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Global health at crossroads: uniting together to overcome challenges, restore trust and advance priorities for a sustainable future

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Abstract

The world is currently facing an unprecedented convergence of crises that threaten the core pillars of public health, scientific integrity, and social stability. These challenges are profoundly interconnected and have the potential to exacerbate global inequalities, jeopardize health security, and undermine the progress achieved through decades of international collaboration. Our viewpoint declaration, developed by 366 healthcare workers and scientists from 119 countries across six continents, highlights the urgent need for global solidarity and collective action to address these interconnected global health challenges. As healthcare workers and scientists, we must prioritize the protection of scientific integrity, combat political interference, and restore public trust in the scientific process. This will require a commitment to transparency, ethical responsibility, and evidence-based decision-making that can stand strong in the face of political and social adversity. The COVID-19 pandemic has underscored the critical importance of resilient healthcare systems, emphasizing that preparedness, capacity building and coherent leadership and coordination are essential for future global health crises. In addition, our call for a One Health approach, acknowledging the intricate relationship between human, animal, and environmental health, has never been more pressing, especially as zoonotic diseases and antimicrobial resistance spread across borders. As we confront ongoing wars, environmental destruction, and global persistent health inequalities, it is only through unity, solidarity, collaboration, and innovation that we hope to build a healthier, more equitable world. Together, we must ensure that science and medicine remain a force for good, capable of addressing both the immediate and long-term needs and challenges facing our shared future.

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Introduction

We are living through a critical moment of unprecedented global upheaval. A constellation of crises, spanning public health, social stability, and scientific integrity, is converging in ways that threaten the well-being of our societies and the future of global health security. From seemingly irrational political decisions to cuts in resource allocation, the global health landscape is shifting rapidly, and the consequences will have far-reaching impacts on global health security. The decision by the United States to withdraw from the World Health Organization (WHO) and freeze funding to the U.S. Agency for International Development (USAID) has caused alarm across the globe. As the largest donor to global health initiatives, the U.S.'s retreat could cripple essential research programs and critical health and humanitarian services, depriving countries of expertise and destabilizing global health governance. At this critical juncture, it is more important than ever for health scientists to recognize the magnitude of our challenges and respond with unity and resolve. Science must remain free from political interference and be grounded in integrity, transparency, and altruism. These values are the bedrock of scientific progress, allowing discoveries to build upon the firm foundation of evidence and truth. Recognizing that both the scientific community and public health authorities are not infallible, mistakes during pandemics must be openly acknowledged and transparency in admitting and correcting errors is essential for rebuilding public trust, as the erosion of confidence often stems from a failure to address these mistakes honestly. Our *Global Consortium for Solidarity to Overcome Challenges, Restore Trust and Advance Science for a Sustainable Future,* comprising 366 healthcare professionals from across all continents and numerous disciplines, is responding to the urgent need to protect science for global health. By emphasizing honesty, humility, and solidarity, we strive to restore public trust in the scientific process and provide an antidote to the misinformation that threatens the integrity of science.

Investing in resilient healthcare systems

The devastating COVID-19 pandemic, followed by recent funding cuts by donor countries, has cast a stark light on the vulnerability of global public health systems, revealing the deep cracks in their fragile structures [1]. What we have learned is clear: resilience, solidarity, and preparedness are key to surviving unforeseen shocks. Healthcare systems must be capable of withstanding crises, adapting to new realities, and changing in response to evolving challenges. The strain on healthcare personnel and resources during the pandemic was overwhelming, but it also underscored the urgency of investing in resilient health systems that can respond to future threats without faltering. The costs of healthcare are rising globally due to advancements in technology, the ageing population, and the increasing prevalence of chronic diseases. However, we must ensure that medical care is not only advanced but also appropriate, making the best use of available resources. Investing wisely in healthcare systems is not just a matter of improving direct health outcomes—it also creates stronger economies by enhancing productivity and reducing future healthcare costs. This is why governments must prioritize strategic investments to strengthen system resilience and improve healthcare access for all. However, stark contradictions persist, especially in the realm of surgery. While low-income countries face shockingly high mortality rates due to insufficient surgical care [2], high-income countries often rely on foreign surgeons, which drains crucial resources from the countries that need them most [3]. Such inequalities demand a global surgical approach that ensures every country has access to the expertise and resources needed to save lives [2]. Moreover, healthcare systems worldwide are increasingly vulnerable to corruption. Due to the complexity and fragmented nature of healthcare, corruption can erode the efficiency and effectiveness of services, obstructing the achievement of universal health coverage. Addressing corruption requires targeted efforts at every level, whether it's specific processes, problems, or institutions.

