



Toshkent tibbiyot akademiyasi Urganch filiali “Jamoat salomatligi va umumiy gigiyena” kafedrasi mudiri, Ibadulla Qochkarovich Abdullayevning 70 yilligiga bag‘ishlangan “Sog‘liqni saqlash tizimida menejmentning zamonaviy muammolari va istiqbollari” mavzusidagi xalqaro ilmiy-amaliy anjuman 2025-yil 20-21 oktabr

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THE MOST GLOBAL PROBLEMS IN MAINTAINING PUBLIC HEALTH

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Abstract: This article provides a comprehensive exploration of challenges, ranging from infectious diseases, mental health, and substance use to environmental sustainability and emerging technologies. The aftermath of the COVID-19 pandemic underscores the critical need to strengthen health systems, increase public financing, and foster effective international collaboration. The intricacies of global geopolitics, diplomacy, and public health highlight the importance of countries that do not address shared challenges through enhanced cooperative mechanisms and joint initiatives. From the imperative of global health security to the persistence of non-communicable diseases and health disparities, this study delves into multifaceted issues, advocating for collective action, targeted interventions, and a commitment to prioritizing public health on a global scale. Focusing on addressing root causes and fostering equity, this study emphasizes the role of sustainable practices, community engagement, and intersectionality of research in building a resilient global health landscape.

Keywords: artificial intelligence, climate fund, ethics, global health, health equity, pandemic accord, technology.

Аннотация: В этой статье представлено всестороннее исследование проблем, начиная от инфекционных заболеваний, психического здоровья и употребления психоактивных веществ до экологической устойчивости и новых технологий. Последствия пандемии Covid - 19 подчеркивают критическую необходимость укрепления систем здравоохранения, повышения государственного финансирования и способствовать эффективному международному сотрудничеству. Сложности глобальной геополитики, дипломатии и общественного здравоохранения подчеркивают важность стран, которые не решают общие проблемы посредством расширенных кооперативных механизмов и совместных инициатив. От императива глобальной безопасности здравоохранения до настойчивости необязываемых заболеваний и неравенств в отношении здоровья, это исследование углубляется в многогранные вопросы, выступая за коллективные действия, целевые вмешательства и приверженность приоритету общественного здравоохранения в глобальном масштабе. Сосредоточив внимание на решении общих причин и содействии справедливости, в этом исследовании подчеркивается роль устойчивой практики, вовлечения сообщества и интерсекциональности исследований в создании устойчивого глобального ландшафта здравоохранения.

Ключевые слова: искусственный интеллект, климат-фонд, этика, глобальное здоровье, справедливость здоровья, пандемическое соглашение, технология.

Annotatsiya: Ushbu maqola yuqumli kasalliklar, ruhiy salomatlik va moddalarni iste'mol qilishdan tortib ekologik barqarorlik va rivojlanayotgan texnologiyalargacha bo'lgan muammolarni har tomonlama o'rganadi. COVID-19 pandemiyasining oqibatlari sog'liqni saqlash tizimini mustahkamlash, davlat moliyalashtirishni ko'paytirish va samarali xalqaro hamkorlikni rivojlantirish zarurligini ta'kidlaydi. Global geosiyosat, diplomatiya va sog'liqni saqlashning murakkab jihatlari rivojlangan hamkorlik mexanizmlari va qo'shma tashabbuslar orqali umumiy muammolarni hal qilmaydigan mamlakatlar muhimligini ta'kidlaydi. Global sog'liqni saqlash xavfsizligini ta'minlashdan tortib yuqumli bo'lmagan kasalliklar va salomatlikdagi nomutanositliklarning davom etishigacha bo'lgan ushbu tadqiqot ko'p qirrali muammolarni o'rganadi, jamoaviy harakatlar, maqsadli aralashuvlar va global miqyosda jamoat salomatligiga ustuvor ahamiyat berish



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majburiyatini qo'llab-quvvatlaydi. Asl sabablarni bartaraf etishga va tenglikni ta'minlashga e'tibor qaratgan holda, ushbu tadqiqot barqaror global sog'liqni saqlash landshaftini yaratishda barqaror amaliyotlar, jamoatchilik ishtiroki va tadqiqotlarning o'zaro bog'liqligini ta'kidlaydi.

