https://ijhpm.com
Int J Health Policy Manag 2026;15:9695

OPEN ACCESS

doi 10.34172/ijhpm.9695

IJHPM
International Journal of Health Policy and Management

Viewpoint

Global Health 2050: Beyond the Modular Approach

Elisabeth Paul[1*], Sandy Tubeuf[2,3], Garrett W. Brown[4], Lieven Annemans[5], David Bell[6], Valéry Ridde[7], Joachim Sturmberg[8]

*Correspondence to: Elisabeth Paul, Email: Elisabeth.Paul@ulb.be

Copyright: © 2026 The Author(s); Published by Kerman University of Medical Sciences. This is an open-access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Paul E, Tubeuf S, Brown GW, et al. Global health 2050: beyond the modular approach. *Int J Health Policy Manag.* 2026;15:9695. doi:10.34172/ijhpm.9695

Received: 22 December 2025; Accepted: 13 June 2026; ePublished: 15 June 2026

Background

Global health aspires to improve health outcomes and reduce health disparities through two opposing approaches. A "rights-based perspective" rooted in health promotion and universal access to primary healthcare (PHC), epitomised by the Alma Ata Declaration,[1] the 2008 World Health Report,[2] and the ongoing universal health coverage (UHC) agenda. The other perspective focuses on "disease control," emphasising the identification of principal disease causes and implementation of high impact interventions, epitomised by the Disease Control Priorities approach,[3] the 1993 World Development Report[4] and the *Lancet* Commission on Investing in Health (hereafter LCIH). Its most recent 2024 publication aims to "halving premature death by mid-century."[5] It posits that global deaths before age 70 ("premature") could be halved through a targeted strategy focussed on 15 priorities: 8 infectious and maternal health conditions and 7 non-communicable diseases (NCDs). To achieve this, it proposes a package of cost-effective interventions grouped into 19 modules, each "*representing a programme area with a specific set of policies and financing arrangements*."[5]

The relative merits of addressing underlying drivers versus specific diseases is a longstanding debate at the forefront of the Ottawa Charter in 1986,[6] and which the World Health Organization (WHO) Commission on Social Determinants of Health[7] tried, unsuccessfully, to revive in 2008. Acknowledging that disease-specific strategies remain crucial in certain contexts, such as acute outbreaks like Ebola or high-burden chronic conditions, disease-specific approaches are critiqued by those conceptualising health and health systems as complex adaptive systems requiring broader lenses that transcend simple, linear causality.[8] This viewpoint interrogates the core assumptions and methodological shortcomings of the 2024 LCIH report's disease-centred approach to health policy.

Approach

This viewpoint employs a complex adaptive systems approach to examine key concerns and methodological limitations of the "disease control lens" adopted by the 2024 LCIH report.[5] It follows a more conceptual paper[8] and adopts a reflexive approach[9] led by a group of individuals representing a diversity of disciplines (health economists, clinicians, global public health and policy), expertise, and professional practices across multiple national and international contexts, bringing substantial field experience in international organisations and in low- and middle-income countries (LMICs). Drawing upon our shared experiential and scientific knowledge, we used relevant literature from our respective disciplines to analyse and highlight the methodological shortcoming of the LCIH, proposing a systems approach as an alternative to the LCIH framework.

Key Concerns With the Modular Approach

We commend the LCIH's efforts to identify where to allocate scarce resources for maximum impact and acknowledge that the political environment – characterised by resource competition, biomedical securitisation,[10] and commercial determinants of health – attracts policy-makers to a disease control approach. Furthermore, in domestic resource allocation processes, Ministries of Finance increasingly require sectoral ministries to demonstrate the linkages between budget allocations and results or performance,[11,12] which also makes vertical approaches appealing. In LMICs, shifts in resource allocation processes are often pushed through conditionalities by international financial institutions and other donors.[13] However, we contend that the proposed "modular disease-centric approach" overlooks the systemic drivers of health and thus is unlikely to yield sustainable and equitable health and economic outcomes in the long term. Three inter-related concerns underlie this position.

Treating Symptoms or Addressing Their Causes?

LCIH's primary limitation is prioritising diseases control over health optimisation, an approach that ignores the contextual and structural causes of poor health.[14] This disease-centric framework ignores the interconnectedness and independence between health conditions[15,16] at a time of rapidly rising rates of multimorbidity, including in LMICs.[17] This narrow focus on diseases and their direct causes (eg, a viral infection) overlooks their underlying structural drivers such as

Full list of authors' affiliations is available at the end of the article.

micronutrient deficiencies[18] and broader determinants including education, poverty, and living conditions, thereby inadequately addressing both co-morbidities and underlying disease susceptibility.

The COVID-19 pandemic illustrates these shortcomings.[19] While LCIH cites the pandemic to justify increased investment in pandemic preparedness and response, it overlooks the critical role of unhealthy lifestyles, poor immune competency and socio-economic vulnerabilities in determining disease outcomes.[20] This inevitably leads to disease-or-condition-specific biomedical interventions[21] such as screening, diagnostics, pharmacologically-based treatments, vaccination, and psychotherapy. Yet, evidence demonstrates that environmental, behavioural, and socio-economic determinants are the primary drivers of disease development and health outcomes,[7] with greater potential to reduce morbidity and mortality than clinical services alone.[22,23]

Although LCIH acknowledges "*the crucial role of intersectoral policies in addressing high-impact social determinants of health,*" it offers little substantive engagement with these critical health determinants. For instance, tobacco control is mostly addressed in the context of taxation, while high-priority interventions exclude non-medical strategies for health promotion and prevention.[5] This omission reflects a deeper reluctance to tackle the structural determinants underpinning health inequalities.

