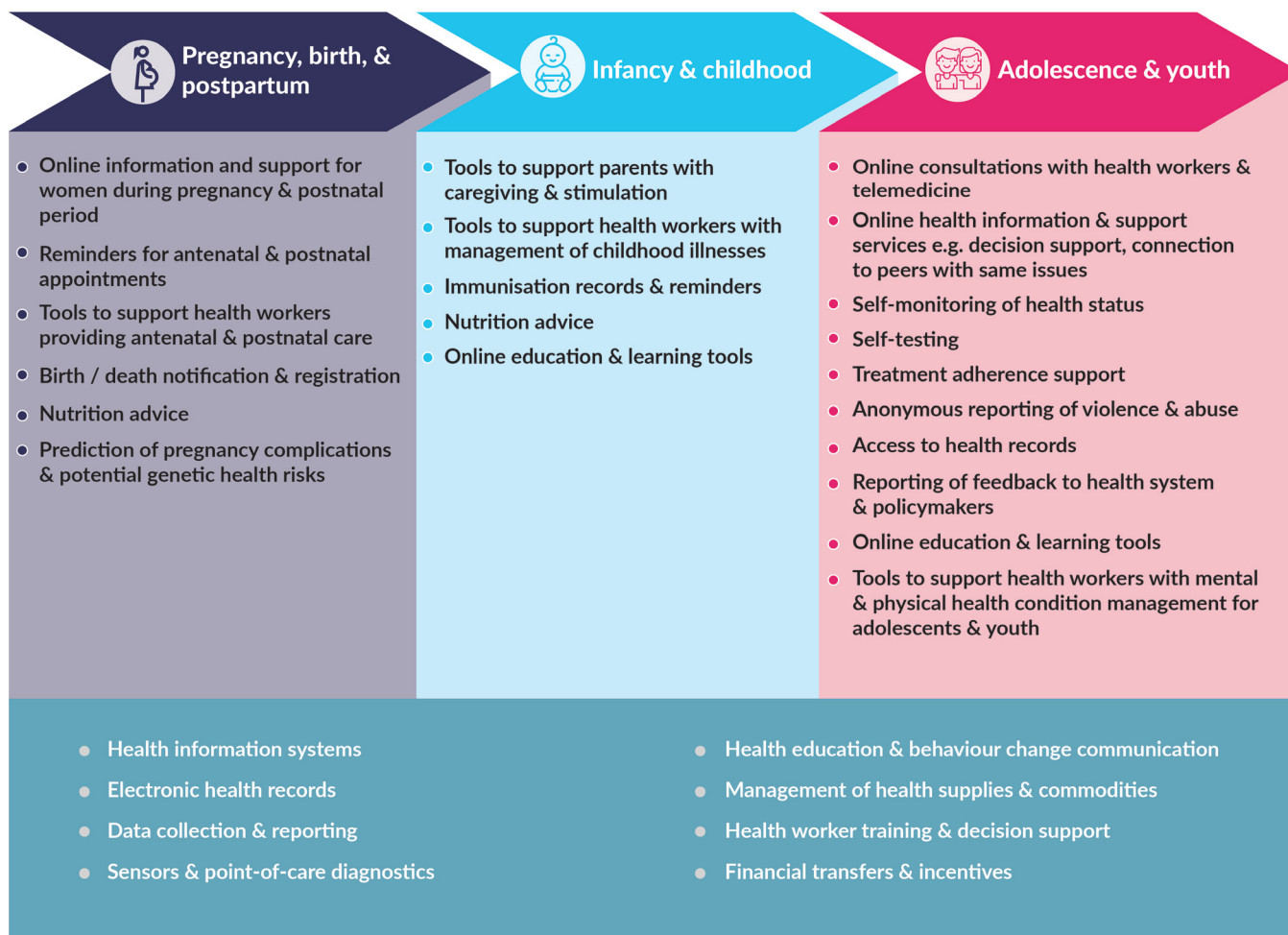1 World Health Assembly. Resolution 71.7 on digital health. May 26, 2018.

2 Green A. Covid-19 pandemic accelerates digital health reforms | Financial Times. Financial Times [Internet]. 2020 May 17.

3 Agrawal A. Harnessing the power of AI for global health | Financial Times. Financial Times [Internet]. 2019 Oct 31.

4 WHO. WHO guideline: recommendations on digital interventions for health system strengthening: evidence and recommendations. Vol. WHO/RHR/19. Geneva: World Health Organization; 2019.

5 WHO. Youth-centred digital health interventions: a framework for planning, developing and implementing solutions with and for young people. Geneva: World Health Organization; 2020.

