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Editorial

Together towards tomorrow: partnerships powering the digital transformation of the health sector

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This editorial presents a collective vision of unity, innovation and collaboration, and a shared desire for resilient and more equitable health systems worldwide, urging the global health community to harness the collective strength of alliances and international collaboration to guide the health sector into a new era of digital transformation and innovation. This era has been called by the United Nations Secretary-General as the age of digital interdependence (1), a concept that encapsulates the interconnectedness of our global community and highlights how advancements in one region can promote and support progress across the globe, as demonstrated by digital health interventions and reference standards that have wide applicability and replicability, with contextualization, and where the sharing of implementation experiences can lead to collective improvements in quality, sustainability and scalability. Such an era, in which technology and data are integral to global daily life, requires not only accelerating the adoption of emerging technologies but also a making a cultural shift towards more open, collaborative, digitally transformed and patient-centered health systems (2). Traditional health care delivery models have shown their limitations, particularly in their ability to quickly adapt to surges in demand and provide remote or contactless services through telehealth programs and platforms, delivered through facility-based systems or more frequently, mobile devices, or through the capacity to update algorithms and provide information to the public, responsively changing with emerging evidence or guidelines (3). The coronavirus disease 2019 (COVID-19) pandemic was a catalyst and accelerator for the use of information and communication technologies to provide and ensure access to health services, highlighting the need for a meaningful digital transformation of this sector, moving away from discordant digital health experiments towards coherent, national or even regional interconnected digital ecosystems. After a global crisis that has left a deep mark on public health, the Region of the Americas finds itself at a critical crossroads. This crisis, which has indiscriminately affected populations on all continents, underscores the urgent need for robust and more resilient health systems that can confront future pandemics and health emergencies. The pandemic revealed how digital tools and platforms could play a critical role in crisis response, from tracking disease outbreaks to facilitating telehealth services, thereby ensuring continuity of care in difficult times. Therefore, the need for a transformative approach to public health is more evident than ever. Digital transformation emerges as an opportunity to strengthen and transform health care models within a new digital reality, empowering users within a renewed primary health care model, with people truly at the center (4,5).

The digital transformation of the health sector refers to how information and communication technologies influence and change the sector's processes, rules of engagement, and ways of working and interacting, and it includes acknowledging the importance of such factors as digital literacy, culture, and the mindset of the health workforce and the community they serve. Digital transformation presents an opportunity to leverage technology's transformative power to address fundamental flaws or limitations stemming from systems developed in an

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analog, paper-driven reality and moving the region's health care systems to maximize their use of digital connectivity and fundamental digital public infrastructure – such as verifiable identity, digital financial transactions, and standards-based data sharing across systems (6). The journey towards the digital transformation of the health sector should be a technical, evidence-based, collective, political and diplomatic effort to support the countries of the Americas (and other regions) with the most innovative and efficient strategies to recover better than they were before, to overcome inequalities, and to build resilient health systems to improve future responsiveness to emergencies and disasters, but also to finally achieve universal health coverage while keeping data safe and not leaving anyone behind (7). The journey towards a digital transformation also requires common and high-level guiding principles to ensure responsible governance, supported by a diverse array of stakeholders, including governments, private sector entities, non-governmental organizations, and the communities they all serve, to unite around the shared goals of enhancing health care access, quality, and equity. Such a collaborative approach is vital for creating health systems that are not only technologically advanced or digitally transformed but also equitable and accessible to all, regardless of geographic location, socioeconomic status, gender identity and other demographic and social identifiers (8,9). A 2023 World Bank report highlights the need for a collaborative approach, as well as for the adoption of a "digital-in-health mindset" by expanding the focus from digitization of health data to integrating digital and health as one, unlocking the value of digital health for everyone (2).

This editorial aims not only to present the complex path towards the digital transformation of the health sector in the Americas, but also to highlight the synergistic potential of cross-sectoral partnerships to overcome barriers and accelerate progress. In doing so, it seeks to illustrate how partners can and should work together towards a common goal of using digital health initiatives to bridge the gap between high-quality health care services and underserved populations, effectively democratizing health care. At the core of this discussion is the understanding that digital health is not just a technological update but a fundamental rethinking of how health care is conceptualized, delivered, and experienced. This rethinking involves data-driven insights, streamlined processes, and the embracing of patient-centric models that leverage technology to meet patients where they are, enhancing a patient´s experience through personalized care and greater autonomy over health decisions. It involves moving beyond the digitalization of systems originating in a non-digital era and, as has been the case for many other sectors, re-imagining new ways of delivering public health and clinical care to connected (and disconnected) populations.