Inadequate Use of Economic Analysis

The prioritisation of health interventions based on a "one-dimensional" outcome like "deaths averted" or "probability of premature death" raises additional concerns. Health outcomes are multi-dimensional and the reliability of a single health dimension is often ambiguous, eg, determining the exact cause of death is challenging in the context of multimorbidity, particularly in LMICs.[14] Moreover, a sole focus on mortality tends to favour biomedical solutions, where success is framed in terms of preventing a single cause of death, even if this comes at the expense of quality of life, or subsequent death from an unrelated condition.[10] For instance, the most recent Global Burden of Disease Study (2023) shows that while age-standardised mortality declines globally, driven by reductions in infectious diseases and neonatal deaths, morbidity—measured as years lived with disability—is rising, especially from NCDs and mental health conditions.[24] However, in many countries, there is little to no correlation between national morbidity and mortality data and national health plans priorities.[25] The issue of relying solely on mortality measures becomes more pressing as populations age and NCDs become more prevalent, highlighting the need for health systems to adapt their goals and functioning "to add life to years."[26]

LCIH's methodological choice of mortality-based outcomes reflects and reinforces its narrow biomedical framing. While presented as a rational evidence-based approach, it favours technological and clinical solutions while systematically undervaluing the socio-economic and structural determinants of health whose improvement could bring community-wide benefits. This may explain why interventions with cross-sectoral benefits, such as policies on housing or education, receive comparatively less attention. By contrast, a recent European study found that a significant part of the most efficient interventions were non-biomedical interventions including excise taxes on tobacco and alcohol and policies promoting healthier food and beverages.[27]

To allow for broader outcome assessments, health economists often use composite measures such as quality-adjusted life years (QALYs) or avoided disability-adjusted life years (DALYs)[28] through cost-effectiveness analysis (CEA). DALYs have been widely adopted as a measure of disease burden in a population that captures both disability and premature mortality.[24] Considering the availability of data on disability even in LMICs, DALYs are quite easy to apply at population level, and enable comparisons between countries. QALYs integrate both length of life with quality of life, yet the latter is difficult to measure, culturally variable, and dependent on the chosen assessment tools. Consequently, applying QALYs at the population level—especially in LMICs—is challenging.[29] Furthermore, DALYs and QALYs are fundamentally biomedical measures that focus on health outcomes, and may not fully capture the broader range of individual and societal gains associated with an intervention.

Although we support the LCIH's call for prioritising cost-effective interventions, we posit that while CEA is necessary, it is not sufficient to guarantee efficiency, affordability, and equity. Budget impact analyses must complement CEA to address an intervention's financial feasibility in specific contexts, providing a holistic view of both the value and affordability of interventions.[12,30] Indeed, even cost-effective interventions can result in a net loss of health if they displace other activities that would have generated greater benefit.[31] Beyond efficiency, priority-setting must consider the severity or scale of the health issues addressed,[32] as well as equity. Cookson et al provided evidence of growing use of distributional CEA to make efficiency-equity trade-offs explicit across socioeconomic groups.[33] Such an approach allows health improvements or well-being outcomes alike to be valued not only in aggregate but also in terms of their equitable distribution. Although promising, distributional CEA is challenging and remains rarely used in LMICs.[34]

Cost-benefit analysis (CBA) enables the inclusion of multiple outcomes across various sectors that would offer a more useful approach to justify the allocation of scarce resources. CBA measures whether the societal benefits outweigh the costs and as such, supports a more holistic and informed basis for decision-making. It can be rigorously applied to global health priority setting.[35]

The relationship between cost, value and what gets implemented for whom is often tenuous,[36] especially in LMICs, where much of the public health budget is non-discretionary (eg, salaries, basic equipment), and where large parts of external funding is earmarked to donor priorities. This raises important questions about whose values are being prioritised and what outcomes truly matter.[12] In such circumstances, interventions that generate broader societal benefits and systemic externalities should be prioritised over narrowly defined disease-focused programmes. Besides,

ethical concerns should also be integrated in prioritisation exercises.[37] Multicriteria decision analysis is a promising approach that enables multiple criteria to be weighted and considered jointly, potentially expanding the scope of CEA and informing CBA.[38] Although multicriteria decision analysis also struggles with methodological issues, recent evidence illustrates that it can provide a systematic, evidence-driven approach within healthcare.[39]

LCIH's framework does not engage with these more comprehensive tools, risking a reinforcement of donor dependency and a neglect of structural determinants of health by focusing on a few direct causes of poor health.[40]

Misunderstanding the Value of Health Systems

LCIH's "modular approach" is framed as a means *"to shift the focus from health-system inputs and functions towards the 15 priority conditions."* The LCIH calls "*for a reset of the UHC and health-systems strengthening agendas*" and recommends "*that national governments maintain their focus on public financing of a core set of interventions that are fully prepaid and available to everyone, starting with the highest value for money interventions […].*" In other words, LCIH treats health system strengthening (HSS) not as an enabling investment to generate broad health gains, but as a byproduct of investing in the priority modules reverting to vertical approaches to health system support.[41]

This framing is fundamentally flawed and fails to grasp the interconnected and interdependent nature of health systems.[42] It implicitly assumes that individual health interventions possess intrinsic efficacy, regardless of the context and health system in which they are delivered, ignoring the well-known difference between efficacy and effectiveness.[43] Outcomes vary significantly across delivery contexts,[44] and while LCIH presents priority modules as self-sufficient – as though they could function independently of broader health system functions such as governance, financing, infrastructure, or skilled healthcare personnel – a growing body of evidence confirms that without a reasonably performing health system, health interventions, regardless of how cost-effective they are on paper, are likely to underperform.[45] As the WHO reflects:

