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Research Article

The Evolution of Health Policies: Their Impact on Public Health and Future Vision

Canan Bulut 1*

^{1*} Department of Medical Services and Technics, Vocational School, Istanbul Kültür University, 34147 Bakırköy, Istanbul, Türkiye

E-mail: c.bulut@iku.edu.tr Orcid: 0000-0001- 5092-5261

ABSTRACT

This study explores the historical evolution of health policies from the early 20th century to the present, with a particular focus on Europe, North America, and developing countries. It analyzes how health policies have transformed over time to influence public health outcomes, particularly in terms of access, equity, and sustainability in healthcare delivery. Using qualitative and comparative analysis methods, the study investigates key policy components including universal health coverage, public-private partnerships, and digital health innovations. It also compares the historical progression of health policies in various countries with their ability to address current global health challenges. The findings emphasize the notable successes of health policies in expanding universal healthcare access and controlling infectious diseases. The implementation of widespread vaccination programs, improved accessibility to primary healthcare services, and the expansion of publicly funded health systems have all significantly contributed to better public health outcomes. Digital health solutions, such as the expansion of telehealth services and the adoption of electronic health records, have improved healthcare efficiency by reducing wait times, enhancing access in rural areas, and streamlining patient management processes. Nonetheless, challenges persist, including rising healthcare costs, financial sustainability concerns, regional disparities, and the need for resilient health systems in the face of pandemics and other crises. Looking ahead, the trajectory of health policy will be shaped by artificial intelligence-driven management systems, big data analytics, and enhanced global health collaborations. Policymakers must take into account climate change, demographic shifts, and future global health emergencies when designing effective strategies. This study contributes to a comprehensive understanding of the influence of health policies on public health and advocates for a more inclusive, sustainable, and equitable healthcare system.

Keywords: Health policy, Health system resilience, Public health, Sustainable healthcare.

Sağlık Politikalarının Evrimi: Toplum Sağlığı Üzerindeki Etkileri ve Gelecek Vizyonu

ÖZET

Bu çalışma, sağlık politikalarının 20. yüzyılın başından günümüze kadar olan tarihsel evrimini Avrupa, Kuzey Amerika ve gelişmekte olan ülkeler odağında incelemektedir. Farklı dönemlerde izlenen sağlık politikalarının halk sağlığı üzerindeki etkileri değerlendirilerek, sağlık hizmetlerine erişim, eşitlik ve sürdürülebilirlik bağlamındaki dönüşümleri analiz edilmiştir. Araştırmada, evrensel sağlık hizmeti kapsamı, kamu-özel iş birlikleri ve dijital sağlık çözümleri gibi temel politika bileşenleri nitel ve

Application: 7 February 2025 Accepted: 15 March 2025 *Corresponding author: c.bulut@iku.edu.tr

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karşılaştırmalı analiz yöntemiyle ele alınmıştır. Ayrıca, farklı ülkelerdeki sağlık politikalarının tarihsel gelişimi, günümüzün küresel sağlık sorunlarıyla başa çıkma kapasiteleri açısından karşılaştırmalı olarak değerlendirilmiştir. Çalışma bulguları, sağlık politikalarının özellikle evrensel sağlık kapsamının yaygınlaştırılması ve bulaşıcı hastalıkların kontrolü konularında önemli başarılar elde ettiğini ortaya koymaktadır. Yaygın aşılama programlarının uygulanması, birinci basamak sağlık hizmetlerine erişimin artırılması ve kamu tarafından finanse edilen sağlık sistemlerinin artması, halk sağlığına olumlu katkılar sunmuştur. Dijital sağlık çözümleri kapsamında ise, uzaktan sağlık hizmetlerinin artması (tele-sağlık) ve elektronik sağlık kayıtlarının yaygınlaşması, sağlık sistemlerinde verimliliği artırmıştır. Bu sistemler, özellikle kırsal bölgelerde sağlık hizmetlerine erişimi artırmış, bekleme sürelerini azaltmış ve hasta yönetimi süreçlerini geliştirmiştir. Ancak, sağlık harcamalarının artışı, finansal sürdürülebilirlik sorunları, bölgesel eşitsizlikler ve pandemi gibi krizlere karşı sistemlerin dayanıklılığı gibi yapısal zorluklar sürmektedir. Gelecekteki sağlık politikalarının yapay zekâ temelli yönetim sistemleri, büyük veri analitiği ve geliştirilmiş evrensel sağlık iş birlikleri çerçevesinde şekillenmesi beklenmektedir. İklim değişikliği, demografik dönüşümler ve gelecekteki olası küresel sağlık krizleri, politika tasarımında göz önünde bulundurulması gereken temel etmenlerdir. Bu çalışma, sağlık politikalarının halk sağlığı üzerindeki kapsamlı etkilerini değerlendirerek, daha kapsayıcı, sürdürülebilir ve eşitlikçi bir sağlık sistemi vizyonunu desteklemektedir.

