

Critical Analysis of Healthcare Systems, Leadership Challenges, and Public Health Solutions

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Abstract

In this paper, the article provided a critique of various global health systems as well as prospects of the leadership and the general transformation of the conventional public health approaches in handling health disparities and enhancing patient care provision. Healthcare systems are built over time depending on the socio-economic factors, technology, and politics of the different regions. This paper discusses the issues that managers of healthcare organizations experience, particularly in moments of crisis— for example, epidemic or pandemic situations or resource scarcity. Also, different approaches such as universal health coverage (UHC), technology-enhanced health promotion, etc., are well discussed to examine their suitability in solving emerging challenges to world health.

Keywords: *Healthcare Systems, Leadership Challenges, Public Health Solutions, Universal Health Coverage, Health Inequities, Healthcare Reform, Global Health.*

Introduction

Healthcare systems worldwide are central to public health, but they face a variety of challenges ranging from resource allocation to leadership and governance issues. The complexity of healthcare delivery requires a collaborative and well-managed approach to ensure that quality care is accessible to all individuals, regardless of socioeconomic status. This paper explores the critical role of healthcare systems, the challenges faced by leadership in healthcare settings, and the innovative public health solutions implemented to address these challenges.

Key issues such as the disparity in healthcare access between high-income and low-income countries, the role of technology in improving care, leadership failures during global health crises, and the effectiveness of public health solutions will be examined (Mohammad et al., 2024a; Mohammad et al., 2023a; Mohammad et al, 2024b). By analyzing both successful models and areas requiring improvement, this paper aims to provide recommendations for enhancing healthcare systems globally.

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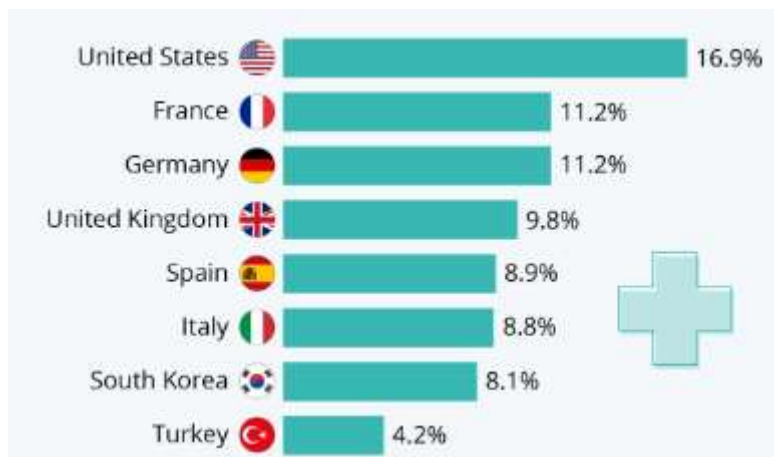
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Literature Review

Global Healthcare Systems and Their Variations

Healthcare systems around the world differ significantly due to variations in economic conditions, political systems, and historical contexts. High-income countries (HICs) typically possess robust healthcare systems that are well-funded, offering advanced medical technologies, comprehensive services, and overall better health outcomes. These systems are often characterized by public or private insurance schemes, which ensure that citizens have access to a wide range of healthcare services. Countries like the United States, Canada, and those in Western Europe are prime examples of nations with well-established healthcare infrastructure (Mohammad et al., 2023b; Al-Hawary et al., 2020; Al-Husban et al., 2023). However, even in these regions, significant challenges persist. Aging populations in many developed countries have led to increased demand for healthcare services, creating a strain on resources and making it harder to maintain high levels of care. Additionally, rising healthcare costs, often driven by expensive medical technologies and administrative overheads, are placing a growing financial burden on both governments and individuals. Despite the advanced healthcare systems in these nations, disparities in care still exist, particularly among marginalized groups and in rural areas where access to services may be limited.

In contrast, low- and middle-income countries (LMICs) face more profound challenges. These nations often struggle with limited healthcare funding, inadequate medical infrastructure, and insufficient numbers of healthcare workers. For example, sub-Saharan Africa and parts of Southeast Asia are regions where healthcare systems are underdeveloped, and millions of people lack access to essential health services. The health infrastructure in many of these countries is basic, with hospitals and clinics often poorly equipped to handle widespread diseases, let alone specialized care. Healthcare financing in LMICs remains a significant barrier, as these countries often do not have the financial resources to fund their healthcare needs adequately. According to the World Health Organization (WHO), many people in LMICs are unable to access even the most basic healthcare services, leading to higher rates of preventable diseases and deaths.



Given these disparities, the global healthcare system can be classified into various models. According to Barros et al. (2020), healthcare systems generally fall into one of four models: the Beveridge Model, the Bismarck Model, the National Health Insurance (NHI) Model, and the Out-of-Pocket (OOP) Model. Each model reflects how healthcare services are funded, who delivers the care, and who bears the cost.