> *"Every intervention, from the simplest to the most complex, has an effect on the overall system, and the overall system has an effect on every intervention."*[42]

Crucially, CEA cannot capture the full, system-level value of HSS, nor can it measure "cross-programmatic" efficiency[46] or the indirect contributions of systems to various health outcomes,[47] thus ignoring opportunity costs.[31] Consequently, CEA is ill-suited to value health system resilience and to compare the impact of general system strengthening versus targeted interventions, and the supposed higher efficiency of the latter is more a reflection of methodological limitations than real-world value (Table 1 illustrates the bias arising from this misconception).[23,48–50]

The limitations of the LCIH's "modular approach" are further exemplified in its analysis of pandemic risk and preparedness. It relies on outdated mortality data that overestimates future pandemic risks[51] and despite acknowledging its model's limitations, the LCIH supports massive investments in biosecurity—such as surveillance, diagnostics, and vaccine development—while neglecting key

Table 1. Potential Biases Arising From Inadequate Use of Economic Analysis

(a) Differences Between CEA and CBA		
	CEA	**CBA**
Purpose	Compares the costs of different interventions relative to their health outcomes.	Evaluates whether the benefits of an intervention outweigh its costs.
Outcome measurement	Uses natural units like life years gained, cases prevented, or combined measures like QALYs, DALYs.	Converts both costs and benefits into monetary terms.
Monetary valuation	Only costs are expressed in monetary terms.	Both costs and outcomes are in monetary terms.
Key question	*Which of two or more options gives the best health outcome for the money spent?*	*Do the benefits of the intervention justify the costs in monetary terms?*
Use case	Used in healthcare when the goal is to maximise health outcomes within a fixed budget.	Used when comparing interventions across sectors or when decision-makers want to see net economic gains.
Example	Comparing an innovative treatment comparatively to current treatment in terms of incremental cost-effectiveness where the new treatment is both more expensive and more effective, eg, US $20 000 per QALY – CEA helps decide whether the extra cost related to the new treatment is worth the health benefits.	A programme costs US $1 million but is estimated to save US $5 million in future healthcare costs and productivity – CBA helps justify the investment.

(b) An Example of Cognitive Bias Due to the (Ab)use of CEA – the Impossibility to Compare Individual Interventions With HSS
CEA enables estimation of deaths averted (or "lives saved") thanks to individual interventions. Suppose a given country where Vaccine A "saves" 1000 lives and Treatment B "saves" 2000 lives annually. A person benefiting from both will be counted twice – once as a life saved by Vaccine A, and once as a life saved by Treatment B. Yet if that person dies from Condition C, this is not reflected in the effectiveness calculations for Vaccine A and Treatment B, but it does appear to "reduce" the overall effectiveness of the health system. Similarly, improved nutrition (via micronutrient supplementation, dietary advice, or increased household income) may reduce mortality across many conditions, from vaccine-preventable infection to malaria to a range of NCDs.[23,48] However, systemic effects are near impossible to isolate, which make such interventions appear less effective or ineffective. Equally, as individual resilience through better nutrition improves, it will lower the absolute benefit of disease-specific interventions, and thus also make them appear less efficient – eg, denominator effect.[49]

Abbreviations: CEA, cost-effectiveness analysis; CBA, cost-benefit analysis; QALYs, quality-adjusted life years; DALYs, disability-adjusted life years; HSS, health system strengthening; NCDs, non-communicable diseases.

drivers of health improvements like sanitation, nutrition, and resilient health systems. This securitised, biomedical focus diverts resources from essential services like primary health care,[21] especially in LMICs where opportunity costs are high and priorities differ.[52]

Alternative: A Systems Approach to Global Health

While we share the LCIH's goal of improving global health by 2050, we propose a fundamentally different approach. The LCIH exemplifies the linear reductionist paradigm that still prevails in public health.[8] In contrast, we advocate for a holistic, systemic approach to health and health services mirroring the public health interventions that dramatically reduced premature mortality in high-income countries over the past two centuries.[23] This systems-based approach has long been promoted by WHO[42] and the Global Health Promotion Movement.[53] Unlike the LCIH, WHO emphasises that "improving health" is just one of several objectives of health systems. These objectives must be balanced with others according to each society's values and preferences.[54]

The Interdependent Functions of Health Systems

WHO's framework for Health System Performance Assessment (HSPA) outlines four interconnected functions of health systems—governance, financing, resource generation, and service delivery—designed to achieve five interrelated goals: health improvement, people-centredness, financial protection, health system equity, and efficiency.[55] By focusing almost exclusively on service delivery (for a few interventions) and to a narrow "health improvement" objective (limited to 15 specific disease and conditions), the LCIH's approach misses critical system factors and expectations that are valued by people, as well as systemic constraints and synergies.

Contrary to LCIH assumptions that interventions are "self-contained," the WHO's HSPA framework recognises the essential interdependence of all health system functions. It highlights how service delivery is shaped by governance, financing, as well as human resources, physical infrastructure, equipment, medical products, and health information systems. It also underscores that health system performance is deeply influenced by broader contextual and socioeconomic determinants.[55] This interlinked view is essential for creating resilient, responsive health systems, something a fragmented, disease-specific strategy cannot achieve.

