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Impact of Technology on Global Health Initiatives

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ABSTRACT

The integration of technology into global health initiatives (GHIs) has profoundly reshaped the landscape of healthcare delivery, access, and policy implementation worldwide. While GHIs have historically been criticized for fragmentation, inefficiency, and lack of coordination, technological advancements have introduced new avenues for system strengthening, especially in low-resource settings. This paper examines the multifaceted impact of digital innovations—including telemedicine, mobile health (mHealth), wearable technologies, artificial intelligence (AI), big data analytics, blockchain, and social media—on global health. These technologies have enabled remote consultations, improved disease surveillance, enhanced patient engagement, and expanded data-driven decision-making. Despite these gains, challenges remain in equitable access, data governance, regulatory harmonization, and the digital divide. The paper also highlights how strategic partnerships, regulatory frameworks, and appropriate technology-sharing models are essential for sustainable digital transformation. Ultimately, this study offers a critical assessment of how technological tools can enhance the effectiveness, equity, and inclusiveness of GHIs if applied within context-sensitive and ethically guided frameworks.

Keywords: Global Health Initiatives; Health Technology; Telemedicine; mHealth; Artificial Intelligence in Healthcare; Wearable Technologies.

INTRODUCTION

Global Health Initiatives (GHIs) have been defined as redundant, fragmented, and inefficient, with a lack of transparency and coordination throughout the field. GHIs include a dozen similar international health initiatives, such as the Global Fund to Fight AIDS, Tuberculosis and Malaria and the GAVI Alliance. Donors and recipients working in global health for developing countries alike are often confounded by the multitude of GHIs, each with diverse focus, eligibility criteria, and management objectives. The recipient country must then find a way to comply with different rules, maintain different accounting/management systems, and ensure coordination among the various GHIs and stakeholders. Critics argue that such a burden on national health systems is unsustainable and diverts revenue and focus of the recipient government away from struggling towards achievable health priorities. GHIs spend a significant portion of funding and focus for health systems strengthening (HSS) and as such "result in duplicate effort among countries, diverting attention from the country-led HSS strategies and national health plans". There is also a purported lack of transparency and cooperation between GHIs and between GHIs and other actors. GHI-style funding is noted for being earmarked, which limits the flexibility of recipient governments to direct expenses as they see fit and creates inefficiency in the local health system. Isolating certain health programs into stand-alone projects can create "verticalization," effectively decreasing the value of health care due to the absence of a holistic or community-based approach. It is argued that, in regards to health aid, the "push" of recipient coordination of GHIs is more important than "pull" of best practice and that GHIs in their current form are inherently redundant due to overly prescribed and uniform responses, neglecting individual country context and needs [1, 2].

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Overview of Technology in Health

Over the past couple of decades, the role of technology in the health domain has raised rapid developments by benefiting from frequent innovations and research. Moreover, health has improved its importance in people's daily lives, as well as setting up a novel market sector for the industry. Technology and health have always worked conjointly as the core of it needs advanced technology, whether it be for diagnostics, prognoses, surgeries, or improved practices in the health sector. However, the technology part of it may not have always gotten the recognition it deserved. Since the Stone Age, when sharp shards were used to make incisions to drain abscesses, technology has been a part of the healing process. Despite its advancements, however, health problems have not been averted. These two sectors embody our lives in deeply intertwined ways – one sustains vitality while the other helps expand it. They are also among the most intricately convoluted systems in human society, enclosing layers of socio-political and economic injustices. Conventionally, the emphasis of this work is on the development of affordable forms of therapeutics and prevention to counteract charring health outcomes. A coincidence of factors coming together impelled a "crisis" in health, thereby demanding a radical reorganization in healthcare systems. This moment of crisis is self-evidently marked by the COVID-19 pandemic, whose outbreak has elicited widespread morbidity and mortality across the world. However, the alarming health indices reported across different regions – the rise of tuberculosis and hepatitis and the fall in cancer-related mortality, to name one regional trend- are predicated on a more longstanding trajectory towards the formation of precarious and unsustainable healthcare systems [3, 4].