- The Beveridge Model is typically funded through taxes and provides free healthcare services to all citizens, as seen in the United Kingdom and Spain. This model tends to work well in countries with a strong public sector and the political will to fund universal coverage.
- The Bismarck Model, found in countries like Germany and Japan, uses a system of "sickness funds" that are financed by both employers and employees. It combines the efficiency of private health insurance with the goal of universal coverage.

- The National Health Insurance Model is a hybrid approach used in countries like Canada. The government acts as the single payer for healthcare services, but care is often delivered by private providers.
- The Out-of-Pocket Model is the least equitable and is typically used in countries with limited healthcare resources, such as many LMICs. The costs in this system lie directly with the patient, who has to pay for services received out of his/her own pocket. There is high inequality in this system.

Leadership Challenges in Healthcare

The smooth running of any healthcare system is greatly determined by leaders. There is a whole range of challenges that healthcare leaders can experience while working with healthcare services management, implementing and evaluating policies, as well as caring for the healthcare staff. Of these, the most important and probably one of the most difficult tasks of leadership involves the management of resources. Reviews, therefore, acknowledge that the allocation of resources for healthcare services and the funding that is availed in both high-income and low-income countries has to be good enough. In the former group, this challenge translates into increasing healthcare costs, while in the latter it arises due to inadequately funded healthcare, inadequate physical structures, and a dearth of human resources.

Another complicated leadership problem is that of governance and transparency. Healthcare systems in nations with less rigorous institutional frameworks may lack responsibility, be plagued with too much red tape, and be corrupt. In LMICs, the efficiency of governance is highly important because these countries depend on foreign sources of finance, which may be embezzled. Health care facilities are required to be accountable in their dispensing of services to prevent inefficiencies.



Another concern of healthcare executives is the level of staff morale and burnout. Health care workers are overextended in their duties, and this backfires, most especially during such natural disasters, for instance, the COVID-19 pandemic, thus they are more prone to burnout and insufficient ability to attend to their patients. The stress level in healthcare work and working extended hours, besides receiving little pay in some areas, deepens the issue. These issues have to be solved by leaders who would adopt proper personnel politics, who would provide proper wages, who would attract attention to improve working conditions, and who would equip and train employees for their work.

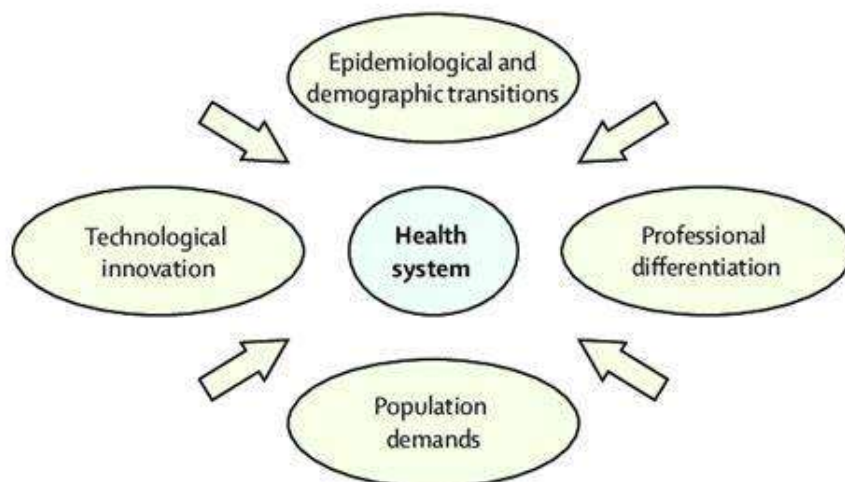
Last but not least, most healthcare leaders around the world face the problem of adapting to the rapidly changing technology. Using technology, including telehealth, EHR, and AI, improves the delivery of healthcare services; however, they demand greater capital investments in infrastructure and personnel training. Furthermore, it is often challenging to implement these technologies into the already existing healthcare systems; this may be an even more massive problem in the developing world.

Public Health Solutions and Innovations

Global health is dependent on public health solutions since there are many health disparities in the society. In public health, therefore, its aim is prevention of disease, promotion of healthy lifestyles, and enhancement of provision of services. The most revolutionary solution is universal health coverage (UHC), which promises achievement of affordable health for every person irrespective of their ability to pay for the services rendered. There are successful TH models in Thailand and Rwanda, for example, and this has positively impacted UHC. Country examples for actual improvements of healthcare include Rwanda, which cuts maternal and child mortality and improves life expectancy owing to enhanced access to health via a community health insurance scheme. Besides the better health and usage of health care services, UHC also safeguards individuals from eating up all their money on health.

However, technological integration is the second force that is radically transforming the healthcare system, including UHC. Telemedicine, health apps, and diagnostics based on artificial intelligence are successfully filling the healthcare voids, especially in rural regions and zones of low coverage (World Health Organization 2018).. Telemedicine, for instance, has meant that services can be offered through technology that means patients do not need to travel long distances to see their doctor. These technologies can play a particularly important role in areas with relatively low levels of health-care development.