Context-Sensitive Solutions and Comprehensive Situation Analysis

There is no single blueprint to solve all health problems across communities. Solutions must be context-sensitive – what works in one setting may not work in another.[56] To reach Global Health goals by 2050, we must go back to the foundational principles of health promotion[53] and health policy planning.[57] A critical first step is to establish inclusive forums for analysis and policy dialogue.[58] These spaces must actively engage all stakeholders, including community representatives and stakeholders from non-health sectors. This is key to transparently determine the necessary trade-offs inherent to priority-setting.[59]

Effective policy dialogue begins not with pre-defined solutions, but with a deep, context-sensitive situation analysis, prior to prioritising locally fit "healthy" interventions. Such situation analysis should rest on two complementary components. First, an in-depth HSPA is essential to identify areas where investment can guarantee basic functioning and overall health system performance, moving beyond the delivery of stylised modules, but positioning HSS as a vehicle for achieving broader health service provision aligning with localised need.[57] Second, an in-depth population health diagnosis should uncover the root causes and shared determinants of ill-health (eg, nutrition system, stress, poor sleep, illiteracy, sanitation). Engaging stakeholders across sectors is crucial to identifying context-sensitive cross-cutting problems and solutions, reflecting a genuine "health-in-all policies" approach.[60] We further advocate for foundational principles of health planning centred on equity,[61] guided by community preferences and multiple decision criteria beyond cost-effectiveness, which further seeks long-term sustainability.

Building Strong People-Centred Primary Care Systems

Although the LCIH claims it is "*not advocating for these modules to be vertical programmes in the usual sense of the term*," its approach is fundamentally linear and hierarchical. The 2008 World Health Report distinguishes between three healthcare provision models: (*i*) conventional ambulatory medical care focusing on illness and cure; (*ii*) disease control programmes focusing on priority diseases and related control interventions; and (*iii*) people-centred PHC focusing on communities' health needs, with people as partners in managing their own health.[2] While the LCIH clearly adopts a mix of models (*i*) and (*ii*) above, we align with WHO recommendations to shift towards model (*iii*). A systems approach goes beyond the reduction of isolated conditions–it works to co-design health systems that tackle root causes of ill-health while delivering person-centred care through resilient and adaptive PHC systems (Table 2 contrasts the two approaches).

From the Alma Ata to the Astana Declarations,[1,63] including the *World Health Report 2008*[2] and joint work with United Nations Children's Fund on PHC measurement,[64,65] WHO and independent scholars have consistently documented that strong, people-centred PHC is the cornerstone of equitable, efficient, and resilient health systems.[66] Well-known country case studies include the *Good health at low cost* study examining China, Costa Rica, Sri Lanka, and Kerala in India, all of which achieved substantially better health outcomes than other nations at similar levels of development through a shared commitment to equity, good governance, and action on the wider determinants of health.[67] Other examples include Thailand, which adapted its PHC system to evolving population health needs and achieved remarkable progress toward UHC and improved health outcomes, including elimination of mother-to-child transmission of HIV despite a generalized HIV epidemic[68]; and Brazil, which initially relied heavily on disease-specific health programmes but later benefited from a broad "Health Reform Movement,"

Table 2. Contrasting the *Lancet* Commission on Investing in Health's Approach With a Systems Approach

LCIH's Approach	Systems Approach
Focused on disease-specific targets, CEA, technical solutions and specialised programmes	*Focused on holistic health goals; efficiency, sustainability, and equity analysis; and integrated PHC systems*
Focus on diseases and risks	Focus on health and well-being
Aim of reducing premature mortality by focusing on major causes of death	Aim of improving health by focusing on the "causes of the causes" of poor health (including social determinants),[62] quality of care, and HSS
Using cost-effectiveness as the sole prioritisation criterion	Balancing efficiency with multiple prioritisation criteria including feasibility, acceptability, equity, responsiveness, affordability, and broader sustainability
Focus on biomedical health technologies	Include multisectoral interventions
Focus HSS on its capacity to deliver priority modules	First conduct a diagnosis on the health system performance – regarding all its objectives, including non-health related ones – to understand the causes of underperformance (main bottlenecks), and adopt a systems lens to collaboratively design locally adaptive health systems
Expert-driven prioritisation	Inclusive, all stakeholders' perspective included in priority-setting
One-size-fits-all healthcare priority modules	Locally set social and health priority interventions that meet communities' priorities and needs

Abbreviations: LCIH, *Lancet* Commission on Investing in Health; CEA, cost-effectiveness analysis; HSS, health system strengthening; PHC, primary healthcare.

establishing a decentralised PHC system, expanding close-to-community services to two-thirds of the population, thus achieving near-UHC and improving population health outcomes.[69]

Strong PHC systems not only outperform narrow, disease-specific programmes in reducing premature mortality,[70] but also enable faster pandemic responses compared to hospital-centric model systems.[71] They offer long-term economic benefits, yielding high savings by preventing costly complications and lost productivity, with estimates suggesting a US $14 return for every US $1 invested.[72]

Conclusion

While the LCIH proposes a modular strategy that appears efficient, its narrow focus on disease control neglects the systemic drivers of health and the need for robust HSS. By

Table 3. Our Conclusions Mirroring Those of the *Lancet* Commission on Investing in Health