Anahtar kelimeler: Halk sağlığı, Sağlık politikası, Sağlık sistemi dayanıklılığı, Sürdürülebilir sağlık hizmeti.

1. INTRODUCTION

Health policies, as a fundamental component of public health governance, have continuously evolved in response to societal needs, epidemiological transitions, and advancements in medical science [1]. The scope, accessibility, and quality of healthcare services have played a pivotal role in shaping policy frameworks across different historical periods. In the early stages, health policies primarily focused on controlling infectious diseases, improving sanitation, and ensuring access to basic healthcare services [2]. However, with socio-economic progress, demographic shifts, and technological advancements, these policies have expanded towards more comprehensive and sustainable approaches [3]. Since the mid-20th century, the focus of health policies has shifted from merely treating individual diseases to adopting a public health-centered approach that prioritizes disease prevention, health promotion, and equity in healthcare access [4].

Despite the growing body of research on health policies, there remains a gap in understanding how different policy models have evolved over time and their comparative effectiveness in different regions. While numerous studies have examined individual health policies or country-specific reforms, fewer analyses provide a broad comparative perspective on the global evolution of health policies. This study aims to address this gap by systematically analyzing health policy frameworks across different economic and political contexts, thereby contributing to a more comprehensive understanding of best practices and persistent challenges.

The main goal of this study is, therefore is to examine the historical trajectory of health policies from the early 20th century onward, focusing on Europe, North America, and developing countries as well as their impact on public health outcomes. Through a comparative analysis, this research evaluates both the successes and limitations of different policy approaches in addressing healthcare access, disease burden, and systemic inefficiencies [5]. Furthermore, the study explores the sustainability of contemporary health policies and their long-term implications for global health resilience, with particular attention to the role of digitalization, inclusivity, and accessibility in shaping future healthcare systems [6].

The analysis is guided by the framework of health policy models, particularly the Bismarck and Beveridge models, as well as governance theories related to public health policy. The study also considers global health governance frameworks, such as the Sustainable Development Goals (SDGs) and the World Health Organization's (WHO) recommendations, to contextualize policy evolution and its broader implications. These theoretical perspectives provide a structured lens through which health policy developments and their impact on public health can be evaluated.

Given the rapid transformation of global health landscapes due to emerging health threats, economic fluctuations, and technological innovations, proactive and adaptable policy strategies are essential [7]. This research is necessary to inform policymakers and health system stakeholders about the most effective strategies for designing resilient health policies that can address future challenges, such as pandemics, demographic changes, and technological disruptions. By systematically analyzing the historical evolution of health policies, assessing their present-day impact on public health, and proposing evidence-based recommendations for policy adaptations in response to future challenges, this study seeks to enhance understanding of how dynamic and resilient health policies can be designed to meet the evolving health needs of populations worldwide.