Kalit so'zlar: sun'iy intellekt, iqlim fondi, axloq, global sog'liqni saqlash, sog'liqni saqlash tengligi, pandemiya kelishuvi, texnologiya

Relevance: The top 10 public health challenges the need for a unified global approach to address infectious diseases, health disparities, climate change, mental health, substance use, reproductive health, food safety, emerging technologies, healthcare costs, and global collaboration.

Public health, an ever-evolving field, plays a crucial role in safeguarding global communities' well-being. Public health faces diverse challenges, including infectious and non-communicable diseases (NCDs), environmental issues, and health disparities. To address these challenges effectively, understanding and prioritizing them is essential, forming the basis for developing policies, strategies, resource allocation, and research efforts to ensure global community health and safety. Public health challenges are complex and impact the entire population, with chronic diseases such as heart disease, cancer, and diabetes disproportionately affecting specific demographic groups, including racial and ethnic minorities, low-income populations, and older adults. These conditions exacerbate health disparities and contribute to inequities in healthcare access and outcomes. Emerging concerns such as substance use, mental health issues, health security, and the aftermath of the COVID-19 pandemic add to the complexity. Reproductive and sexual health challenges, malnutrition, and food safety issues further contribute to the multifaceted nature of public health. Poverty, coupled with social inequalities, exacerbates the burden of the disease.

1. Infectious Diseases and Global Health Security: The critical need for robust global health security has become increasingly apparent in the 21st century, particularly in the wake of the COVID-19 pandemic. The Independent Panel for Pandemic Preparedness and Response (IPPPR) in 2021 highlighted significant deficiencies in emergency response, disease surveillance, and health system resilience, underscoring the urgent need for a comprehensive reassessment of global preparedness and response mechanisms. The IPPPR's recommendations call for stronger World Health Organization (WHO) authority, a new global surveillance system, and increased international financing for pandemic preparedness. Despite these global efforts, the world remains vulnerable to infectious diseases, underscoring the importance of enhanced collaboration to address emerging threats such as neglected tropical diseases (NTDs) and antimicrobial resistance (AMR). Continued evaluation of progress toward the 2030 targets of the End TB Strategy, zero deaths from rabies, and the elimination of human papillomavirus (HPV)-associated cervical cancer remains critical. Global collaboration, as demonstrated by the lessons learned from COVID-19, demands a unified commitment that can be reflected in a comprehensive pandemic accord or treaty. Ensuring equitable global access to vaccines and bolstering health system resilience are essential components for mitigating the impact of future pandemics.

2. NCDs and Health Disparities: Despite global efforts to achieve Sustainable Development Goal (SDG) goal 3.4 on NCDs and mental health, NCDs remain a major global health issue. This burden is especially pronounced among the elderly and poses substantial financial costs to health systems worldwide. WHO estimates that NCDs cause 74% of global deaths, or 41 million people per year. NCDs kill 5.5 million in the Americas and Caribbean each year, with 85% of fatalities in Low- and Middle-Income Countries (LMICs). Studies predict that NCDs will outnumber communicable, nutritional, and maternal and perinatal fatalities in Sub-Saharan Africa by 2030, with cardiovascular disease (CVD) alone rising from 1.3 million in 2004 to 2.5 million in 2030. Despite effective therapies and preventive measures, NCD-related challenges persist. CVD is a major cause of death and disability in the United States.



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3. Climate Crisis and Sustainability in Environmental Action: Climate change presents an unprecedented global threat, with the Intergovernmental Panel on Climate Change (IPCC) warning that global temperatures could rise by 1.5°C above pre-industrial levels as early as 2030 [14]. This looming crisis demands urgent and coordinated international action to mitigate its far-reaching effects on human health, ecosystems, and economies worldwide. The vulnerability of small island nations, such as those in the Caribbean and Fiji, highlights the urgency of climate justice. Home to approximately 65 million people, these nations face disproportionate risks. By 2100, sea levels could rise by 0.5–2 m, threatening up to 90% of coastal areas in some island states. Additionally, Category 4 and 5 hurricanes in the Atlantic Basin have increased by 25%–30% of global warming.