LCIH Conclusions[5]	Our Conclusions
"First, dramatic improvements in human welfare are achievable everywhere by 2050 with the right health investments."	First, dramatic improvements in human welfare are achievable everywhere by 2050 with the right social investment.
"Second, rapid, sharp mortality declines and associated declines in morbidity can be achieved early on the pathway to full UHC."	Second, sustainable improvements in health and well-being can be achieved on the pathway to UHC.
"Third, a modular approach to health-system strengthening supports an initial tight focus on these 15 priority conditions and a gradual broadening of effort as the priority conditions are more fully addressed."	Third, a systems approach to health-system strengthening should be the starting point to address the functional barriers to its performance, before prioritising specific interventions.
"Fourth, public financing of a few drugs and other commodities can steer health systems towards delivering high-priority health interventions."	Fourth, public financing of a universal PHC system can steer health systems towards achieving its various goals (health improvement, people-centredness, financial protection, equity, efficiency).
"Fifth, tobacco control is by far the most important intersectoral policy to help to achieve the 50-by-50 goal, in view of the number of deaths caused by tobacco and the established and improving capacity of governments to implement tobacco policy."	Fifth, social protection, healthy nutrition, safe water and sanitation, health literacy and education, screen and stress reduction, and tobacco control are important intersectoral policies to help address underlying drivers of poor health to achieve better health for all.
"Sixth, the huge variation across countries in excess deaths during the COVID-19 pandemic, particularly before vaccines were developed, suggests that lessons can be learned from successful countries about public health basics (eg, rapid response, isolation of infected individuals, quarantine of people potentially exposed to infection, and social and financial support for people isolating or quarantining)."	Sixth, the huge variation across countries in excess deaths during the COVID-19 pandemic suggests that lessons can be learned from successful countries about reducing social inequities and strengthening public health basics – including community systems, evaluating policies and communicating with the public in a transparent way, and strengthening people's natural immunity.
"The seventh and final conclusion is aimed at the development assistance community. We conclude that official development assistance should focus on two broad purposes. The first is provision of direct financial and technical support to countries with the least resources to help to control diseases and develop health systems. The second is financing of global public goods, including reducing the development and spread of antimicrobial resistance, preventing and responding to pandemics, identifying and spreading best practices, and developing and deploying new health technologies. For both of these purposes, focusing efforts on the 15 priority conditions would best contribute to achieving a 50% reduction in PPD by 2050."	The seventh and final conclusion is aimed at the development assistance community. We conclude that official development assistance should focus on two broad purposes. The first is provision of direct financial and technical support to countries with the least resources to support domestic needs analysis, priority setting exercises and strengthening of social and PHC systems. The second is financing of global public goods, including implementation research and evaluation capacities to identify context-specific performing intervention and deploy locally adapted health interventions and technologies. At the global level, instead of committing to support technology transfer, a true global public good investment should make all effort to revert the large inequalities of opportunity in health and wealth which characterise our world.[73]

Abbreviations: LCIH, *Lancet* Commission on Investing in Health; UHC, universal health coverage; PHC, primary healthcare.

prioritising discrete interventions and cost-effectiveness metrics, LCIH risks reinforcing a fragmented, disease-specific perspective, yielding short-term health gains while failing to address the underlying vulnerabilities, comorbidities, and social determinants that shape health outcomes. This approach persists not because it is more effective, but because it is more politically tractable in a system that values countable outputs over transformative change. Naming these political-economy constraints openly allows us to propose actionable alternatives that are realistic within existing power structures.

Sustainable and equitable progress in global health requires a shift toward a holistic, systems-based approach, one that integrates social determinants, strengthens health systems, and recognises the complex interplay between health, well-being, and society. Rather than narrowly focusing on death avoidance, we must adopt a participatory approach to PHC that prioritise maximising health, fostering resilience, and promoting well-being for all. In short: *The greatest gains in global health will come not from fighting diseases one by one, but from building equitable, resilient societies where health and well-being can flourish.*

We offer an alternative approach to improving global health by mid-century. By adopting a systemic perspective, we diverge substantially from LCIH's conclusions. Mirroring the latter, Table 3 summarises our conclusions and recommendations.

WHO and numerous independent experts have already worked a lot on how to adopt "systems thinking" for HSS,[42] how to operationalise PHC and acting on social determinants of health,[69] and how to redesign health systems accordingly.[26,74] However, beyond technical guidelines, countries must first generate the political momentum needed to redesign their respective health systems and resource allocation processes. This requires a careful understanding of the political-economy forces that sustain the suboptimal status quo, as well as effective communication strategies or "investment cases" that can convince international, national and local decision-makers of the value of prioritising primary HSS and addressing the root causes of poor health, rather than focusing on specific interventions that merely treat symptoms. The current calls for reforming global health governance creates a momentum that must be seized, before it dissipates.

Disclosure of artificial intelligence (AI) use

No AI tools were used in the preparation of this manuscript. Copilot (ULB institutional version) was used exclusively for linguistic editing of the cover letter and the responses to reviewers.

Ethical issues

Not applicable.

Conflicts of interest

Authors declare that they have no conflicts of interest.

Authors' contributions

Conceptualization: Elisabeth Paul, Sandy Tubeuf, Garrett W. Brown, Lieven Annemans, David Bell, Valéry Ridde, and Joachim Sturmberg.
Formal analysis: Elisabeth Paul, Sandy Tubeuf, Garrett W. Brown, Lieven Annemans, David Bell, Valéry Ridde, and Joachim Sturmberg.
Funding acquisition: Elisabeth Paul.
Methodology: Elisabeth Paul, Sandy Tubeuf, Garrett W. Brown, Lieven Annemans, David Bell, Valéry Ridde, and Joachim Sturmberg.
Supervision: Elisabeth Paul and Joachim Sturmberg
Writing-original draft: Elisabeth Paul.
Writing-review & editing: Elisabeth Paul, Sandy Tubeuf, Garrett W. Brown, Lieven Annemans, David Bell, Valéry Ridde, and Joachim Sturmberg.

Funding statement

No specific funding was mobilised for this paper. The APC has been paid by ULB.