Another is health promotion and education, which is another crucial aspect in the public health domain. When it comes to preventable diseases, dieting, vaccination, and change of lifestyle through public health advertisement have reduced diseases such as diabetes, cardiovascular diseases, and infectious diseases. This can be illustrated whereby the success of immunization on one example, for instance, measles and polio, has considerably lowered its occurrence globally. Continuing education for the public is also important in countering diseases and the spread of noncommunicable diseases increasingly prevalent in some areas where obesity and tobacco rates are high.



Many of these public health solutions are at their best when supported by vigorous policies as well as international cooperation. Those countries that have developed sound health policies and have invested a great deal of capital in their public health services receive better health outcomes, while the development of strong alliances and partnerships on the world stage through organizations like the WHO will afford effective backing and resource provisioning for global health products.

Methods

This paper's research process includes a qualitative and quantitative analysis of global health systems, leaders' effectiveness, as well as the relevant interventions. The information sources used are peer-reviewed journals, government publications, World Health Organization publications, and case studies from developed countries as well as developing countries. The comparative analysis was included to distill the impact of different healthcare models on the health state of populations, as well as to evaluate the styles of leadership and public health interventions during challenges to health.

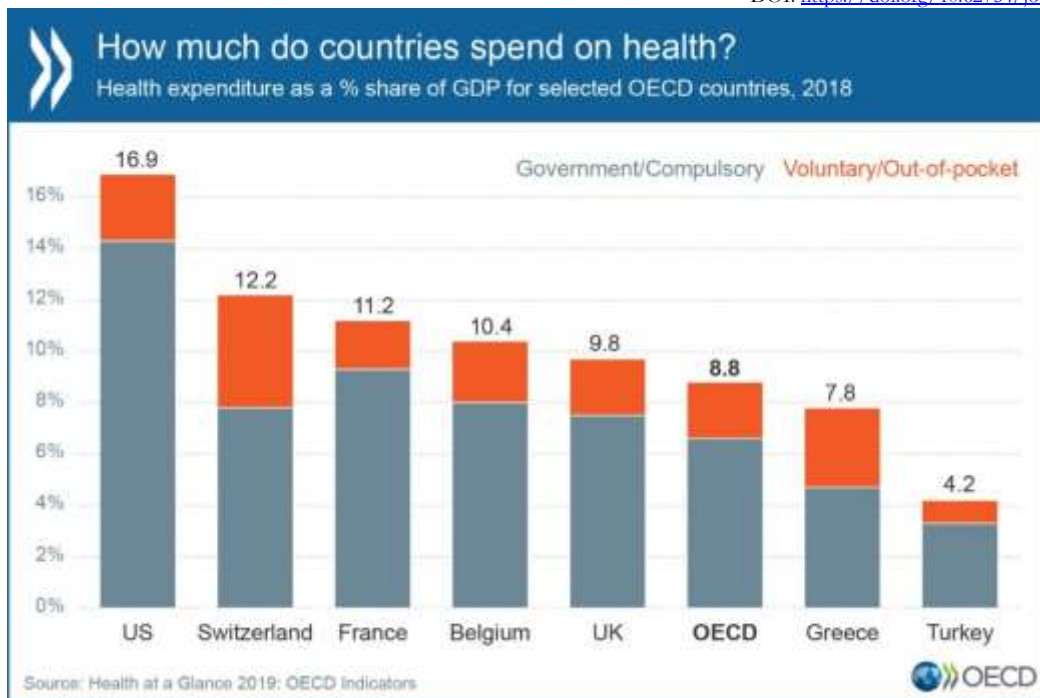
Further, semi-structured interviews were held with healthcare professionals and policymakers in order to understand leadership experiences and issues faced in actual organizations.

Results and Findings

Healthcare System Performance Across Regions

The level of implementation of healthcare systems differs significantly depending on the following categories: first, the economic status of a particular country; second, health infrastructure and/or resources overall. In developed countries, for instance, the United States, Canada, and Western European countries, the healthcare services are reasonably broad, which offer the latest technology and specialty services to the citizens. But even in such developed countries, several challenges still exist. For example, the United States spends more on health care than any other nation but still gets worse health than the majority of the other nations across the OECD. As pointed out by OECD (2021), the US healthcare expenditure per capita is more than \$10,000. However, inherent challenges present include escalating costs of healthcare, insurance concerns, and scarcity of providers more prominently in rural areas. They lead to broken health system loops and gaps in health access, especially among disadvantaged groups. Furthermore, in not only developing countries but also HICs, polymorbidities and aging populations escalate costs of chronic diseases, putting steady pressure on developing new and constantly revising policies on health systems.