Telemedicine and Remote Care

The concept of a global village dismantling barriers through internet connections could be stretched a little in the broadening global healthcare arena. An opportunity might transpire where advanced healthcare providers with a higher healthcare workforce ratio could end up exporting services to others. Technology has always played a big part in the sort of care we deliver to each other, especially in communities that are hard to reach. Generally, technology was adopted at a faster pace in the most unexpected, remote, and rural locations. Right now, one of the most novel facets of technological healthcare services is remote consultation with a medical professional. A patient simply uploads their medical history file and a brief description of their ailment. A specialist then offers a diagnosis, treatment advice, and a second opinion. On one side, it allows a patient to obtain a consultation and an expert opinion without leaving their house and comfort zone. For a clinician, it allows a provider a level of flexibility in terms of working hours far beyond a conventional doctor. From a systemic point of view, the reduction in time lost through social and capacity of services provided cyclical places, which allow both much greater efficiencies and an increase in clinical capacity. The concept that in the confinement of four walls there exists the complete set of knowledge and tools required for the absolute best outcome for a patient in a clinical healthcare setting is old-fashioned but still prevalent. Good health is a complex composite impression of the physical and psychological being functioning well and an absence of dysfunctional maladies resulting from a multitude of underlying roots. Of course, health is one of society's monumental issues and consumes an enormous quantity of resources, as well as being a significant aspect of economies. Nevertheless, in all quintessence, the concept of medical systems in the developed countries remains from the present 'curative' version, and flaws repeat in developing healthcare services. a premise of telemedicine and a range of remote diagnostics toward digital health are advancements in the rapid transformation of the healthcare system embraced during the pandemic. On top of the potential of scientific and technological advancements filtering through from the public and private sector, the ever-growing hybrid system of national health is fertile footing where business models and new market concepts can be hybridized. For a long time, healthcare services within a place are linked with digital capabilities with promises of cost saving. A mobile device is utilized for remote assessment in psychiatry, and multiple specialists are also given to professional advice [5, 6].

Mobile Health (MHEALTH) Applications

In 2005, the World Health Assembly unanimously called for the World Health Organization (WHO) to explore appropriate and sustainable eHealth solutions for health systems in low-income countries that lack coherent health information infrastructure support. Since then, the WHO has actively been exploring and promoting a wide range of eHealth initiatives in various countries around the world. By 2011, the WHO had initiated the establishment of national eHealth strategies in 20 different countries. However, according to a new study commissioned by eHealth, on balance, it has not yet been successful concerning its primary goal. The small number of successes were met with great difficulty in actually demonstrating

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them; results were mixed about specific objectives; the large number of failures demonstrated that to a great extent, eHealth is a problem looking for a solution. Between articles and ancillary sources, 30 years of eHealth evidence was reviewed, and after the study, 106 sources were selected for analytical review. Five high-level reasons why eHealth has failed to routinely deliver benefits in low-income countries were identified. Each reason is paired with a set of interdependent countervailing strategies. It is only through concurrent pursuit of these strategies that there will be any hope of creating conditions for eHealth to flourish in the future. The overall goal of these mutually enforcing strategies is to enable low-income countries to develop a contextually appropriate eHealth ecosystem or 'eHealth Adaptive Scenario' that will better allow them to avail of the wide range of opportunities offered by eHealth solutions implemented elsewhere. Ideally, these benefits will be attained within a phased timeframe and will eventually lead to a substantively upgraded level of national health information system maturity [7, 8].

Wearable Health Technologies

Five wearable health technologies with the potential for promoting health equity over the next decade are detailed. The advent of digital health technology has been speculated to give those who need it most improved access to predictive and personalized healthcare. The impact of new technological exchange obstacles between existing health inequity states and low-resourced rural areas is discussed alongside the definition of health-related wearable devices. Public health informatics experts in advantaged areas are poised to negotiate non-equitable data contracts with Big Tech through the same or similar IoT devices, thus widening data access disparities and reinforcing health outcome disparities. Five wearable health technologies that could help bridge this impending data access inequity gap are described, as advances that can be expected to emerge within the next decade, including non-material interfaces for health data transmission, on-skin bioindicators, situated health modeling, mHealth-enhanced low-cost transportable paraclinical diagnostic tools, and multimodal on-body health data security systems [9, 10].