Authors' affiliations

[1]Research Center on Health Policies & Systems – International Health, School of Public Health, Université libre de Bruxelles, Brussels, Belgium. [2]Institute of Economic and Social Research, Université catholique de Louvain, Louvain-la-Neuve, Belgium. [3]Institut de Recherche Santé et Société, Université catholique de Louvain, Louvain-la-Neuve, Belgium. [4]School of Politics and International Relations, University of Leeds, Leeds, UK. [5]Department of Public Health and Primary Care, Faculty of Medicine and Health Sciences, University of Ghent, Ghent, Belgium. [6]Independent Researcher, Lake Jackson, TX, USA. [7]CEPED, INSERM, Institut deRecherche Pour le Développement (IRD), Université Paris Cité, Paris, France. [8]School of Medicine and Public Health, Faculty of Health and Medicine, University of Newcastle, Callaghan, NSW, Australia.

References

1. World Health Organization (WHO), United Nations Children's Fund (UNICEF). Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR. Published 1978. https://www.who.int/publications/i/item/WHO-EURO-1978-3938-43697-61471.
2. World Health Organization. World Health Organization (WHO). Primary Health Care: Now More than Ever, The World Health Report 2008. http://www.who.int/whr/2008/en/. Published 2008. Accessed November 13, 2017.
3. Jamison DT, Mosley M, Meashem A, et al. *Disease Control Priorities in Developing Countries*. Oxford University Press; 1993.
4. World Bank. World Development Report 1993: Investing in Health. World Bank; 1993.
5. Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet*. 2024;404(10462):1561-1614. doi:10.1016/S0140-6736(24)01439-9
6. World Health Organization. Ottawa charter for health promotion. https://www.who.int/publications/i/item/WH-1987. Published May 1987.
7. Commission on Social Determinants of Health. Closing the Gap in a Generation Health Equity through Action on the Social Determinants of Health. World Health Organization; 2008.
8. Sturmberg JP, Mormina M, Pfaff H, et al. A Systemic Path to Global Health 2050. *Bull World Health Organ*. 2026. doi:10.2471/BLT.25.293951
9. Tremblay MC, Richard L, Brousselle A, Beaudet N. Learning reflexively from a health promotion professional development program in Canada. *Health Promot Int*. 2014;29(3):538-548. doi:10.1093/heapro/dat062
10. Holst J, van de Pas R. The biomedical securitization of global health. *Glob Health*. 2023;19(1):1. doi:10.1186/s12992-023-00915-y
11. Robinson M. *Performance Budgeting: Linking Funding and Results*. International Monetary Fund & Palgrave/McMillan; 2007.
12. Mazzucato M. *Mission Economy: A Moonshot Guide to Changing Capitalism*. Allen Lane; 2021.
13. Bertone MP, Barroy H, Sparkes S, Sempé L, Yungrattanachai M, Witter S. Political economy of budgeting reforms: a comparative analysis of the adoption and implementation of programme-based budgeting in health across seven LMIC countries. Published December 2025. doi:10.22541/au.176473277.71999658/v1
14. Sturmberg JP, Marcum JA. From cause and effect to causes and effects. *J Eval Clin Pract*. 2024;30(2):296-308. doi:10.1111/jep.13814
15. Sturmberg JP, Getz LO, Stange KC, Upshur REG, Mercer SW. Beyond multimorbidity: What can we learn from complexity science? *J Eval Clin Pract*. 2021;27(5):1187-1193. doi:10.1111/jep.13521
16. Tushingham S, Cottle J, Adesokan M, et al. The prevalence and pattern of comorbid long-term conditions with low back pain and osteoarthritis in low- and middle-income countries: a systematic review and meta-analysis. *International Journal of Health Promotion and Education*. 2024. doi:10.1080/14635240.2024.2332911
17. The PLoS Medicine Editors. Multimorbidity: Addressing the next global pandemic. *PLoS Med*. 2023;20(4):e1004229. doi:10.1371/journal.pmed.1004229
18. Allen LH. Micronutrients — assessment, requirements, deficiencies,

and interventions. *N Engl J Med*. 2025;392(10):1006-1016. doi:10.1056/NEJMra2314150