In the low- and middle-income countries (LMICs), the situations are a bit worse. Due to inadequate resources, these countries complain of inadequate health facilities, a lack of adequately trained human resources in health, and inadequate infrastructure to implement competent basic health care. At the same time, such regions as Sub-Saharan Africa and parts of Southeast Asia remain very high, not only because women and children do not have access to quality care providers and medical equipment. Source from WHO: less than half the people in LMICs have access to the minimum essential healthcare; in some LMICs, per capita health expenditure is less than \$50, thus restricting the range of curative care. These disparities show the seriousness of the challenge in increasing health funding, strengthening health systems, and gaining international cooperation in order to reduce health disparities in LMICs.



Leadership Challenges in Healthcare

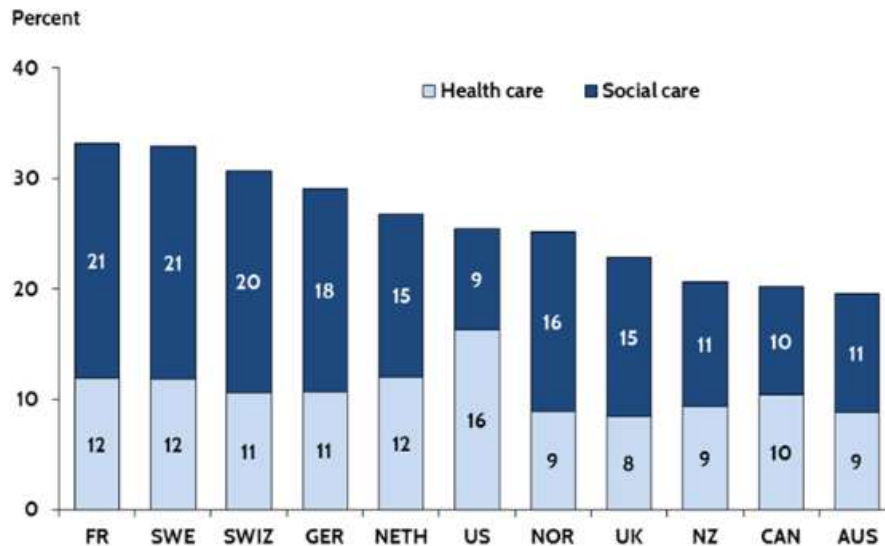
Healthcare leadership is critical to the efficient utilization of health systems, but there are many factors that can hamper leadership processes. Human resources for health, materials, resources, and funds remain major challenges, especially for LMIC countries, where skilled human resources, adequate medical equipment, and funds are scarce to provide adequate health care. These leaders must do more with less and focus on which health interventions will offer the greatest returns on children's lives. COVID-19 also reveals additional leadership shortcomings, as well as in those nations that have underfunded and overburdened healthcare systems. That is why the countries with fully developed leadership structures, such as New Zealand and South Korea, acted quickly, introduced transparent communication tasks, and developed strategies for containing the epidemic. These nations were able to keep the spread of Covid-19 to the bare minimum and ensured that proper health care was provided to its citizens.

One of the toughest challenges that exist in healthcare leadership all over the world is staff burnout. As health facilities receive more patients, due to population growth or geographical needs, HCWs are becoming fatigued and burnt out. According to the study conducted by Lee et al. (2021), the level of burnout among the personnel of healthcare organizations in the context of COVID-19 ranged between 56.3% and 59.3% and impacted the quality of personnel's work and outcomes. It is required for strong management to implement organizational support programs, proper allocation of resources, and quality work-life balance to prevent staff burnout and sustain the workforce and the quality of care in the health systems.

Effectiveness of Public Health Solutions

Community-based interventions that have been implemented have had mixed outcomes in managing global health inequality. One of the most famous solutions is universal health coverage, or, in short, UHC. The successes that have been achieved by Rwanda and Thailand are real proof that UHC systems are useful. In Rwanda, UHC has helped in reducing child mortality rates and gaining in life expectancy, especially in the rural areas where health care services were inaccessible. Increased enrollment by Rwandans through the CBHI has shown that even in resource-constrained contexts, UHC is achievable through scaling up CBHI programs.

This has also helped to make use of technological implementation to be highly significant as a solution to the enhancement of the delivery of health services in hard-to-reach and poorly serviced regions of the country. Although mobile health apps, telemedicine, and AI-based diagnostics have become popular among patients, they have improved access to care during emergencies such as the COVID-19 situation. For instance, telemedicine technologies in India and the Philippines helped millions of inhabitants to receive treatment while the lockdowns and traveling bans limited possible ways to engage formal healthcare institutions and continue the treatment (World Health Organization 2018). These innovations demonstrate the ability of digital health to fill geographical and financial gaps left in traditional health care systems, particularly in developing nations.



Discussion

Implications of Healthcare Systems and Leadership Challenges

In light of these studies, the org identifies that any advancements in the challenges facing healthcare systems globally cannot be achieved without adequate consideration of healthcare leadership. Leadership is important in organizational affairs, especially when dealing with matters like resources, natural disasters, and human resources. For example, in the LMICs and developed countries such as the USA, Japan, UK, Canada, and Australia, leadership has to find ways of achieving the goals of universal health care while at the same time containing rising costs (Al-Azzam et al., 2023; Al-Shormana et al., 2022; Al-E'wesat et al., 2024). Very specifically in low- and middle-income countries (LMIC), it is a critical feature of leadership to deploy limited resources where they are most impactful in delivering quality care regardless of staff losses and structural constraints.