Governing the globalization of public health

The rapid pace of globalization has blurred national borders and eroded traditional control mechanisms, demanding new approaches to health governance. The COVID-19 pandemic illustrated the power of open science and global cooperation. Researchers worldwide shared viral genome sequences, enabling unprecedented speed in the development of diagnostics and vaccines. The contrast with previous outbreaks, where data hoarding slowed response times, could not be starker. COVID-19 also highlighted the global inequality in access to surgical care. Even though billions of people worldwide need basic surgical care, many cannot access it. In low-income countries, a staggering nine out of ten people cannot access essential surgical and anaesthesia services. While 313 million surgeries are performed globally each year, only 6% of these procedures take place in the poorest countries, where surgical needs are greatest [2]. This disparity cannot be ignored. Progress toward health

equity has been slow and uneven. The pandemic revealed deep health disparities, disproportionately affecting marginalized populations. To create a healthier, more equitable global future, we must reduce inequalities and ensure that access to essential health services, beginning with disease prevention and early detection is universal. Financial support for global health is paramount. Cutting funding will only exacerbate disparities and undermine efforts to promote a healthier world.

Considering climate change as a public health emergency

Environmental changes, particularly climate change, pose a significant public health crisis in the twenty-first century. Fossil fuel consumption remains the primary driver of climate change, and the resulting rise in greenhouse gases impacts not only the environment but also human health. Climate change exacerbates existing health burdens, including heat-related illnesses, vector-borne diseases, and food insecurity, while also heightening the risk of future pandemics by altering disease transmission patterns. Extreme weather events such as floods, wildfires, and droughts further complicate these challenges, contributing to unexpected public health risks. For instance, after earthquakes, we've seen the emergence of infections like carbapenem-resistant *Acinetobacter baumannii*, which poses a significant threat to wound infections, and diseases like leptospirosis transmitted through contaminated floodwaters [4]. The most vulnerable populations, those living in poverty or without access to adequate healthcare, bear the brunt of climate-related health risks. However, the healthcare sector itself contributes significantly to the problem, generating greenhouse gas emissions. This highlights the urgent need to adopt sustainable practices and climate-neutral efforts across healthcare systems [5].

Evaluating the challenges of infectious diseases and antimicrobial resistance

Infectious diseases have long been a significant global health threat, but emerging and re-emerging infections continue to challenge health systems worldwide. From the early days of HIV/AIDS to the more recent outbreaks of SARS, MERS, Zika, and COVID-19, infectious diseases remain a top concern. Some diseases, once in decline, like measles and tuberculosis, have resurged due to insufficient vaccination and intervention efforts. The COVID-19 pandemic illustrated the lack of preparation for future crises, despite growing evidence of vulnerabilities. One of the most pressing concerns is antimicrobial resistance (AMR), which is now considered one of the top global health threats [6]. The rise of AMR threatens to undo the progress made in modern medicine, as infections caused by resistant bacteria are documented in all regions of the world. In 2019 alone, over 1.2 million people died from antibiotic-resistant infections, surpassing deaths from HIV/AIDS or malaria [7]. AMR requires a comprehensive, global response. Countries must strengthen national action plans, including education, control of antibiotic sales, and monitoring usage [8]. Global collaboration is essential, as no country can tackle AMR in isolation. Only by working together can we mitigate the threat of resistance and protect the future of modern medicine.