From telemedicine to artificial intelligence (AI)-based decision support systems, the adoption of digital technologies in public health offers new opportunities for addressing the challenges of accessibility, affordability, and quality of care. These technologies promise to streamline operations, reduce costs, and improve care outcomes, making high-quality health care more accessible to marginalized and remote communities (10). However, the path to achievement is filled with obstacles, including low levels of digital literacy among segments of both the health workforce and the population they serve, infrastructure disparities, and the lack of strong policy and regulatory frameworks that prioritize equity and inclusivity (11,12). Addressing these challenges requires a concerted effort from all stakeholders to invest in digital literacy, build robust and secure national, regional and global digital public infrastructure, and renew policies and regulatory frameworks to ensure that digital health solutions are inclusive and accessible to all.

As we forge ahead to a renewed public health architecture (13), this editorial seeks to promote a dialogue among public health professionals and policy-makers, along with international partners from different sectors. It tries to encourage the exchange of ideas and best practices to foster health systems that not only withstand future challenges but also thrive, offering high-quality, equitable care to all populations. It also aims to explore the dynamics of effective partnerships, examine the lessons learned from the pandemic and envision a common goal, supported by a collaborative framework that not only prepares for future health crises but also constructs health systems that are resilient, responsive and equitable. This involves recognizing the value of diverse perspectives and expertise in crafting and co-creating solutions as digital public goods that are both innovative and practical, ensuring that the health systems of tomorrow are built on the foundations of inclusivity, collaboration and sustainability (14). A practical model of this approach is the Global Initiative on Digital Health, managed by the World Health Organization (WHO), which aims to accelerate health outcomes worldwide through digital health transformation of health systems, grounded in strengthening national foundations of robust digital health strategies, policies, governance and architecture. It was launched under India´s presidency of the G20 in 2023 and is being taken forward by the Brazil government as the G20 chair in 2024, where stakeholders, across public and private sectors, will work together to prioritize the advancement of digital health systems, foster international cooperation and joint learning, build capacity, and ensure quality standards in digital health systems. Accelerating progress requires the sharing of best practices and building blocks, so that no country needs to start with a blank slate but can benefit from neighboring or even global successes.

The digital transformation of the health sector is crucial in making the vision of a resilient health system, grounded in efficient primary health care (PHC), a reality. To promote coordinated action aiming to guide and shape investments in health, leverage innovation, and accelerate the transformation of country health systems based on the PHC approach, the Pan American Health Organization (PAHO), the Inter-American Development Bank (IDB), and the World Bank launched the Alliance for Primary Health Care (A4PHC) on December 4, 2023, in Uruguay. One of the A4PHC areas of collaboration to strengthen PHC is the digital transformation of the health sector. Through the incorporation of digital health solutions, such as telemedicine, electronic health records, mobile health applications, virtual training for health workers, and AI-driven diagnostic tools, among others, PHC will be transformed significantly by enhancing health promotion, disease surveillance and prevention, and care for health conditions. Telemedicine will expand access to care, allowing patients in remote or underserved areas to receive consultations and follow-up care without the need to travel, and it will also allow health workers with general skills to consult with specialists or more skilled health workers. This will not only improve accessibility but also ensure continuity of care, especially in times of public health emergencies or for

populations with mobility challenges. Interoperable electronic health records platforms will play a crucial role in ensuring the secure exchange of patient information among health care providers, enabling a more coordinated, cybersecure, ethical and patient-centered approach to care. Possessing comprehensive and up-to-date patient information, policy makers and health care providers will make better-informed decisions, reduce medical errors and ensure continuity of care across different levels of the health system. Mobile health applications will empower patients by giving them tools for self-management of health conditions, medication reminders and access to health information. This will promote greater patient engagement and adherence to treatment plans, contributing to better health outcomes.

Lastly, AI-driven tools will augment the capabilities of PHC for the early detection and management of diseases. These tools can analyze vast amounts of data to identify patterns indicative of potential health issues, enabling early intervention and personalized care plans. AI can also assist in epidemiological surveillance, identifying emerging health threats and enabling a rapid and coordinated response. Therefore, the digital transformation of the health sector, within the context of electronic government initiatives, can significantly enhance the resilience of health systems by improving access to care, facilitating coordinated and integrated care delivery, empowering patients and leveraging data for more informed decision-making and early intervention. To realize this potential, it is critical to address challenges related to clear digital governance (including standards and interoperability), digital literacy, privacy and security of health data, and ensuring equitable access to assessed and proven digital health technologies as quality-assured public goods (15).

In conclusion, the authors believe in the power of the digital transformation of the health sector to shape a healthier and more equitable tomorrow for the Americas and the world: a world in which advances in digital health solutions are leveraged to help people access the information and health services they need – when, how and where they need them (16-18). This belief is rooted in a conviction that digital health technologies, when thoughtfully implemented, can serve as powerful tools for bridging health disparities, enhancing patient engagement and optimizing health outcomes, indicating a new era of health care that is truly inclusive, equitable, patient-centered, and resilient.

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