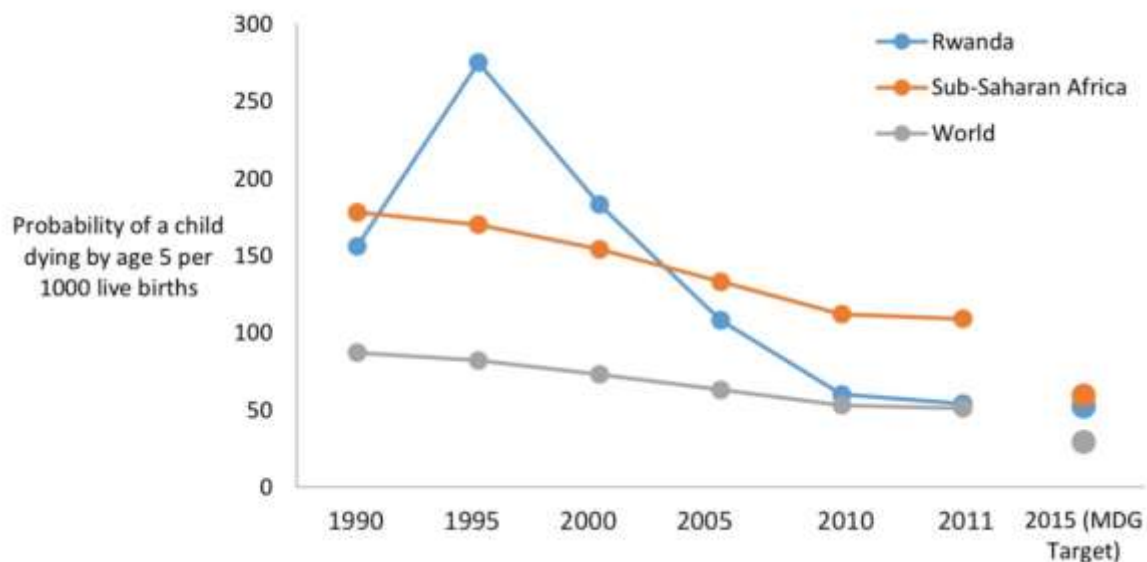
The key concern of resource management is one of the leader responsibilities that affect the quality of care most. Health care organizations are forced to make such managerial decisions involving assignments of scarce resources, which are human resources, technologies, and medicines, to compete for the health care needs of the population. LMIC are even worse off with regards to funding; therefore, health leaders need to make formal appeals for more sustainable health financing to guarantee sustainable healthcare funding. Moreover, it might be crucial for leadership to be efficient in order to manage crises. The 2020 COVID-19 pandemic demonstrated the need for structures to have strong and prompt leadership in managing health crises. Countries with stronger health system leadership, such as New Zealand and South Korea, were able to put measures in place that helped to reduce the effects of the crisis. On the other hand, the nations with low leadership capacity faced high figures of infection and health-care system overload.

However, one of the other leadership issues is the workforce management. A constant challenge that has resurfaced during the period is healthcare worker burnout, more so during the COVID-19 period. This

means that healthcare leaders need to guarantee that personnel are being supported through organizational wellness programs, adequate staffing ratios, and workplace safety. Thus the failure to address burnout could result in a degradation of care levels, turnover, and a derisory ability to cope with the outbreaks of such diseases.

The Role of Public Health Solutions

Efforts like UHC, technology adoption, and health enhancement approaches that are on the agenda for global improvements present credible opportunities for closing health disparities and enhancing healthcare delivery results. UHC guarantees that everyone receives the required health care without facing financial risk. The model implemented in other countries such as Thailand and Rwanda shows that the performance of UHC has led to the promotion of health status in low-income contexts. Such systems have played a catalytic role in the child mortality rates and improved health among those in the marginalized groups (World Health Organization 2018)..



(World Health Organization 2018)

Telemedicine, smartphone applications, and even diagnosis based on artificial intelligence are among those innovative solutions that have demonstrated their efficiency in transportation and in areas where access to a doctor is rare. These innovations help healthcare providers address those patients who otherwise cannot access the needed services because of location, cost, or infrastructure constraints. During the COVID-19 pandemic, telemedicine empowered millions to get medical advice and consultation without visiting health care facilities that could be congested, therefore easing pressure on health care systems.