4. Mental Health in the Modern Age: Researchers, policymakers, and mental health practitioners will actively explore innovative techniques in global mental health research and practice in response to rising global concerns. Near the end of 2023, WHO established the Commission on Social Connections to address loneliness, a global public health issue. WHO's focus on loneliness underscores its significant negative impact on mental health, as chronic loneliness is associated with an increased risk of depression, anxiety, and other mental health disorders. The WHO's commission's mandate targets loneliness and promotes social connection, demonstrating its commitment to reducing the negative consequences of loneliness and social isolation on physical health. As emotional distress and depressive disorders have become public health issues, mental health is prioritized. Depressive disorders, the leading cause of “years lost to disability” in 2017, are now the WHO's leading cause of disability worldwide. Lockdowns, physical isolation, and the shift to distant work and online schooling have increased loneliness rates worldwide during the COVID-19 pandemic. This increase in loneliness has exacerbated mental health challenges, highlighting the complex relationship between social isolation and psychological well-being. Amid the growing recognition of global mental health, there is an increasing demand for comprehensive and inclusive mental health policies that consider all regions, age groups, and individuals, including key populations. Studies have revealed that individuals with mental illnesses are disproportionately affected by the social determinants of health. It is imperative that researchers actively explore evidence to inform the development and implementation of global mental health policies. These studies should emphasize the impact of unequal access to mental health services, with a heightened focus on the social and cultural factors influencing mental health development. Collaborative research is crucial in developing culturally sensitive and inclusive interventions.

5. Substance Use and Addiction: The WHO's latest tobacco trends report provides a global snapshot of tobacco use, highlighting that approximately 1.25 billion adults currently use tobacco. Encouragingly, the data show a sustained decline in tobacco use rates, with the prevalence dropping to one in five adults in 2022, a significant improvement from one in three in 2000. This reflects notable progress in global tobacco control efforts. However, new challenges have emerged with the rise in the use of vaping devices, non-combustible tobacco products, and nicotine pouches. These products, popular among youth, have a gap in adequate regulation and comprehensive research on their long-term health effects. Although e-cigarettes are seen as less harmful than traditional smoking, they still pose risks, including nicotine addiction and potential cognitive effects in adolescents. This situation underscores the need for ongoing public health strategies and further research to fully understand these products' impact and develop effective regulations.

6. Sexual and Reproductive Health Equity: Addressing sexual and reproductive health and rights (SRHR) equity remains a critical challenge, as disparities in access to SRHR information and services persist across diverse populations, despite ongoing research and interventions. In the dynamic field of public health, ongoing efforts to enhance access to reproductive health services, including comprehensive sex education, contraception, and abortion, are crucial for achieving universal health coverage. A review of progress toward development goals at the 2023 UN General Assembly revealed a significant impact on health, well-being, economic growth, poverty eradication,



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education, reduced inequalities, and environmental sustainability. However, universal access to sexual and reproductive health (SRH)-care services faces hindrances due to the politicization of sex, gender, and reproduction.

7. Food Safety and Malnutrition: The global food system faces urgent challenges related to food safety and security, worsened by geopolitical conflicts, climate change, and regional instabilities. The 2020 High Level Panel of Experts (HLPE) highlights that, after a period of decline, hunger has risen since 2014. In 2019, nearly 690 million people were undernourished, and around 2 billion experienced moderate or severe food insecurity. The COVID-19 pandemic further intensified food insecurity, potentially adding 83–132 million people to the undernourished population in 2020. The ongoing wars have disrupted food supply chains, especially for grains and oilseeds, affecting global food security and exacerbating malnutrition among vulnerable populations. Conflicts in regions like Sudan, the Democratic Republic of the Congo (DRC), and the ongoing strife in Israel and Gaza have similarly disrupted local food production and distribution, worsening malnutrition.