AMR: a global scientific, human, and economic challenge

Despite significant research and public health attention on antimicrobial resistance (AMR), the current status quo indicates that current efforts and resources are insufficient to address the global scale of the AMR crisis. A new model for AMR research is now imperative: one that fosters collaboration and integrates insights across disciplines, ensuring that the approach is holistic and universally impactful. Research should move beyond isolated studies to include broader, systemic solutions that tackle the root causes of AMR and its impact on global health [9]. At the heart of an effective AMR response lies the prudent use of antimicrobials, complemented by strengthened infection prevention and control strategies in healthcare settings. These measures are critical not only in containing the spread of resistant pathogens but also in minimizing unnecessary antibiotic use. Equally important is public health education that empowers individuals to understand the risks of antibiotic misuse and encourages responsible behaviour. People must be informed about the dangers of overuse or improper use of antibiotics to ensure they use these lifesaving medications judiciously.

Adopting one health: a unified approach to combatting infectious diseases and antimicrobial resistance

The One Health approach offers a comprehensive solution to proactive surveillance, epidemic preparedness, reducing the burden of infectious diseases and combating AMR. This model recognizes that the health of humans, animals, and ecosystems is deeply interconnected. While the focus has often been on human health, it is essential to acknowledge that AMR impacts not only humans but also animals and the entire food production system. About 60% of emerging infectious diseases in humans are zoonotic, meaning they originate in animals [10]. These diseases often spread through close interactions between humans, animals, and the environment, which are increasingly frequent as human populations expand into previously untouched habitats. Climate change and land consumption are accelerating the spread of zoonotic and vector-borne diseases, while globalization through

travel and trade enables rapid transmission of these diseases across borders. The One Health approach encourages a collaborative, multidisciplinary response to these interconnected health challenges. It promotes a holistic, integrated vision of health that considers all factors in the human-animal-environment interface. Achieving success requires strong governance, a commitment to interdisciplinary cooperation, and forward-thinking practices that guide decision-making for sustainable health management.

Considering wars as public health emergencies

War inflicts immeasurable suffering, leading not only to the tragic loss of life but also to long-term physical and mental health consequences. Beyond the immediate casualties, wars disrupt societies by destroying infrastructure, draining resources, and depriving vulnerable populations of access to essential needs such as food, water, and healthcare. It is estimated that nearly 110 million people were forcibly displaced worldwide in 2022—an increase of 19 million from the previous year, marking the largest displacement surge in recorded history [11]. The impact of war on health is multi-faceted: crowded living conditions, poor sanitation, lack of food, and inadequate healthcare infrastructure make war zones ripe for the spread of infectious diseases. The breakdown of healthcare systems, coupled with the disruption of vaccination campaigns, limited access to antimicrobials, and infection prevention measures, accelerates the development of AMR, as trauma and widespread use of antibiotics are common [12]. War also severely affects mental health. Both civilians and combatants suffer long-term psychological trauma that hinders recovery and perpetuates cycles of conflict. Despite the profound public health implications of war, the international community has yet to develop a comprehensive strategy to mitigate these consequences. Recognizing war as a public health emergency requires a systematic, coordinated global response. Health professionals must maintain neutrality in conflict zones, document war-related health impacts, and advocate for humanitarian assistance to address both physical and mental health needs. Stronger international cooperation is needed to protect healthcare infrastructure and personnel in conflict zones. Promoting peace is integral to health. The healthcare community can play a leading role in preventing war's devastating effects by advocating for diplomacy, conflict resolution, and humanitarian aid. A world at peace is a world that can begin to heal and obtain unity of purpose for improving human health.

Combating false and misleading information: challenge to science and medicine

Science thrives on truth—rigorous inquiry, transparency, and ethical responsibility are its core pillars. Yet, these pillars are under siege in an era of rampant misinformation. False narratives, particularly regarding health, can significantly damage public trust in science and erode the foundation of evidence-based decision-making. The COVID-19 pandemic starkly illustrated how misinformation can hinder public health responses, from vaccine hesitancy to resistance against essential health measures. Misinformation is not just an annoyance; it is a societal threat. With their vast reach, social media platforms have amplified false claims, leaving the public to navigate a confusing and often contradictory landscape of science and fiction. Misinformation campaigns can obscure the truth, confuse individuals, and ultimately jeopardize public health. To combat misinformation, it must be treated as any infectious disease outbreak. First, we must identify and contain the sources. Then, we need to protect vulnerable populations through proactive education campaigns that build resilience against false narratives. This battle requires collective action. It is not enough for scientists to speak the truth in their labs and journals; they must actively engage in public discourse and communicate their findings in ways that are accessible, transparent, and compelling. Education plays a crucial role in this fight. Critical thinking and media literacy must be incorporated into education systems to equip individuals with the tools to discern fact from fiction. We can build trust and foster informed decision-making only when the public is empowered to understand the science behind health recommendations.