Artificial Intelligence in Healthcare

To put the full impact of Artificial Intelligence (AI) in healthcare into the scope of global health, there must be a deeper understanding. However, the proliferation of artificial intelligence in health and healthcare is viewed with intense trepidation. Horror stories range from algorithmic discrimination in the assignment of hospital treatments to job losses for nurses and radiologists. Investment in health AI start-ups is, by some distance, steadily growing as computational projects assessing medical imaging breed optimism concerning "a superior workforce," scrutinizing diagnostic inferences and clinical analysis. The advent of AI in health also kindles excitement among global health practitioners and policymakers interested in bolstering health systems in distant corners of the planet. That AI may significantly improve the ability to determine the allocation of medical resources to save the most lives should be good news for global health programs. However, the arrival of such a brave new world is doubted by those panellists who feel that AI will essentially bolster the hand of those already holding the aces. Not least, given the granularity of medical data needed to instruct even rudimental algorithms, it is noted that AI holds the potential to deepen as opposed to counteract global health imbalances. This apprehension is underscored by recent news that scientists embroiled in a project to assess the delivery of life-saving equipment to COVID-hit Southern African territories were impeded by bureaucratic blockades and the reluctance of public health actors in high-income nations to render blanket data-sharing commitments. There is a dreaded concern that the emergence of "off-the-shelf" AI products devised to cope more effectively with patients already receiving a premium level of care will just furnish one more tool for health facilities in affluent countries further to expand the glaring divergence in the quality of services they supply as compared to the vast majority of their counterparts across the globe, in so doing pushing the latter farmers even further behind. This delinquency, however, can also be framed in a more optimistic light: the exponential graphing of health AI investment has proffered global health partners with an excellent opportunity to prepare the ground rules concerning the responsible and equitable governance of what is still considered unchartered biotechnological territory. A forthcoming conference of the Global Health Security Coalition seeks to furnish a practice code for dealing with such challenges, interning (ideally) that a common fund for massive dissemination would be established [11, 12].

Data Analytics in Global Health

Global health efforts to resolve health concerns must involve multiple disciplines to analyze complex problems. While medical and biological sciences provide the foundation in the study of diseases, the social sciences explain aspects of disease dissemination. This data, in various formats, must be interpreted to diagnose disease and establish health interventions. Informatics focuses on approaches towards the

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analysis and use of complex data, such as data mining and predictive modeling. Frequently, the biggest health challenges are faced by those who are under-equipped to address them. Competency in data analytics and the advantages of big data can encourage collaborative ties between public health professionals and specialists in different fields. Hence, informatics knowledge necessitates the ability to exchange data and ideas with professionals across a variety of disciplines. The ability to cultivate these competencies will become increasingly important as the global health workforce is exposed to data in formats that are intricate or unfamiliar. With the increasing availability of electronic health records globally, vast datasets are generated. In countries where ecological health datasets are present, they can be combined with unconventional sources of health data to observe trends in risk factors and noncommunicable diseases. However, a great deal of this data is fragmented or contained in propriety formats, which complicates access and analysis. Nonetheless, disparities also present an opportunity to develop methodologies and resources that can address these issues. The applications of big data's potential in the transfiguration of antimicrobial stewardship, care, and education are substantial. For global disease surveillance, the potential benefits resulting from the analysis of diverse datasets are well recognized. However, this new field of study has challenges. Among them are the creation of guidelines to govern the use of big data in promoting the health of populations, as well as the exploration of ways to disseminate knowledge and capacity [13, 14].

Blockchain Technology in Health Records

The history of patient health records is marked by privacy violations, tampering, and data loss. Blockchain technology provides a secure, transparent, and easily transferable solution for health data storage. By using blockchain, patient health records can enhance treatment, reduce costs, and streamline the time between medical consultations. This paper examines the role of blockchain in the ongoing technological revolution and its impact on personal health records. It will first address the challenges patients encounter in storing and sharing their health records. The inefficiencies, error rates, and detrimental outcomes stemming from the current U.S. health system will be outlined, followed by recent blockchain successes in global health transactions. Most health systems utilize electronic health records (EHR), which function as expansive document databases maintaining change histories, but without clear organization for patient access. This necessitates continuity with a single health provider, a privilege not available to all. The paper will summarize the organization needed for patient health records. While some data sharing occurs, it's often sidestepped due to legal complications, leading patients to track their records. The Federal government mandates specific data in health records for financial reimbursement, yet EHR histories remain largely unshared due to proprietary software issues. To obtain a person's health records, one typically must contact their health provider for documentation spanning the last decade. Previous efforts to address these complications have either failed, gone bankrupt, or experienced neglect from healthcare providers [15, 16].