2. MATERIAL AND METHOD

2.1. Aim and Type of Research

This study aims at analyzing the historical evolution of health policies, their impact on public health, and their strategic directions for the future. The research evaluates how health policies have developed to improve healthcare accessibility, reduce inequalities, and establish a sustainable healthcare system. A qualitative research approach is adopted, utilizing historical analysis, comparative policy evaluation, and impact assessment methodologies [1]. By systematically reviewing global health policy models, the study identifies their successes and limitations, focusing on key themes such as universal health coverage, financial sustainability, digital transformation, and health system resilience [5; 6]. Additionally, the study examines the influence of contemporary challenges, including pandemics, artificial intelligence integration, and global health governance, on shaping future health policies [7].

To ensure methodological rigor, the study applies predefined inclusion and exclusion criteria for selecting health policies. Policies were included if they (1) had significant historical impact, (2) influenced public health outcomes at a national or international level, and (3) were referenced in peer-reviewed academic literature or reports from reputable global health organizations (e.g., WHO, OECD, UN). Policies that lacked sufficient empirical data or were limited to short-term interventions were excluded from the analysis.

2.2. Research Questions

To achieve its objectives, the study seeks to address the following key research questions:

- 1. How have health policies evolved over time to improve public health?
- 2. What are the positive and negative impacts of different health policy models on public health?
- 3. How do digital transformation, artificial intelligence, and pandemics influence the development of health policies?

2.3. Population and Sample of the Study

The study population consists of national and international health policy frameworks implemented globally, assessing their historical development and effects on public health. The study focuses on major health policy frameworks adopted since the early 20th century, alongside emerging topics such as digital health solutions, universal healthcare coverage, and responses to global health crises [4].

The sample includes widely referenced national and international health policy models examined through comparative analysis. Examples include:

- Welfare state models (e.g., the Beveridge and Bismarck models)
- Neoliberal health reforms

- WHO's global health strategies
- The Alma-Ata Declaration (1978) and its impact on primary healthcare
- The Sustainable Development Goals (SDGs)

The comparative analysis evaluates these models by examining specific case studies from selected countries, including the United Kingdom, Germany, the United States, Canada, and selected developing nations. This approach enables an assessment of the effectiveness and challenges of different health policy models, offering insights for future strategic recommendations.

The study employs qualitative analysis methods, utilizing academic literature, policy reports, and case analyses to investigate how health policies influence public health outcomes [7].

2.4. Data Collection and Analysis

The study is based on secondary data sources derived from peer-reviewed academic literature, reports by international health organizations, and official statistics [1; 4]. Key sources include documents published by the World Health Organization (WHO), the United Nations (UN), the Organization for Economic Co-operation and Development (OECD), and national health policy agencies, ensuring reliability and validity.

Selection Process: The data collection process involved:

- Conducting a systematic literature review using PubMed, Scopus, and Web of Science databases.
- Screening documents based on predefined inclusion criteria (e.g., policies with proven public health impact, published in reputable journals or global health reports).
- Excluding outdated or regionally isolated policies that lacked cross-national significance.

The data analysis follows content analysis and comparative policy evaluation methodologies. The collected data are categorized within key themes such as healthcare accessibility, equity, sustainability, and resilience [6].

For comparative analysis, policies were classified based on:

- Policy type (e.g., universal vs. selective healthcare models)
- Geographical application (e.g., European welfare states vs. market-driven health systems)
- Effectiveness indicators (e.g., reduction in mortality rates, healthcare cost-efficiency, public health resilience)

To strengthen the reliability of findings, data triangulation was applied by cross-referencing multiple sources (e.g., academic studies, policy reports, and global health databases). Comparative analyses examine the effectiveness of digital health innovations, artificial intelligence applications, and health policy responses to pandemics [8; 9].