19. Paul E, Brown GW, Dechamps M, et al. COVID-19: an ‘extraterrestrial’ disease? *Int J Infect Dis*. 2021;110:155-159. doi:10.1016/j.ijid.2021.07.051
20. Kalk A, Sturmberg J, Van Damme W, et al. Surfing Corona waves - instead of breaking them: Rethinking the role of natural immunity in COVID-19 policy. *F1000Res*. 2023;11:337. doi:10.12688/f1000research.110593.3
21. Nunes AR. Medicalisation of public health: a narrative review. *Public Health*. 2025;246:105827. doi:10.1016/j.puhe.2025.105827
22. Hood CM, Gennuso KP, Swain GR, Catlin BB. County health rankings: relationships between determinant factors and health outcomes. *Am J Prev Med*. 2016;50(2):2. doi:10.1016/j.amepre.2015.08.024
23. Shaw-Taylor L. An introduction to the history of infectious diseases, epidemics and the early phases of the long-run decline in mortality. *Econ Hist Rev*. 2020;73(3):E1-E19. doi:10.1111/ehr.13019
24. Hay SI, Ong KL, Santomauro DF, et al. Burden of 375 diseases and injuries, risk-attributable burden of 88 risk factors, and healthy life expectancy in 204 countries and territories, including 660 subnational locations, 1990–2023: a systematic analysis for the Global Burden of Disease Study 2023. *Lancet*. 2025;406(10513):1873-1922. doi:10.1016/S0140-6736(25)01637-X
25. Oliveira CB, Ferreira GE, Buchbinder R, Machado GC, Maher CG. Do national health priorities align with Global Burden of Disease estimates on disease burden? An analysis of national health plans and official governmental websites. *Public Health.* 2023;222:66-74. doi:10.1016/j.puhe.2023.06.038
26. Stucki G, Bickenbach J. Why we need to move to a two-dimensional health system. *Lancet.* 2026;407(10524):125-126. doi:10.1016/S0140-6736(25)02387-6
27. Galea G, Ekberg A, Ciobanu A, et al. Quick buys for prevention and control of noncommunicable diseases. The Lancet Regional Health – Europe. Published 2025. doi:10.1016/j.lanepe.2025.101281
28. Reinhardt UE. Sense and nonsense in defining “value” in health care. https://nihcm.org/assets/articles/sense-nonsense-defining-value-in-health-care-uwe-reinhardt.pdf. Published October 5, 2016.
29. Deshmukh A, Chen A, Sonawane KB, Cantor S. The use of DALYs and QALYs in cost-effectiveness analysis. *Value Health*. 2013;16(3):A270. doi:10.1016/j.jval.2013.03.1389
30. Bilinski A, Neumann P, Cohen J, Thorat T, McDaniel K, Salomon JA. When cost-effective interventions are unaffordable: Integrating cost-effectiveness and budget impact in priority setting for global health programs. *PLoS Med*. 2017;14(10):e1002397. doi:10.1371/journal.pmed.1002397
31. Ochalek J, Lomas J, Claxton K. Estimating health opportunity costs in low-income and middle-income countries: a novel approach and evidence from cross-country data. *BMJ Glob Health*. 2018;3(6):e000964. doi:10.1136/bmjgh-2018-000964
32. Gustavsson E, Tinghög G. Needs and cost-effectiveness in health care priority setting. *Health Technol*. 2020;10(3):611-619. doi:10.1007/s12553-020-00424-7
33. Cookson R, Griffin S, Norheim OF, Culyer AJ, Chalkidou K. Distributional cost-effectiveness analysis comes of age. *Value Health*. 2021;24(1):118-120. doi:10.1016/j.jval.2020.10.001
34. Steijger D, Chatterjee C, Groot W, Pavlova M. Challenges and limitations in distributional cost-effectiveness analysis: a systematic literature review. *Int J Environ Res Public Health*. 2022;20(1):505. doi:10.3390/ijerph20010505
35. Robinson LA, Hammitt JK, Cecchini M, et al. Reference Case Guidelines for Benefit-Cost Analysis in Global Health and Development. 2019. https://content.sph.harvard.edu/wwwhsph/sites/2447/2019/05/BCA-Guidelines-May-2019.pdf.
36. Sturmberg JP, Taher S. What we mean by ‘values in healthcare’: the importance of reaching a consensus. *Cureus*. 2025;17(2):e79034. doi:10.7759/cureus.79034
37. Wilson J. What makes a health system good? From cost-effectiveness analysis to ethical improvement in health systems. *Med Health Care Philos*. 2023;26(3):351-365. doi:10.1007/s11019-023-10149-9
38. Marsh KD, Sculpher M, Caro JJ, Tervonen T. The use of MCDA in HTA: great potential, but more effort needed. *Value Health*. 2018;21(4):394-397. doi:10.1016/j.jval.2017.10.001
39. Gongora-Salazar P, Perera R, Tsiachristas A. Value-based commissioning of mental health services in England: a feasibility study using multicriteria decision analysis. *Value Health*. 2025;28(12):1802-1810. doi:10.1016/j.jval.2025.07.020
40. Mazzucato M, Adhanom Ghebreyesus T. Advancing the economics of health for all. *Lancet*. 2024;404(10457):998-1000. doi:10.1016/S0140-6736(24)01873-7
41. Chee G, Pielemeier N, Lion A, Connor C. Why differentiating between health system support and health system strengthening is needed. *Int J Health Plann Manage*. 2013;28(1):85-94. doi:10.1002/hpm.2122
42. de Savigny D, Adam T. Systems Thinking for Health Systems Strengthening. Published 2009. http://www.who.int/alliance-hpsr/resources/9789241563895/en/.
43. Fedson DS. Measuring protection: efficacy versus effectiveness. *Dev Biol Stand*. 1998;95:195-201.
44. Natukunda A, Nkurunungi G, Zirimenya L, et al. Schistosome and malaria exposure and urban–rural differences in vaccine responses in Uganda: a causal mediation analysis using data from three linked randomised controlled trials. *Lancet Glob Health.* 2024;12(11):e1860-e1870. doi:10.1016/S2214-109X(24)00340-1
45. Singh NS, Kovacs RJ, Cassidy R, Kristensen SR, Borghi J, Brown GW. A realist review to assess for whom, under what conditions and how pay for performance programmes work in low- and middle-income countries. *Soc Sci Med*. 2021;270:113624. doi:10.1016/j.socscimed.2020.113624
46. Sparkes SP, Earle AJ, Kutzin J. Cross-programmatic efficiency: the system is greater than the sum of its programs. *Health Syst Reform*. 2024;10(3):2427715. doi:10.1080/23288604.2024.2427715
47. Shroff ZC, Marten R, Hanson K. Systems for Health: Everyone Has a Role. World Health Organization; 2022. https://ahpsr.who.int/publications/i/item/systems-for-health-everyone-has-a-role. Accessed February 16, 2026.
48. Ahmad R, Akter F, Haque M. Editorial: Diet and nutrition for non-communicable diseases in low and middle-income countries. *Front Nutr*. 2023;10:1179640. doi:10.3389/fnut.2023.1179640
49. Key TJ, Bradbury KE, Perez-Cornago A, Sinha R, Tsilidis KK, Tsugane S. Diet, nutrition, and cancer risk: what do we know and what is the way forward? *BMJ*. 2020;368:m511doi:10.1136/bmj.m511
50. Wharton G, Mcguire A. Valuing health system resilience: The limits of conventional economic evaluation under catastrophic risk. *Health Policy*. 2026;167:105583. doi:10.1016/j.healthpol.2026.105583
51. Brown GW, Bell D, von Agris J, Tacheva B. The Cost of Pandemic Preparedness: An Examination of Costings and the Financial Requests in Support of the Pandemic Prevention, Preparedness and Response Agenda. University of Leeds; 2024. https://essl.leeds.ac.uk/dir-record/research-projects/1260/reevaluating-the-pandemic-preparedness-and-response-agenda-reppare.
52. Brown GW, Tacheva B, Shahid M, Rhodes N, Schäferhoff M. Global health financing after COVID-19 and the new Pandemic Fund. Brookings website. https://www.brookings.edu/articles/global-health-financing-after-covid-19-and-the-new-pandemic-fund/. Published December 7, 2022. Accessed April 14, 2025.
53. McQueen D, Jones CM. *Global Perspectives on Health Promotion Effectiveness*. Springer; 2007. https://link.springer.com/book/10.1007/978-0-387-70974-1.
54. World Health Organization. The World Health Report 2000: Health systems: Improving performance. http://www.who.int/whr/2000/en/. Published 2000. Accessed December 18, 2017.
55. Papanicolas I, Rajan D, Karanikolos M, Soucat A, Figueras J. Health System Performance Assessment - A Framework for Policy Analysis. World Health Organization and secretariat of, the European Observatory on Health Systems and Policies; 2022. https://www.who.int/publications/i/item/9789240042476.
56. Rittel HWJ, Webber MM. Dilemmas in a general theory of planning. *Policy Sci*. 1973;4(2):155-169. doi:10.1007/BF01405730
57. Schmets G, Rajan D, Kadandale S. Strategizing National Health in the 21st Century: A Handbook. World Health Organization; 2016.
58. Robert E, Rajan D, Koch K, Muggleworth Weaver A, Porignon D, Ridde V. Policy dialogue as a collaborative tool for multistakeholder health governance: a scoping study. *BMJ Glob Health*. 2020;4(Suppl 7):e002161. doi:10.1136/bmjgh-2019-002161
59. Baltussen R, Jansen MP, Mikkelsen E, et al. priority setting for universal health coverage: we need evidence-informed deliberative processes, not just more evidence on cost-effectiveness. *Int J Health Policy Manag*. 2016;5(11):615-618. doi:10.15171/ijhpm.2016.83
60. Baker P, Guzman J, Chalkidou K, Sullivan R. Response to The Lancet