Impact of Social Media on Health Awareness

In the last decade, we have seen an increasing use of digital media campaigns in African countries during a wide range of health advocacy activities. There is today a plan to increase the production and wider use of information materials utilizing digital means, i.e., web sites, mobiles, and social media. Use of social media including Facebook, Instagram, Twitter etc bars no longer any generation. Adolescents of the 21st century get buying advice and solicitations for donations from charity organizations using social media. Between 2014 and 2018, a number of stakeholders used this social media as an official platform during their health-related initiatives. Besides stakeholders, it has a synergetic effect within different African campaigns taking advantage of the opportunities of globalization. The worldwide expansion of the internet makes new information streams such as blogs and social media communication tools for health promotion. Public awareness about diseases like AIDS, malaria, etc. in fact also brings with it a need to promote general precautions and awareness about health and hygiene for the entirety of health literacy. For many years, school-related health education materials have been used, where videos showing prevention methods and general ways to maintain hygiene are shown. Whole populations, however, have never been targeted. The wiser way to cope with the conditions would be to increase psychological awareness by means of broad digital media campaigns. By 2021, a significant percentage of the world's mobile data traffic is predicted to be video streaming. There's a continuous need to establish online meetings among the African health authorities for consistent exchanges of the best practices of creation and understanding of the health promotion content throughout digital media [17, 18].

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Global Partnerships and Technology Sharing

In the rapidly evolving world of mobile technologies, the International Women's Program (IWP) is exploring the potential power of SMS (short messaging services) and mobile devices to facilitate networking and technology sharing among NGOs. Supporting very low technology field-based organizations, IWP has agricultural and maternal health projects in six countries in Africa and two in Central Asia and the South Caucasus. These projects are connected into three networks through a virtual global community hosted by the IWP: the African Flourish Network, the transnational Talo Women's Grassroots Network for Indigenous Women, and a technology network for maternal health in the former Soviet Union. At the same time, many of the same IWP organizations are utilizing and expanding the potential of SMS. Initially, the connection of the field-based organizations to the virtual community was seen as a way to help provide the exchange of information and experience in projects that had limited technology capacity. However, the use of SMS emerged as a curious corollary midpoint of an evolution of communication strategies as the result of the barriers in technology transfer and usage. In the context of the growth of technologies based on mobile phones and limited access to technology infrastructure in the South, the work IWP is now engaged in raises a number of issues in the exponential field of m-technology. However, the experiment is worth sharing for the observed outcomes of both the potential power of SMS for increasing access to information for the rural marginalized and the efficiencies in advocacy strategies of NGOs working in prohibitive political environments where SMS can be used more or less securely. On the other hand, the experiment raises broader issues around the notion of appropriate technologies and the potential utopia of ICTs for development; increasing access to low-level technology organizations does not necessarily enhance their outcomes, efficacy, or experience. This paper is not intended to provide pro or con conclusions on the issue, but rather to inform on the processes leading to controversy and complexity in the m-technology relationship [19, 20].

Regulatory Frameworks for Health Technologies

The Global Benchmarking Tool (GBT) on Regulatory Systems Strengthening for Safety, Efficacy, and Quality of Medicines was endorsed by the World Health Assembly in 2005 and made available in 2009. It offers system-level functions, critical point indicators, quality performance indicators, and questionnaires for assessing regulatory systems. Its purpose is to help countries evaluate their regulatory systems, identify improvement areas, and monitor the effects of strengthening activities over time. The first two assessment exercises, conducted between 2009-2010 and 2013-2016, focused on integrated drug regulatory systems. In 2016, data from these exercises across 81 countries, along with regional surveys, yielded important policy options for regulatory capacities. Recommendations include harmonizing regulatory frameworks per trading entities for progressive nations and adopting a regionalized system approach for smaller states. Regulatory systems encompass legal and implementation mechanisms maintaining market control over medicines and health technologies, including in-vitro diagnostics and vaccines. They establish legal frameworks for market authorization, surveillance, and vigilance to ensure only safe, effective, and quality products are available. A well-functioning regulatory system must oversee manufacturers and institutional requirements through marketing authorization and product life-cycle monitoring, ensuring that national health technology market needs are met. The current GBT methodology is somewhat limited when addressing issues related to other health technologies. The analysis of the 2009-2010 and 2013-2014 data results is detailed [21, 22].