Digital health along the age continuum

Pregnancy, birth, & postpartum

- Online information and support for women during pregnancy & postnatal period
- Reminders for antenatal & postnatal appointments
- Tools to support health workers providing antenatal & postnatal care
- Birth / death notification & registration
- Nutrition advice
- Prediction of pregnancy complications & potential genetic health risks

Infancy & childhood

- Tools to support parents with caregiving & stimulation
- Tools to support health workers with management of childhood illnesses
- Immunisation records & reminders
- Nutrition advice
- Online education & learning tools

Adolescence & youth

- Online consultations with health workers & telemedicine
- Online health information & support services e.g. decision support, connection to peers with same issues
- Self-monitoring of health status
- Self-testing
- Treatment adherence support
- Anonymous reporting of violence & abuse
- Access to health records
- Reporting of feedback to health system & policymakers
- Online education & learning tools
- Tools to support health workers with mental & physical health condition management for adolescents & youth

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- Health information systems
- Electronic health records
- Data collection & reporting
- Sensors & point-of-care diagnostics

- Health education & behaviour change communication
- Management of health supplies & commodities
- Health worker training & decision support
- Financial transfers & incentives

Digital health interventions can help to address a range of health system bottlenecks that prevent young people from receiving timely and effective care.[6] For example, digitalisation enables health systems to move away from paper-based and fragmented data collection and surveillance systems towards more interoperable electronic health records and national health information systems. This is a foundational step being taken by many countries in their digital transformation process and supports health at all ages though strengthening vital statistics (e.g., birth and death registration), tracking of health status and services, medical commodities' management, and citizen-based reporting.

As their level of digital maturity increases, health systems can take advantage of advancements in artificial intelligence (AI) and genomics to offer young people more personalised and predictive medicine, and to identify and mitigate health risks that arise during pregnancy and childhood.

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6   WHO. Classification of digital health interventions v1.0. Geneva: World Health Organization; 2018.

Supporting children's and youth's self-management of health and wellbeing

Young people told the GHFutures2030 Commission that they see huge value and potential in digital health technologies for accessing health information and monitoring their own health and wellbeing. As they gain greater independence, older children and youth with digital access can use digital tools themselves to interact with health workers and health systems, and to manage their personal health records. Beyond their applications in the formal health sector, digital platforms and devices are being increasingly used by children and youth to take greater control of their health. Young people search the internet to learn about health issues and use mobile applications and activity trackers to monitor and manage their physical and mental health. The confidentiality offered by some digital tools allows young people to seek information and advice on potentially embarrassing or stigmatising health issues, such as sexual and reproductive health and mental health. Young people also actively use social media to create their own health-related content and connect with peers with similar experiences of concerns.[7]

Implications for policymakers

The success of digital transformations in health must be partially measured by the extent to which they help children and young people achieve the highest attainable level of health and wellbeing, and the opportunities they provide for youth to be fully involved in the shaping of their health futures. The design and application of digital health technologies must therefore not only be aligned with the needs of health systems, but also with the **specific and evolving health needs—and expectations—of children and young people**. The expectations and wishes of young people consulted by the Commission have been set out in a **Youth Statement and Call for Action**.[8]

The abundance of digital health tools developed for, and used by, children and youth present risks as well as opportunities for their health and wellbeing.[9] Young people have expressed concerns about the reliability of health information available online and the quality of digital health tools and applications.[10,11] Greater **regulation of digital health tools and AI algorithms** is required in most countries, particularly for tools categorised as supporting fitness, well-being, or self-care, so that young people and their caregivers can determine which digital health tools are effective or trustworthy.

The huge volumes of data generated by digitalisation of health systems and young people's use of digital technologies present opportunities for health researchers and policymakers looking to improve child and youth health outcomes. Health and health-related data is also a valuable commodity for private companies, generating demand amongst young people for **stronger data protection and regulation of online practices that extract their data,** expose them to

7   Lupton D. Young People's use of digital health technologies in the Global North: Narrative review. J Med Internet Res [Internet]. 2021;23(1):e18286.

8   Governing Health Futures 2030 Commission. Youth statement and call for action. Geneva; 2021.

9   Holly L. et al. Opportunities and threats for adolescent well-being provided by digital transformations. Paper for multi-stakeholder consultations on programming to promote adolescent well-being. Geneva; Partnership for Maternal, Newborn and Child Health. 2021.

10 Governing Health Futures 2030 Commission. Digital health futures: Insights into young people's use and opinions of digital health technologies. Summary report of a 2020 U-Report poll. Geneva; 2021.

11 Paul F, Thompson K, Gupta NK. Information.Support.Connection: How are young people engaging with digital spaces to learn about bodies, sex and relationships?. 2020. (Paper commissioned for Switched on: Sexuality education in the digital space).

marketing of unhealthy products and harmful content, and encourage excessive time online.

Approaches to digital health that best support child and youth health along the age continuum require **diverse groups of children and youth to be involved in the design and development of digital tools** according to their evolving capacities. Regular assessments and consultations with young people should also be conducted to check that digital solutions are the most effective way to meet young people's health needs.[12] Building young people's **digital literacy and skills** and involving them in broader digital governance are also critical steps to maximise the health benefits of their use of digital health tools and engagement in the digital environment.

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12 WHO. Youth-centred digital health interventions: a framework for planning, developing and implementing solutions with and for young people. Geneva: World Health Organization; 2020.

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