Commission on Investing in Health 3.0: We Must Prioritise Better. https://www.cgdev.org/blog/response-lancet-commission-investing-health-30-we-must-prioritise-better. Published October 29, 2024. Accessed April 14, 2025.

61. Blum HL. Planning for Health: Generics for the Eighties. 2nd Edition. Human Sciences Press; 1981. https://archive.org/details/planningforhealt00blumrich.
62. Marmot M. Inclusion health: addressing the causes of the causes. *Lancet*. 2018;391(10117):186-188.doi:10.1016/S0140-6736(17)32848-9
63. World Health Organization, United Nations Children's Fund (UNICEF). *Declaration of Astana. Global Conference on Primary Health Care*. Astana, Kazakhstan: WHO; 2018.
64. World Health Organization, United Nations Children's Fund (UNICEF). Operational Framework for Primary Health Care: Transforming Vision into Action. World Health Organization; 2020. https://www.who.int/publications/i/item/9789240017832.
65. World Health Organization, UNICEF. Primary Health Care Measurement Framework and Indicators: Monitoring Health Systems through a Primary Health Care Lens. WHO and UNICEF; 2022. https://www.who.int/publications/i/item/9789240044210.
66. Agnes Gatome-Munyua, Susan Sparkes, Gemini Mtei, et al. Reducing fragmentation of primary healthcare financing for more equitable, people-centred primary healthcare. *BMJ Global Health*. 2025;10(1):e015088. doi:10.1136/bmjgh-2024-015088
67. Balabanova D, Mills A, Conteh L, et al. Good Health at Low Cost 25 years on: lessons for the future of health systems strengthening. *Lancet*. 2013;381(9883):2118-2133. doi:10.1016/S0140-6736(12)62000-5
68. World Health Organization. Thailand - The Development of Primary Health Care. WHO; 2018. https://www.who.int/teams/primary-health-care/evidence-and-innovation/primary-health-care-case-study-compendium/detail/country-case-studies-on-primary-health-care--thailand--the-development-of-primary-health-care.
69. Rajan D, Rouleau K, Winkelmann J, Kringos D, Jakab M, Khalid F. Implementing the Primary Health Care Approach: A Primer. World Health Organization and European Observatory on Health Systems and Policies; 2024. https://www.who.int/publications/i/item/9789240090583. Accessed February 16, 2026.
70. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Q. 2005;83(3):3. doi:10.1111/j.1468-0009.2005.00409.x
71. Leyns C, Willems S, Powell RA, et al. From disease- to people-centred pandemic management: organized communities, community-oriented primary care and health information systems. *Int J Equity Health*. 2023; 22(1):225. doi:10.1186/s12939-023-02032-z
72. Masters R, Anwar E, Collins B, Cookson R, Capewell S. Return on investment of public health interventions: a systematic review. *J Epidemiol Community Health*. 2017;71(8):827. doi:10.1136/jech-2016-208141
73. Robeyns I. Why economic inequality should be central to strategies for the future. *Journal of Human Development and Capabilities*. 2025;26(2):161-176. doi:10.1080/19452829.2025.2479028
74. Sturmberg JP. *Health System Redesign: How to Make Health Care Person-Centered, Equitable, and Sustainable*. Springer; 2018.