Sustainability of Health Technology

The emergence, use, and expected benefits of technological solutions for health delivery or medical treatments offer important promise. However, the adoption of health technologies has, in many instances, not reached its potential. One reason for this is the lack of economic sustainability for the interventions. More generally, the unsustainability of many health technologies in low-resource settings has been highlighted. A sustainable health technology has been defined as one that is "appropriate to the country, organized to be accessible and acceptable to the user, involving reasonable costs for planning, purchasing, implementation and maintenance and timely based (by not jeopardizing future budgets) when generating its benefits." The sustainability of health technology is also determined by the broader health system, including other health technologies, human resources, infrastructure, information systems, and the supply chain. Maintenance support is part of this broader view and is often critical for the sustainability of health technologies. Opening up this broader perspective further, health technology innovation has as an important component changes and improvements in the overall patient care pathway. Health technologies are vital in the global health context for successful prevention, diagnosis, treatment, and monitoring. The

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appropriateness and effectiveness of a health system are, among other aspects, majorly impacted by the correct, affordable technology in streamlined pathways. However, given that a sustained availability of nearly undamaged equipment is one paramount prerequisite for global health success by diagnostic technologies, health systems on a global level are still far from a satisfying achievement. On the one hand, high-income countries have ongoing regulation-induced replacement as well as repair programs. Even more devastatingly, outdated diagnostic technologies are donated to low- and middle-income countries when technological standards are subsidized in the donor countries. On the other hand, health systems in low- and middle-income countries have great difficulties keeping existing devices in operation due to missing financial support, maintenance expertise, and spare parts delivery [23, 24].

Future Trends in Health Technology

In recent years, healthcare systems worldwide have faced significant challenges. The outbreak of COVID-19, caused by the novel coronavirus, began in Wuhan, China, in late 2019, causing an overwhelming impact on public health globally. Initially, countries with advanced medical technology managed better against the virus, while those investing heavily in health tech saw declining outcomes. However, stark discrepancies in results persisted across both developed and developing nations. Healthcare systems comprise a complex nexus involving various public and private sectors. During the outbreak, comparisons among healthcare models emerged, influencing responses across different nations. New inventions aimed at addressing the crisis proliferated, yet the pandemic revealed concerning health outcomes, particularly in less developed systems. There is a growing focus on enhancing affordable technology as the richer nations realize their vulnerability to health scares. The aftermath of the COVID-19 crisis raises questions about future trends in global healthcare equity and the necessity for all nations to build more equitable health systems [25-28].

Case Studies of Technology Impact

This paper is a review of case studies of technology's impact on global health. The review is from a developed person intending to submit the paper for publication in a journal. Examples are given from a broad array of technologies, including a computer algorithm used to predict active tuberculosis from cough sound data, an mHealth—mobile health— platform for monitoring the 8 Bunda Vision visual sign survey questions, a mobile app that provides voice-driven pregnancy and health tips in Swahili, etc. Many global health initiatives are proposed with the hope of being a cost-effective way to improve health in low-income countries. Typically, these proposals involve technology in some way and boast that it is revolutionary. This paper reviews a series of case studies of technology impact in mHealth and global health. Most of the studies were either the PI or a collaborator, and most are from East, South, and West Africa. The cases have various technologies ranging from a computer algorithm use case to predict active tuberculosis from cough sound data to an mHealth platform for monitoring the 8 Bunda Vision visual sign survey questions. Technologies also cover a wide price range and size spectrum, including a mobile app that provides voice-driven pregnancy and health tips in Swahili, a donor-funded study, a successful start-up company that reaches millions of people, a personal side-project that fills a small gap, and several in-between [29-32].

CONCLUSION

Technology is a powerful catalyst for reforming and strengthening global health initiatives. Innovations such as telemedicine, AI, and blockchain have the potential to overcome longstanding challenges in access, transparency, and efficiency. However, their implementation must be approached with caution and care, particularly in regions with limited infrastructure and governance capacity. The digital transformation of health systems should not exacerbate existing inequalities but rather aim to close gaps in care delivery, health literacy, and data access. Achieving this requires inclusive design, context-appropriate strategies, cross-sector collaboration, and strong regulatory support. As global health continues to face unprecedented challenges—from pandemics to chronic disease burdens—technology must be harnessed not as a universal fix but as an enabler of smarter, fairer, and more resilient healthcare systems.