However, though these public health solutions are promising, the implementation of these solutions is not without a few challenges in LMICs. The lack of cash continues to be a significant impediment to the realization of UHC and advancement of technologies in these areas. At the same time, such conditions as the deficit of infrastructure in general and the absence of stable electricity and the Internet in particular limit the possibilities of applied technologies. However, these lights can provide enduring public health interventions once backed with sound policies. Those strategies require commitment of funds to the development of healthcare facilities and technology, digital communications, and needs-based funding to support sustainable and scalable solutions (Maphumulo & Bhengu 2019; Al-Nawafah et al., 2022; Alolayyan et al., 2018; Eldahamsheh, 2021)..

the potential of technological solutions. Despite these obstacles, these public health innovations can offer long-term benefits if supported by **robust policy frameworks**. Governments and international

organizations must invest in the development of healthcare infrastructure, digital literacy, and equitable financing models to ensure that public health solutions can be sustained and scaled in the long term.

Conclusion

First and lastly, healthcare systems across the globe are challenged by numerous issues, including inadequate available resources and missing infrastructures and equipment in developing LMICs and increasing expenditure and injustice in HINs. These issues point to the centrality of leadership to solve some of these problems, bearing in mind the welfare of the workforce, allocation of resources, and management of crises in the healthcare institutions. However, thanks to the development of advanced and innovative approaches such as UHC and technology and health promotion, there is a need to enhance accessibility to health care and decrease disparities, especially in the developing areas. Nevertheless, effective control relies on robust policy and sufficient finances, particularly in LMICs settings for chronic disease. Learning from good as well as damaging health system experiences allows countries to develop improved, fair, and sustainable systems that will be equipped for future waves of global health crises (Figuerola et al., 2019; Alzyoud et al., 2024; Mohammad et al., 2022; Rahamneh et al., 2023).. Cross-cutting leadership, creativity, technological solutions, and effective policies' pillars will be instrumental in MI, crucial to defining global health's direction and progress and in enhancing population health and reducing health disparities worldwide.

Recommendations

- **Strengthen Healthcare Leadership:** As weaknesses, leadership training programs should be inclusive of **Promote International Collaboration:** Enhanced collaboration between high-income and low-income countries, through both financial aid and knowledge sharing, can help bridge healthcare gaps.

References

- Aarons, G. A., Green, A. E., Trott, E., Willging, C. E., Torres, E. M., Ehrhart, M. G., & Roesch, S. C. (2016). The roles of system and organizational leadership in system-wide evidence-based intervention sustainment: a mixed-method study. *Administration and Policy in Mental Health and Mental Health Services Research*, 43, 991-1008. <https://link.springer.com/article/10.1007/s10488-016-0751-4>
- Adeloye, D., David, R. A., Olaogun, A. A., Auta, A., Adesokan, A., Gadanya, M., ... & Iseolorunkanmi, A. (2017). Health workforce and governance: the crisis in Nigeria. *Human resources for health*, 15, 1-8. <https://link.springer.com/article/10.1186/s12960-017-0205-4>
- Al-Azzam, M. A. R., Alrfai, M. M., Al-Hawary, S. I. S., Mohammad, A. A. S., Al-Adamat, A. M., Mohammad, L. S., Al-hourani, L. (2023). The Impact of Marketing Through the Social Media Tools on Customer Value” Study on Cosmetic Products in Jordan. In *Emerging Trends and Innovation in Business and Finance* (pp. 183-196). Singapore: Springer Nature Singapore.
- Al-E'wesat, M.S., Hunitie, M.F., Al sarayreh, A., Alserhan, A.F., Al-Ayed, S.I., Al-Tit, A.A., Mohammad. A.A., Al-hawajreh, K.M., Al-Hawary, S.I.S., Alqahtani, M.M. (2024). Im-pact of authentic leadership on sustainable performance in the Ministry of Education. In: Hannon, A., and Mahmood, A. (eds) *Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility*. Studies in Computational Intelligence. Springer, Cham. Forthcoming.
- Al-Hawary, S. I. S., Mohammad, A. S., Al-Syasneh, M. S., Qandah, M. S. F., Alhajri, T. M. S. (2020). Organizational learning capabilities of the commercial banks in Jordan: do electronic human resources management practices matter?. *International Journal of Learning and Intellectual Capital*, 17(3), 242-266. <https://doi.org/10.1504/IJLIC.2020.109927>
- Al-Husban, D. A. A. O., Al-Adamat, A. M., Haija, A. A. A., Al Sheyab, H. M., Aldai-hani, F. M. F., Al-Hawary, S. I. S., Mohammad, A. A. S. (2023). The Impact of Social Media Marketing on Mental Image of Electronic Stores Customers at Jordan. In *Emerging Trends and Innovation in Business And Finance* (pp. 89-103). Singa-pore: Springer Nature Singapore. https://doi.org/10.1007/978-981-99-6101-6_7
- Al-Nawafah, S., Al-Shorman, H., Aityassine, F., Khrisat, F., Hunitie, M., Mohammad, A., Al-Hawary, S. (2022). The effect of supply chain management through social media on competitiveness of the private hospitals in Jordan. *Uncertain Supply Chain Management*, 10(3), 737-746. <http://dx.doi.org/10.5267/j.uscm.2022.5.001>
- Alolayyan, M., Al-Hawary, S. I., Mohammad, A. A., Al-Nady, B. A. (2018). Banking Service Quality Provided by Commercial Banks and Customer Satisfaction. A structural Equation Modelling Approaches. *International Journal of Productivity and Quality Management*, 24(4), 543-565. <https://doi.org/10.1504/IJPQM.2018.093454>
- Al-Shorman, H., AL-Zyadat, A., Khalayleh, M., Al-Quran, A. Z., Alhalalmeh, M. I., Mohammad, A., Al-Hawary, S. (2022). Digital Service Quality and Customer Loyalty of Commercial Banks in Jordan: the Mediating Role of Corporate Image. *Information science letters*, 11(06), 1887-1896.