The research also explores historical trends and policy outcomes, drawing comparisons across different healthcare systems to identify successes, gaps, and future policy directions [5]. This structured approach facilitates the development of evidence-based policy recommendations to improve global health governance and public health outcomes.

2.5. Limitations of the Study

Although this study provides a comprehensive assessment of the evolution of health policies, it has certain limitations.

Reliance on secondary data: Since the research is based on previously published sources, findings are subject to the accuracy and availability of data. To mitigate this limitation, the study uses multiple reputable sources and cross-verifies findings through data triangulation.

- **Comparative scope**: While the study covers a broad international framework, it does not include in-depth case studies of individual national health systems.
- Uncertainty in future projections: Predictions regarding the long-term impact of health policies involve inherent uncertainties due to technological advancements, economic fluctuations, and emerging global health crises [3; 10].

Despite these constraints, the study provides valuable insights into the historical evolution and future strategic directions of health policies, contributing to the academic discourse on health governance, policy resilience, and equity.

2.6. Ethical Considerations

This study adheres to scientific research ethics and does not involve human participants or direct interventions, thus eliminating the need for ethical approval [11]. All data sources were obtained from peer-reviewed academic publications, official reports from international health organizations, and publicly available health policy documents, ensuring compliance with ethical research standards.

To enhance research integrity:

- Proper citation practices were maintained throughout the study to prevent plagiarism.
- The analysis was conducted with neutrality and objectivity, ensuring that no biases influenced the findings [7].
- The research upholds the principles of transparency and academic integrity, ensuring that its conclusions contribute meaningfully to the field of global health policy and public health governance.

3. FINDINGS

The evolution of health policies has significantly influenced public health outcomes with variations depending on geographic, economic, and governance factors. Countries that implemented universal healthcare models, such as the Beveridge and Bismarck systems, have seen notable improvements in life expectancy, maternal health, and infectious disease control [13; 14]. For instance, Nordic countries experienced a 4.2-year increase in life expectancy and a 65% reduction in infant mortality between 1990 and 2020 due to extensive public health programs and universal insurance coverage. Similarly, OECD nations reported an average measles immunization rate of 94% in 2021, reflecting the success of health policies in controlling vaccine-preventable diseases [15].

Despite these advances, health inequalities persist, particularly in countries with market-driven healthcare systems. The United States, where healthcare is largely privatized, had 28 million uninsured individuals as of 2022, leading to reduced access to preventive care and higher mortality rates for low-income populations [19]. In contrast, European welfare-state models, which provide publicly funded healthcare, have demonstrated lower out-of-pocket expenditures and improved overall population health. However, even within universal systems, rural populations and marginalized communities often experience disparities in access [16].

Digital health innovations have played an increasingly important role in healthcare accessibility and efficiency. Estonia's nationwide electronic health record (EHR) system reduced administrative costs by 50% and minimized redundant testing, improving cost-effectiveness in healthcare delivery [16]. Similarly, India's telemedicine program (eSanjeevani) provided healthcare services to over 100 million rural patients between 2020 and 2023, showcasing how digital solutions can bridge geographic disparities [17]. During the COVID-19 pandemic, telemedicine usage in the United States surged by 154%, demonstrating the potential for remote healthcare solutions to alleviate pressure on overburdened health systems [18].

However, the expansion of digital health presents challenges related to data privacy, regulatory inconsistencies, and digital literacy gaps. Low- and middle-income countries, where

internet access remains limited, struggle with implementing large-scale digital health initiatives [20]. Moreover, legal and ethical concerns regarding AI-driven diagnostics and electronic health record sharing remain barriers to widespread adoption [22]. While digital transformation has improved healthcare efficiency, ensuring equitable access and protecting patient data will be crucial in future health policy frameworks.