Rethinking the quality and integrity of scientific research

As scientific research faces increasing challenges, the integrity of published evidence must remain unquestionable. The scientific publishing ecosystem, which underpins global scientific progress, is facing a crisis. The traditional peer review process, once a trusted quality control mechanism, is now under strain. Overworked reviewers, the "publish or perish" mentality, and the explosion of submissions have all contributed to a decline in research reliability. Recent surveys have shown that up to 70% of scientists have been unable to replicate others' findings, raising questions about the quality of the published science. The replication crisis threatens the scientific community's credibility and undermines public trust in research [13]. Additionally, the rise of predatory publishing, where journals prioritize profit over quality scholarship, has complicated the landscape. The financial burden of publication, particularly for scientists from

less affluent regions, exacerbates these challenges. To restore trust, we must move beyond publication quantity and emphasize quality and rigor in research. Researchers must be trained to uphold ethical standards and face swift consequences for violations. It is time to shift the evaluation of scientists from a focus on the number of publications to a focus on the quality of their contributions. By reaffirming the values of transparency, accountability, and scientific integrity, we can strengthen the foundations of scientific progress, ensuring that research remains a force for good in society.

Regulating artificial intelligence use in healthcare

Artificial intelligence (AI) is poised to revolutionize healthcare. From diagnosing diseases more accurately to personalizing treatment plans, AI has the potential to transform patient care. AI systems can analyze vast amounts of health data to identify patterns and trends that humans might miss, enabling faster diagnoses and more effective treatments. Yet, AI is not without its challenges. Issues such as algorithmic bias, data security breaches, and the potential for AI-driven misinformation require careful attention. The public's trust in healthcare systems is already fragile, and the risks associated with AI only heighten these concerns. A robust regulatory framework is needed to ensure that AI is integrated responsibly into healthcare. This framework must address issues such as data privacy, discrimination, and accountability. The goal should be to promote AI's potential to improve healthcare outcomes while safeguarding patient safety and maintaining care quality [14]. Furthermore, as AI evolves, so must the training of healthcare professionals. They must be equipped with the skills to interact with AI systems responsibly, ensuring that human judgment remains central to patient care. As we stand on the cusp of a new era in healthcare, AI presents both opportunities and challenges. By balancing innovation with ethical oversight, we can harness AI's potential while protecting the core values of healthcare.

Strengthening global health governance

In today's interconnected world, global collaboration is not just a necessity—it's a beacon of hope. It fosters unity among nations, driving innovation and ensuring that quality healthcare is accessible to all, regardless of geography, nationality, gender, race, ethnicity, or religion. Only multilateral organizations like the WHO, with its 194 Member States, can address complex health challenges on a global scale. For meaningful progress, countries must support the WHO and similar international bodies, enabling them to build capacity and extend their global reach. However, effective action requires more than just increased funding—it demands systems that enhance agility and improve crisis response times. In an ever-evolving world, these organizations must be adaptable and responsive, ensuring that they can meet today's urgent health needs while preparing for tomorrow's challenges.

Conclusions

To confront the modern challenges facing us, the scientific community must double down on its commitment to integrity, collaboration, academic freedom, and transparency. Experienced researchers have a critical role in mentoring the next generation, instilling the values of scientific ethics, honesty, and public engagement. Rebuilding public trust in science requires proactive and clear communication, distinguishing evidence from misinformation, and reinforcing the truth at every opportunity.

As scientific knowledge advances, so too do the ethical challenges we face. Ethical frameworks must evolve alongside scientific innovation. The timeless principles articulated in the Belmont Report—respect for persons, beneficence, and justice—remain foundational. However, these principles must be continuously interpreted and updated considering new technologies and emerging ethical dilemmas [15].