- Alzyoud, M., Hunitie, M.F., Alka'awneh, S.M., Samara, E.I., Bani Salameh, W.M., Abu Haija, A.A., Al-shanableh, N., Mohammad, A.A., Al-Momani, A., Al-Hawary, S.I.S. (2024). Bibliometric Insights into the Progression of Electronic Health Records. In: Hannon, A., and Mahmood, A. (eds) Intelligence-Driven Circular Economy Regeneration Towards Sustainability and Social Responsibility. Studies in Computational Intelligence. Springer, Cham. Forthcoming.
- Asmri, M. A., Almalki, M. J., Fitzgerald, G., & Clark, M. (2020). The public health care system and primary care services in Saudi Arabia: a system in transition. *Eastern Mediterranean Health Journal*, 26(4), 468-476. <https://eprints.qut.edu.au/232129>
- Bauer, M. S., Damschroder, L., Hagedorn, H., Smith, J., & Kilbourne, A. M. (2015). An introduction to implementation science for the non-specialist. *BMC psychology*, 3, 1-12. <https://link.springer.com/article/10.1186/S40359-015-0089-9>
- Brownson, R. C., Fielding, J. E., & Green, L. W. (2018). Building capacity for evidence-based public health: reconciling the pulls of practice and the push of research. *Annual review of public health*, 39(1), 27-53. <https://www.annualreviews.org/content/journals/10.1146/annurev-publhealth-040617-014746>
- Cohen, S. P., Baber, Z. B., Buvanendran, A., McLean, B. C., Chen, Y., Hooten, W. M., ... & Phillips, C. R. (2020). Pain management best practices from multispecialty organizations during the COVID-19 pandemic and public health crises. *Pain Medicine*, 21(7), 1331-1346. <https://academic.oup.com/painmedicine/article-abstract/21/7/1331/5817092>
- DeSalvo, K. B., Wang, Y. C., Harris, A., Auerbach, J., Koo, D., & O'Carroll, P. (2017). Peer reviewed: public Health 3.0: A call to action for public health to meet the challenges of the 21st century. *Preventing chronic disease*, 14. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5590510/>
- Eldahamsheh, M.M., Almomani, H.M., Bani-Khaled, A.K., Al-Quran, A.Z., Al-Hawary, S.I.S & Mohammad, A.A (2021). Factors Affecting Digital Marketing Success in Jordan . *International Journal of Entrepreneurship* , 25(S5), 1-12.
- Figuroa, C. A., Harrison, R., Chauhan, A., & Meyer, L. (2019). Priorities and challenges for health leadership and workforce management globally: a rapid review. *BMC health services research*, 19, 1-11. <https://link.springer.com/article/10.1186/s12913-019-4080-7>
- Ginter, P. M., Duncan, W. J., & Swayne, L. E. (2018). The strategic management of health care organizations. John Wiley & Sons. <https://books.google.com/books?hl=en&lr=&id=3qVFDwAAQBAJ&oi=fnd&pg=PR7&dq=General:+Critical+Analysis+of+Healthcare+Systems,+Leadership+Challenges,+and+Public+Health+Solutions&ots=4VDSqoyYKD&sig=H0Aalchlyq9N2LXviV0jZrrrs68>
- Greenhalgh, T., & Papoutsi, C. (2018). Studying complexity in health services research: desperately seeking an overdue paradigm shift. *BMC medicine*, 16, 1-6. <https://link.springer.com/article/10.1186/s12916-018-1089-4>
- Greenhalgh, T., Jackson, C., Shaw, S., & Janamian, T. (2016). Achieving research impact through co-creation in community-based health services: literature review and case study. *The Milbank Quarterly*, 94(2), 392-429. <https://onlinelibrary.wiley.com/doi/abs/10.1111/1468-0009.12197>
- Hahn, R. A., & Truman, B. I. (2015). Education improves public health and promotes health equity. *International journal of health services*, 45(4), 657-678. <https://journals.sagepub.com/doi/abs/10.1177/0020731415585986>
- Lehoux, P., Roncarolo, F., Silva, H. P., Boivin, A., Denis, J. L., & Hébert, R. (2018). What health system challenges should responsible innovation in health address? Insights from an international scoping review. *International journal of health policy and management*, 8(2), 63. <https://pmc.ncbi.nlm.nih.gov/articles/PMC6462209/>
- Li, L., & Fu, H. (2017). China's health care system reform: Progress and prospects. *The International journal of health planning and management*, 32(3), 240-253. <https://onlinelibrary.wiley.com/doi/abs/10.1002/hpm.2424>
- Maphumulo, W. T., & Bhengu, B. R. (2019). Challenges of quality improvement in the healthcare of South Africa post-apartheid: A critical review. *Curationis*, 42(1), 1-9. <https://journals.co.za/doi/abs/10.4102/curationis.v42i1.1901>
- Martin, D., Miller, A. P., Quesnel-Vallée, A., Caron, N. R., Vissandjée, B., & Marchildon, G. P. (2018). Canada's universal health-care system: achieving its potential. *The Lancet*, 391(10131), 1718-1735. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)30181-8/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)30181-8/abstract)
- Mohammad, A. A. S., Alolayyan, M. N., Al-Daoud, K. I., Al Nammias, Y. M., Vasudevan, A., & Mohammad, S. I. (2024a). Association between Social Demographic Factors and Health Literacy in Jordan. *Journal of Ecohumanism*, 3(7), 2351-2365.
- Mohammad, A. A. S., Al-Qasem, M. M., Khodeer, S. M. D. T., Aldaihani, F. M. F., Alserhan, A. F., Haija, A. A. A., ... & Al-Hawary, S. I. S. (2023b). Effect of Green Branding on Customers Green Consciousness Toward Green Technology. In *Emerging Trends and Innovation in Business and Finance* (pp. 35-48). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-99-6101-6_3
- Mohammad, A. A. S., Barghouth, M. Y., Al-Husban, N. A., Aldaihani, F. M. F., Al-Husban, D. A. A. O., Lemoun, A. A. A., ... & Al-Hawary, S. I. S. (2023a). Does Social Media Marketing Affect Marketing Performance. In *Emerging Trends and Innovation in Business and Finance* (pp. 21-34). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-99-6101-6_2
- Mohammad, A. A. S., Khanfar, I. A., Al Oraini, B., Vasudevan, A., Mohammad, S. I., & Fei, Z. (2024b). Predictive analytics on artificial intelligence in supply chain optimization. *Data and Metadata*, 3, 395-395.
- Mohammad, A., Aldmour, R., Al-Hawary, S. (2022). Drivers of online food delivery orientation. *International Journal of Data and Network Science*, 6(4), 1619-1624. <http://dx.doi.org/10.5267/j.ijdns.2022.4.016>
- Oleribe, O. O., Momoh, J., Uzochukwu, B. S., Mbofana, F., Adebisi, A., Barbera, T., ... & Taylor-Robinson, S. D. (2019). Identifying key challenges facing healthcare systems in Africa and potential solutions. *International journal of general medicine*, 395-403. <https://www.tandfonline.com/doi/abs/10.2147/IJGM.S223882>