Financial sustainability remains a critical challenge in healthcare policy development. Global healthcare expenditures are projected to reach \$12 trillion by 2030, growing at a rate of 5.4% annually, outpacing economic growth in many countries [21]. In aging societies, such as Japan, where elder healthcare spending accounts for over 10% of GDP, financial sustainability concerns continue to rise [22]. Meanwhile, in sub-Saharan Africa, out-of-pocket healthcare expenditures exceed 40% of total health spending, limiting access for vulnerable populations [20]. Countries must adopt alternative financing mechanisms, such as value-based care models and international funding collaborations, to ensure healthcare affordability and accessibility.

Political and administrative barriers further complicate the implementation of effective health policies. In Brazil, despite efforts to expand public healthcare through the Unified Health System (SUS), inconsistent funding has led to gaps in service delivery, reducing trust in the system [23]. Similarly, Eastern European nations have faced policy instability due to frequent government changes, resulting in fragmented health reforms [24]. Global governance challenges, particularly in responding to pandemics, have also highlighted the need for stronger international cooperation. For example, during the first wave of COVID-19, hospital occupancy rates in Italy and Spain exceeded 90%, exposing weaknesses in emergency preparedness [25].

In summary, the impact of health policies on public health depends on their inclusivity, funding models, and adaptability to emerging challenges. Countries with universal healthcare tend to achieve better health outcomes, while digital transformation has proven to be a key enabler of improved accessibility and efficiency. However, financial constraints, healthcare inequalities, and governance issues remain significant obstacles. Future research should explore integrated policy approaches that balance public and private sector collaboration, digital health expansion, and sustainable funding mechanisms to ensure equitable and resilient healthcare systems.

4. DISCUSSION

Throughout history, health policies have achieved significant successes, such as improving public health, increasing access to healthcare services, and promoting overall well-being. However, the implementation of these policies has faced various limitations and challenges, leading to persistent inequalities within health systems and difficulties in the sustainability of healthcare services. Below, both the successes and limitations of health policies are examined in detail (Figure 1.)

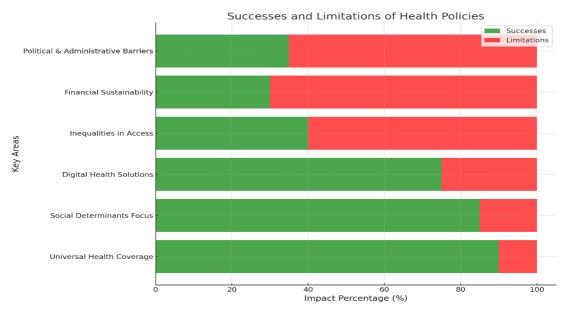


Figure 1. Successes and Limitations of Health Policies

Successes and limitations of health policies are shaped by various factors, such as political barriers, financial sustainability, and health inequalities [19]. Achieving high-quality health systems within the framework of the Sustainable Development Goals (SDGs) requires overcoming significant limitations, particularly regarding access and inequalities [13]. The impact of social determinants on health equity is emphasized, indicating the need to focus on social factors to improve health outcomes [15]. Broader economic forces, such as neoliberalism and globalization, contribute to health disparities, affecting both the effectiveness and limitations of health policies [16]. The intersection of medicine and public health is critical for understanding the dynamics of health systems, particularly concerning policy limitations and the need for equity [18].

The findings confirm that health policies have evolved significantly, particularly through universal healthcare models, vaccination programs, and digital health integration. However, persistent challenges such as financial sustainability, inequitable access, and political constraints hinder the effectiveness of these policies. Furthermore, digital transformation has emerged as a double-edged sword, offering improved efficiency while also raising concerns regarding accessibility and data privacy.

4.1. Theoretical Insights and Implications

The results of this study align with existing theories on health governance and policy development, particularly those concerning the role of the state in healthcare provision (e.g., the welfare state model) and the challenges posed by market-driven healthcare models.