8. Emerging Technologies and Public Health Ethics: In the rapidly evolving landscape of technological advancements, particularly in artificial intelligence (AI), unique insights underscore the delicate balance between innovation and ethical principles as we traverse the pivotal year 2024. The integration of AI, biotechnology, and groundbreaking technologies is not merely a technological leap but also a critical driver in shaping a sustainable and equitable future. Examining the medical field reveals the promise of large language models (LLMs), such as ChatGPT, offering a glimpse into the potential of predicting medical outcomes and generating responses. The ongoing debate surrounding the clinical reliability of models such as GPT-3.5, with its strengths aligning with cancer treatment guidelines but exhibiting occasional “hallucinations,” adds a nuanced layer to the narrative.

9. Healthcare Costs and Financial Protection: The lessons learned from the COVID-19 pandemic have highlighted the importance of investing in strong health systems. Despite the initial progress in global health coverage and increased financial commitments to health, sustaining these gains has been challenging post-pandemic. Financial strain on nations has led to reduced government health spending and higher out-of-pocket payments for healthcare worldwide. A report from the WHO, International Bank for Reconstruction and Development (IBRD), and World Bank (2023) reveals this aftermath, indicating that approximately 2 billion people face financial hardship due to catastrophic and impoverishing health spending, a stark increase beyond pre-pandemic rates, reaching approximately 13.5% globally in 2019. Regional disparities persist, with significant increases in impoverishing health spending observed in Sub-Saharan Africa, Asia, Latin America, the Caribbean, and Europe. Notably, the European region experiences varying degrees of impoverishing health spending, ranging from 1% to over 7% of households, and catastrophic health spending ranging from under 2% to over 14% of households across countries. This financial burden disproportionately affects the poorest households in both developed and developing nations. The surge in healthcare costs also reflects growing unmet health needs, as individuals struggle to access essential healthcare after the pandemic. The increasing aging population raises important questions about future global health financing requirements that demand proactive measures, such as increased public funding for health along with effective execution rates and accountability mechanisms for managing limited resources wisely. Low- and middle-income countries must prioritize sustainable domestic financing through mechanisms such as health taxes, while simultaneously reducing co-payment rates, particularly where voluntary insurance systems exist, thereby making affordable healthcare more accessible overall.

10. Global Collaboration and Multilateralism: Global geopolitics, diplomacy, and public health will pose significant challenges in 2024 due to conflicts, populism, human rights erosion, climate change, migration, and security concerns. Over the past two decades, global health diplomacy and foreign policies have evolved in response to the changing power dynamics among nations. As we navigate a world shaped by geopolitical tensions, international collaboration becomes crucial in addressing the complex challenges that cross borders. The shifting distribution of power has greatly



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influenced global health policies and initiatives. Ongoing crises such as the Middle East conflict and Russia–Ukraine tensions underscore the intricate relationship between geopolitical instability and public health challenges. Furthermore, negotiations for a pandemic highlight the importance of multilateral collaboration to safeguard global health security. The year 2024 is designated as a global election year that adds another layer of complexity by emphasizing the need to analyze how electoral processes may impact health policies.

Conclusion: The global public health landscape faces complex challenges requiring resilient health systems, increased public funding, and stronger international collaboration. The aftermath of COVID-19 has highlighted the need for sustained investments in public health to address financial strain and reduce out-of-pocket payments. Key areas, like global health security, mental health, substance use, food safety, environmental sustainability, and emerging technologies, demand coordinated action. Governments must collaborate in resource sharing, capacity building, and equitable health policy development to reduce disparities and strengthen global health resilience. Achieving this requires innovation, evidence-based policies, and sustainable practices across sectors. A unified global approach rooted in cooperation and mutual support is essential for confronting public health challenges. This shared commitment will help build a more resilient, equitable, and healthier global society, ensuring public health remains a top priority worldwide.

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