Considering the principles of humanity, impartiality, neutrality, and independence, it becomes evident that a participatory approach to governance is more critical than ever. A shared, collaborative, and coordinated global health response is essential to address the health challenges of our time. As philosopher Hans Jonas wisely noted, "*Act so that the effects of your action are compatible with the permanence of genuine human life on Earth*." This precautionary approach reminds us that while scientific advancement holds immense potential, it must always be pursued with a keen eye on its long-term consequences for humanity and our planet. Healthcare workers and scientists alike must understand the dynamic nature of today's health challenges (Table 1). To protect the integrity of science, restore public trust, and uphold core values of honesty, humility, altruism, and solidarity, we must embrace a holistic, inclusive approach to global health.

The age-old proverb "*If you want to go fast, go alone; if you want to go far, go together*" reminds us that global solidarity is key to overcoming health inequities and addressing global challenges. We will achieve meaningful progress only through cross-sectoral multidisciplinary partnerships, innovation, and evidence-based policies. Despite our vast challenges, our collective capacity for action is immense. Helen Keller's words resonate now more than ever: "Alone we can do so little; together we can do so much." In a polarized world,

Table 1 Rethinking global health: integrating science, policy, and ethics for a resilient future

Main issues	Priorities	Solutions	Key considerations
Antimicrobial Resistance (AMR) as a Global Crisis	Redefine research models; strengthen infection prevention & antimicrobial stewardship	Adopt One Health approach; improve public education on antibiotic use; global cooperation in AMR research	AMR affects human, animal, and environmental health, requiring interdisciplinary strategies
One Health Approach for Disease Control	Address zoonotic disease transmission; integrate human, animal, and environmental health policies	Strengthen cross-sectoral collaborations; invest in surveillance and early detection	Over 75% of emerging infectious diseases are zoonotic, necessitating a holistic approach
Wars as a Public Health Emergency	Address healthcare infrastructure damage; mitigate AMR spread in conflict zones	Strengthen international healthcare protection; improve refugee healthcare access; maintain vaccination campaigns in crises. Involve community and faith groups	Wars amplify disease transmission, disrupt sanitation, and increase antibiotic misuse
Combating Misinformation and Disinformation	Strengthen trust in science; improve public communication	Promote science literacy and media literacy; regulate digital platforms; proactive public health messaging	Misinformation weakens public health interventions, causing vaccine hesitancy and distrust
Scientific Integrity and Research Quality	Address replication crisis; uphold ethical research standards	Reform peer review; emphasize quality over quantity in publishing; penalize scientific misconduct	Incentive structures must prioritize rigorous, reproducible research over publication quantity
Regulation of Artificial Intelligence (AI) in healthcare	Ensure AI benefits are equitably distributed and risks mitigated	Implement transparent regulations; prevent biased algorithms; strengthen AI ethics	AI improves diagnostics but poses risks related to bias, privacy, and misinformation
Strengthening Global Health Governance	Increase WHO's capacity; improve global crisis response	Boost international cooperation; ensure equitable healthcare access; enhance funding mechanisms	Global organizations must be more agile and responsive to emerging health threats
Funding Cuts and Research Sustainability	Address decreasing public and private research investments; ensure long-term sustainability	Advocate for stable, equitable funding models; diversify funding sources; prioritize high-impact research	Budget constraints threaten innovation, requiring sustainable, long-term investment strategies
Scientific Ethics & Governance for the Future	Align ethics with technological advancements; reinforce public trust	Promote ethical frameworks for new scientific capabilities; strengthen research oversight	Ethical considerations should evolve with new technologies while prioritizing humanity's well-being
Global Solidarity & Collective Action	Foster international partnerships; promote evidence-based policies	Strengthen interdisciplinary cooperation; encourage cross-sectoral innovation	Addressing health challenges requires unified efforts across nations, disciplines, and sectors

AI, Artificial Intelligence; AMR, Antimicrobial Resistance; WHO, World Health Organization

we must learn to respect differing opinions, embrace tolerance, and learn from history to avoid repeating the same mistakes. As scientists, clinicians, and healers, our strength lies not in isolation but in our ability to come together, united in our pursuit of a healthier world for all. Uniting, we can be stronger and better in restoring global trust and confidence.

Abbreviations

AMR	Antimicrobial Resistance
COVID-19	Coronavirus Disease 2019
USAID	U.S. Agency for International Development
WHO	World Health Organization

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