- Support for Existing Theories: Findings reinforce the Bismarck and Beveridge models by demonstrating that publicly funded healthcare systems contribute to improved public health outcomes. The study also aligns with the social determinants of health framework, emphasizing that broader socio-economic factors such as education and employment significantly shape health outcomes.
- Challenging Existing Theories: While neoliberal health policies are often associated with inefficiencies and reduced access, this study suggests that when combined with strong regulatory frameworks and digital health investments, they can improve service efficiency.
- Contribution to Health Policy Development: The findings highlight the need for hybrid models that integrate elements of public and private healthcare systems while maintaining accessibility and equity. The study further suggests that future policy designs should incorporate adaptive governance mechanisms to address emerging global health threats.

4.2. Successes

Access to Universal Healthcare and Inclusivity: The expansion of universal healthcare services has been one of the greatest successes of health policies. The adoption of welfare state models and the implementation of universal health insurance systems have led to significant progress in areas such as reducing child mortality, improving maternal health, and controlling infectious diseases [13; 15]. Additionally, the provision of primary healthcare through a community-based approach has increased access to healthcare services and contributed to overall improvements in health indicators [5; 20].

Focus on the Social Determinants of Public Health: Focusing on the social determinants of health has enabled health policies to address public health more comprehensively. The inclusion of factors such as nutrition, education, water, and sanitation in health policies has made significant contributions to improving public health, especially in low- and middle-income countries [12]. In this context, the principles of primary healthcare outlined at the Alma-Ata Conference encouraged addressing the social determinants of health and strengthened goals related to health equity [21; 22]

Digital Health Solutions and Innovative Approaches: In recent years, the integration of digital health solutions has achieved significant success by increasing the efficiency of healthcare services [23]. Remote healthcare services, e-health applications, and AI-supported diagnostic methods have both improved access to healthcare and enhanced the cost-effectiveness of health systems [9; 24]. During the COVID-19 pandemic, these innovative approaches contributed to the resilience of health systems and enhanced emergency response capacities [7].

4.3. Limitations

Despite these successes, significant challenges persist in health policy implementation. The study highlights critical structural and political limitations that must be addressed to improve the long-term sustainability of healthcare systems.

Inequalities and Inequitable Access: Persistent healthcare inequalities remain a fundamental challenge, particularly in low- and middle-income countries. The adoption of neoliberal health policies has increased the cost of healthcare, and the expansion of private healthcare services has restricted access to basic healthcare for marginalized communities [17]. This has led to deepening socio-economic disparities in healthcare access and a weakening of public health [18].

Financial Sustainability Challenges: Financial sustainability is one of the biggest challenges in the implementation of health policies. The costs of healthcare have been rising rapidly, especially due to the aging population and the increase in chronic diseases [25]. Additionally, financial constraints and insufficient resource allocation can reduce the effectiveness of health systems, negatively impacting the quality and inclusivity of services [5]. The study suggests that alternative financing mechanisms, such as value-based healthcare and international funding collaborations, could alleviate these constraints.

Political and Administrative Barriers: The effective implementation of health policies often faces political and administrative obstacles. Structural differences in health systems across countries and a lack of political will make it difficult to sustain health reforms and create inconsistencies in healthcare access [7]. Moreover, the lack of global cooperation and coordination hinders rapid and effective responses, especially during international health crises [10].

The societal impact of health policies involves both significant successes and notable limitations. To sustain these successes and overcome the limitations, more inclusive, equitable, and sustainable health policies need to be developed [12; 13].

Future Vision and Strategic Directions: The future of health policies must address structural inefficiencies and embrace new governance models to improve sustainability, inclusivity, and resilience. Future health policies aim to evolve into more flexible, inclusive, and sustainable

structures in response to rapidly changing global dynamics and emerging health threats. Increasing healthcare costs, digitalization, demographic shifts, and global health threats necessitate the reshaping of health systems [5; 23]. In this context, the future of health policies requires strategic orientations to provide more resilient, equitable, and accessible healthcare services. The key directions and strategies of future health policies are detailed below:

Expanding Universal Health Coverage: The expansion of universal health insurance and access to primary healthcare services will remain a core objective of future health policies. Universal Health Coverage (UHC) aims to ensure that individuals can access the healthcare services they need without facing financial hardship, thus promoting social equity [4]. In the future, health policies will strive to expand UHC in an inclusive manner, aiming to reduce economic, geographic, and gender-based inequalities [13]. Strategic measures will include improving financing mechanisms, ensuring equitable resource allocation, and strengthening health infrastructure [25].