REFERENCES

1. Raftery P, Hossain M, Palmer J. A conceptual framework for analysing partnership and synergy in a global health alliance: case of the UK Public Health Rapid Support Team. Health policy and planning. 2022 Mar 1;37(3):322-36.

OPEN ACCESS
ONLINE ISSN: 2992-5460
PRINT ISSN: 2992-6041

2. Sharma M, Akhter MS, Roy S, Srejon R. Future Issues in Global Health: Challenges and Conundrums. International Journal of Environmental Research and Public Health. 2025 Feb 21;22(3):325. nih.gov
3. Hameiri S. COVID-19: Is this the end of globalization?. International Journal. 2021 Mar;76(1):30-41.
4. Grinin L, Grinin A, Korotayev A. COVID-19 pandemic as a trigger for the acceleration of the cybernetic revolution, transition from e-government to e-state, and change in social relations. Technological Forecasting and Social Change. 2022 Feb 1;175:121348. nih.gov
5. Garlinska M, Osial M, Proniewska K, Pregowska A. The influence of emerging technologies on distance education. Electronics. 2023 Mar 25;12(7):1550.
6. Goussal DM. Rural broadband in developing regions: Alternative research agendas for the 5G era. InHandbook on ICT in Developing Countries 2022 Sep 1 (pp. 235-276). River Publishers.
7. Qureshi MM, Farooq A, Qureshi MM. Current eHealth Challenges and recent trends in eHealth applications. arXiv preprint arXiv:2103.01756. 2021 Feb 28.
8. Okpechi IG, Muneer S, Ye F, Zaidi D, Ghimire A, Tinwala MM, Saad S, Osman MA, Lunyera J, Tonelli M, Caskey F. Global eHealth capacity: secondary analysis of WHO data on eHealth and implications for kidney care delivery in low-resource settings. BMJ open. 2022 Mar 1;12(3):e055658. bmj.com
9. Huhn S, Axt M, Gunga HC, Maggioni MA, Munga S, Obor D, Sié A, Boudo V, Bunker A, Sauerborn R, Bärnighausen T. The impact of wearable technologies in health research: scoping review. JMIR mHealth and uHealth. 2022 Jan 25;10(1):e34384. jmir.org
10. Gupta P, Choudhury R, Kotwal A. Achieving health equity through healthcare technology: Perspective from India. Journal of Family Medicine and Primary Care. 2023 Sep 1;12(9):1814-7. lww.com
11. Ugwu CN, Ugwu OP, Alum EU, Eze VH, Basajja M, Ugwu JN, Ogenyi FC, Ejemot-Nwadiaro RI, Okon MB, Egba SI, Uti DE. Sustainable development goals (SDGs) and resilient healthcare systems: Addressing medicine and public health challenges in conflict zones. Medicine. 2025 Feb 14;104(7):e41535.
12. Lalit V, Sharma Y, Ekvitayavetchanukul P, Majumder J, Biswas S, Gangopadhyay S. Operational Challenges in Modern Business Evolution in Healthcare Technology Startups. InHealthcare Industry Assessment: Analyzing Risks, Security, and Reliability 2024 Aug 3 (pp. 301-323). Cham: Springer Nature Switzerland. [HTML]
13. Kaur J. Fueling healthcare transformation: The nexus of startups, venture capital, and innovation. InFostering Innovation in Venture Capital and Startup Ecosystems 2024 (pp. 327-351). IGI Global. [HTML]
14. Rabaan AA, Alhumaid S, Mutair AA, Garout M, Abulhamayel Y, Halwani MA, Alestad JH, Bshabshe AA, Sulaiman T, AlFonaisan MK, Almusawi T. Application of artificial intelligence in combating high antimicrobial resistance rates. Antibiotics. 2022 Jun 8;11(6):784. mdpi.com
15. Rahman MM, Alam Tumpa MA, Zehravi M, Sarker MT, Yamin MD, Islam MR, Harun-Or-Rashid M, Ahmed M, Ramproshad S, Mondal B, Dey A. An overview of antimicrobial stewardship optimization: the use of antibiotics in humans and animals to prevent resistance. Antibiotics. 2022 May 16;11(5):667. mdpi.com
16. Edyedu I, Ugwu OP, Ugwu CN, Alum EU, Eze VH, Basajja M, Ugwu JN, Ogenyi FC, Ejemot-Nwadiaro RI, Okon MB, Egba SI. The role of pharmacological interventions in managing urological complications during pregnancy and childbirth: A review. Medicine. 2025 Feb 14;104(7):e41381.
17. Arumugam SK, Sharma AM. Blockchain: Opportunities in the healthcare sector and its uses in COVID-19. InLessons from COVID-19 2022 Jan 1 (pp. 61-94). Academic Press.
18. Till BM, Peters AW, Afshar S, Meara JG. From blockchain technology to global health equity: can cryptocurrencies finance universal health coverage?. BMJ global health. 2017 Dec 1;2(4):e000570.
19. Ezeilo CO, Leon N, Jajodia A, Han HR. Use of social media for health advocacy for digital communities: descriptive study. JMIR Formative Research. 2023 Nov 14;7:e51752. jmir.org