- Panch, T., Szolovits, P., & Atun, R. (2018). Artificial intelligence, machine learning and health systems. *Journal of global health*, 8(2). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6199467/>
- Rahamneh, A., Alrawashdeh, S., Bawaneh, A., Alatyat, Z., Mohammad, A., Al-Hawary, S. (2023). The effect of digital supply chain on lean manufacturing: A structural equation modelling approach. *Uncertain Supply Chain Management*, 11(1), 391-402. <http://dx.doi.org/10.5267/j.uscm.2022.9.003>
- Smith, M. S., Lawrence, V., Sadler, E., & Easter, A. (2019). Barriers to accessing mental health services for women with perinatal mental illness: systematic review and meta-synthesis of qualitative studies in the UK. *BMJ open*, 9(1), e024803. <https://bmjopen.bmj.com/content/9/1/e024803.abstract>.
- Stanhope, M., & Lancaster, J. (2015). *Public health nursing: Population-centered health care in the community*. Elsevier Health Sciences. <https://books.google.com/books?hl=en&lr=&id=hw3hCgAAQBAJ&oi=fnd&pg=PP1&dq=General:+Critical+Analysis+of+Healthcare+Systems,+Leadership+Challenges,+and+Public+Health+Solutions&ots=JmjynYb5tm&sig=2TUEWdUzC3cOwUUowCKBdPAF5aM>
- Usak, M., Kubiakto, M., Shabbir, M. S., Viktorovna Dudnik, O., Jermittiparsert, K., & Rajabion, L. (2020). Health care service delivery based on the Internet of things: A systematic and comprehensive study. *International Journal of Communication Systems*, 33(2), e4179. <https://onlinelibrary.wiley.com/doi/abs/10.1002/dac.4179>
- Wong, A. S., & Kohler, J. C. (2020). Social capital and public health: responding to the COVID-19 pandemic. *Globalization and health*, 16(1), 88. <https://link.springer.com/article/10.1186/s12992-020-00615-x>
- World Health Organization. (2018). Continuity and coordination of care: a practice brief to support implementation of the WHO Framework on integrated people-centred health services. <https://apps.who.int/iris/bitstream/handle/10665/274628/9789241514033-eng.pdf>