Digital Health and AI Integration: Digital health solutions will be central to future health policies. Digital technologies will enhance the accessibility and efficiency of healthcare services, helping individuals manage their own health [23]. Artificial intelligence (AI), big data analytics, telehealth services, and e-health applications will accelerate diagnostic and treatment processes while increasing the resilience of health systems [8]. Future health policies should promote digital transformation through legal and regulatory frameworks, addressing issues such as data security and privacy [9].

Sustainability in Health and Climate Change Adaptation: Climate change is expected to impact public health in the coming years. Climate-related natural disasters increase the risk of infectious disease spread and adversely affect the health of vulnerable populations [26]. Therefore, health policies should align with sustainable development goals (SDGs), aiming to enhance resilience to climate change and improve community health [27]. Adaptation strategies to climate change will include reducing environmental health risks, improving energy efficiency, and protecting water resources [26].

Community-Based and Participatory Health Approaches: In the future, community-based and participatory approaches will become a fundamental component of health policies. This strategic direction aims to tailor healthcare services to meet the needs of local communities and enhance public participation in healthcare services [15]. Promoting public health campaigns, educational programs, and local health initiatives will play a crucial role in improving community health [13]. Strengthening community-based health approaches will enable a more effective response to the social determinants of health [12].

Global Health Collaborations and Governance: The success of future health policies will depend on strengthening global health collaborations. Under the leadership of WHO, the United Nations, and other international organizations, more effective cooperation mechanisms should be established to achieve global health goals [7]. Health policies should align with global governance structures to ensure faster and more effective responses to international health crises [5].

Future health policies will be shaped within a more inclusive, resilient, and sustainable framework. These policies will incorporate strategic approaches aimed at improving public health, reducing inequalities, and enhancing the flexibility of health systems. Additionally, innovative solutions should be developed in areas such as digitalization of health policies, climate change adaptation, and community-based approaches [13; 23]

5. CONCLUSION

The evolution of health policies has led to significant advancements in universal healthcare, disease prevention, and digital health integration; however, persistent inequalities, financial sustainability issues, and governance challenges remain. Neoliberal policies have deepened disparities while digital transformation offers both opportunities and ethical concerns. The

COVID-19 pandemic further exposed the fragility of global health systems, highlighting the urgent need for resilient and inclusive policy frameworks.

To address these challenges, health policies must integrate evidence-based strategies such as WHO's Health in All Policies (HiAP) framework, universal health coverage (UHC) with mixed financing models, and stronger digital health governance to regulate telemedicine, AI diagnostics, and health data security. Additionally, climate-adaptive health policies should be prioritized to protect vulnerable populations while international cooperation under WHO and UN-led frameworks must be strengthened to tackle cross-border health crises effectively.

This study underscores the importance of equitable, technology-driven, and sustainable health policies. Policymakers and health leaders must invest in prevention, digital transformation, and cross-sector collaboration to ensure accessible, resilient, and inclusive healthcare systems. Moving forward, future research should focus on empirical case studies and quantitative assessments to further refine adaptive health policies that address emerging global health challenges.

Author Contribution

The author confirm contribution to the paper as follows; study conception and design: CB; data collection: CB; analysis and interpretation of results: CB; draft manuscript preparation: CB. The author reviewed the results and approved the final version of the manuscript.

Conflict of Interest

The author declares that there is no conflict of interest.

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