OPEN ACCESS
ONLINE ISSN: 2992-5460
PRINT ISSN: 2992-6041

20. Hong S. COVID-19 vaccine communication and advocacy strategy: a social marketing campaign for increasing COVID-19 vaccine uptake in South Korea. Humanities and Social Sciences Communications. 2023 Mar 16;10(1):1-9.
21. Knupfer AM. The Chicago Black Renaissance and women's activism. University of Illinois Press; 2023 Feb 13.
22. Duke NC. Mangrove phenologies and the factors influencing them in the Australasian region. Mangrove Ecosystems: Function and management. 2002 Jan 1:217-33.
23. Owolabi MO, Thrift AG, Martins S, Johnson W, Pandian J, Abd-Allah F, Varghese C, Mahal A, Yaria J, Phan HT, Roth G. The state of stroke services across the globe: report of World Stroke Organization–World Health Organization surveys. International Journal of Stroke. 2021 Oct;16(8):889-901. nih.gov
24. Bartolini G. THE FAILURE OF 'CORE CAPACITIES'UNDER THE WHO INTERNATIONAL HEALTH REGULATIONS. International & Comparative Law Quarterly. 2021 Jan;70(1):233-50.
25. Tilahun B, Gashu KD, Mekonnen ZA, Endehabtu BF, Angaw DA. Mapping the role of digital health technologies in prevention and control of COVID-19 pandemic: review of the literature. Yearbook of medical informatics. 2021 Aug;30(01):026-37. thieme-connect.com
26. Wang Q, Su M, Zhang M, Li R. Integrating digital technologies and public health to fight Covid-19 pandemic: key technologies, applications, challenges and outlook of digital healthcare. International Journal of Environmental Research and Public Health. 2021 Jan;18(11):6053. mdpi.com
27. Ongesa TN, Ugwu OP, Ugwu CN, Alum EU, Eze VH, Basajja M, Ugwu JN, Ogenyi FC, Okon MB, Ejemot-Nwadiaro RI. Optimizing emergency response systems in urban health crises: A project management approach to public health preparedness and response. Medicine. 2025 Jan 17;104(3):e41279.
28. Chandra M, Kumar K, Thakur P, Chattopadhyaya S, Alam F, Kumar S. Digital technologies, healthcare and Covid-19: insights from developing and emerging nations. Health and Technology. 2022 Mar;12(2):547-68. springer.com
29. Haldane V, De Foo C, Abdalla SM, Jung AS, Tan M, Wu S, Chua A, Verma M, Shrestha P, Singh S, Perez T. Health systems resilience in managing the COVID-19 pandemic: lessons from 28 countries. Nature medicine. 2021 Jun;27(6):964-80. nature.com
30. Shaffer J, Alenichev A, Faure MC. The Gates Foundation's new AI initiative: attempting to leapfrog global health inequalities?. BMJ Global Health. 2023 Nov 3;8(11).
31. Ongesa TN, Ugwu OP, Ugwu CN, Alum EU, Eze VH, Basajja M, Ugwu JN, Ogenyi FC, Okon MB, Ejemot-Nwadiaro RI. Optimizing emergency response systems in urban health crises: A project management approach to public health preparedness and response. Medicine. 2025 Jan 17;104(3):e41279.
32. Raina SK, Kumar R. "Covishield and Covaxin"–India's contribution to global COVID-19 pandemic. Journal of Family Medicine and Primary Care. 2021 Jul 1;10(7):2433-5.

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