

disease duration, number of previous anti-VEGF injections, visual acuity, angiographic lesion size, and macular volume. We also disagree with the suggestion that refining case selection to have a more homogeneous patient population would provide additional insight. Building on a previous study,³ STAR already recruited a best-responder subset. Further restricting eligibility would reduce generalisability. Additionally, the subgroup analyses did not identify a subgroup to target, and excess stratification can lead to over-fitting, limiting generalisability.

Finally, Zhao and colleagues suggest a real-world follow-up and full health economic analysis. Both are already included in the trial design (see the Methods section and appendix of the Article¹) and will be published separately. We agree that future research collecting wider societal costs would be beneficial, although our study followed UK guidelines in taking a health-care perspective. We also agree that reporting the effect of reduced frequency of anti-VEGF injections on different quality of life domains would be interesting; however, the main article⁴ delineating the outcomes of STAR was deliberately restricted to the prepublished key clinical outcome measures, with few post-hoc analyses, to reduce the risk or perception of reporting bias.

Nowroozadeh commented on the generalisability of the health economic analysis. We agree that the cost-effectiveness of SRT depends on the relative cost of administering SRT and anti-VEGF injections. The unit cost of SRT will depend on the number of patients using the SRT device, as well as equipment and running costs, whereas the cost of anti-VEGF will depend on drug selection, drug price, and cost associated with administering intravitreal injections. Anti-VEGF administration costs vary substantially between countries and even between hospitals. For example, in the USA, it has been reported that

each 0.5 mg dose of ranibizumab costs US\$1716 (£1412)⁴ plus \$282 (£232) in procedural costs, which covers the physician visit, intravitreal injection, and optical coherence tomography.⁵ By contrast, several low-income and middle-income countries permit local production of cheaper biosimilars. If SRT avoids 2.9 injections over 2 years,¹ it will not be cost saving in settings where the cost of SRT is more than 2.9 times the cost of anti-VEGF injections. A pre-specified full economic evaluation of the STAR results will be reported separately, which will include a wider range of health-care resources and sensitivity analyses. Later in 2025, 4-year follow-up data from the STAR trial will also be reported, which will evaluate whether SRT reduces anti-VEGF injection frequency beyond 2 years, as well as assess any adverse effect on visual acuity and eye health.

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**Timothy L Jackson, Helen Dakin, Xuemin Zhu, Hatem Wafa, Yanzhong Wang, Sarah Wordsworth, Barnaby C Reeves, Riti Desai, Lisa Ramazzotto, Chan Ning Lee*
t.jackson1@nhs.net

Faculty of Life Sciences and Medicine, King's College London, London WC2R 2LS, UK (TLJ, LR, CNL); King's Ophthalmology Research Unit, King's College Hospital, London, UK (TLJ, RD, CNL); Health Economics Research Centre, University of Oxford, Oxford, UK (HD, XZ, SW); Population Health Sciences, King's College London, London, UK (HW, YW); Bristol Medical School, University of Bristol, Bristol, UK (BCR)

1 Jackson TL, Desai R, Wafa HA, et al. Stereotactic radiotherapy for neovascular age-related macular degeneration (STAR): a pivotal, randomised, double-masked, sham-controlled device trial. *Lancet* 2024; **404**: 44–54.

- 2 Neffendorf JE, Desai R, Wang Y, et al. Stereotactic radiotherapy for wet age-related macular degeneration (STAR): study protocol for a randomised controlled clinical trial. *Trials* 2016; **17**: 560.
- 3 Jackson TL, Shusterman EM, Arnoldussen M, et al. Stereotactic radiotherapy for wet age-related macular degeneration (INTREPID): influence of baseline characteristics on clinical response. *Retina* 2015; **35**: 194–204.
- 4 Glasser DB, Parikh R, Lum F, Williams GA. Intravitreal anti-vascular endothelial growth factor cost savings achievable with increased bevacizumab reimbursement and use. *Ophthalmology* 2020; **127**: 1688–92.
- 5 Centers for Medicaid & Medicaid Services. Physician fee schedule. Nov 5, 2024. <https://www.cms.gov/medicare/payment/fee-schedules/physician> (accessed Jan 14, 2025).

Reflections on the Lancet Commission on Investing in Health's Global Health 2050 report

The Lancet Commission on Investing in Health's Global Health 2050 report¹ emphasises halving premature deaths by mid-century through focused health investments. However, for the strategy to succeed, it must address regional and local contexts. Brazil, a country with vast geographical and demographic diversity,² highlights the need for tailored health initiatives. Substantial regional disparities exist between the northeast and the south and southeast of Brazil, affecting health-care access, socioeconomic conditions, and disease prevalence.³ Localised factors influence global health outcomes, as demonstrated by Brazil's relationship between life expectancy, the economy, and politics.³ Thus, in a country like Brazil, the importance of tailoring health initiatives to regional realities cannot be overstated.

Although the report promotes universal health coverage and aims for reduced mortality rates, Brazil's example highlights the importance of economic stability, political commitment, and sustainable health infrastructure investments. Without consistent financial support

and strong governance, even well-intentioned health policies, such as the Unified Health System, could struggle to deliver lasting improvements in public health outcomes across diverse regions. Health outcomes reflect a region's socioeconomic and political realities, and without strong local governance, global targets will be hard to achieve. For example, life expectancy in Brazil was 75.5 years in 2022,⁴ a decline compared with previous years, illustrating the influence of these factors.

The Global Health 2050 report rightly calls for intersectoral policies to achieve its 50 by 50 goal.¹ Brazil's example suggests that these policies must be grounded in local realities to be effective. Only by addressing regional inequalities can we expect to see meaningful progress towards the global targets set for 2050.

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Howard Lopes Ribeiro Junior
howard@ufc.br

Cancer Cytogenomic Laboratory, Center for Research and Drug Development (NPDM), Federal University of Ceara, Fortaleza, Ceara 60430-275, Brazil; Post-Graduate Program of Pathology, Federal University of Ceara, Fortaleza, Ceara, Brazil; Post-Graduate Program of Translational Medicine, Federal University of Ceara, Fortaleza, Ceara, Brazil

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Tomasiello DB, Vieira JPB, Parga JPFA, Servo LMS, Pereira RHM. Racial and income inequalities in access to healthcare in Brazilian cities. *J Transp Health* 2024; **34**: 101722.
- 3 Szwarcwald CL, Souza Júnior PR, Marques AP, Almeida WD, Montilla DE. Inequalities in healthy life expectancy by Brazilian geographic regions: findings from the National Health Survey, 2013. *Int J Equity Health* 2016; **15**: 141.
- 4 Instituto Brasileiro de Geografia e Estatística (IBGE). In 2022, life expectancy was 75.5 years. Agência de Notícias IBGE. Nov 24, 2023. <https://agenciadenoticias.ibge.gov.br/en/agencia-press-room/2185-news-agency/releases-en/38471-em-2022-expectativa-de-vida-era-de-75-5-anos-2> (accessed Oct 16, 2024).

The *Lancet* Commission on Investing in Health's Global Health 2050 report¹ offers valuable insights into the health conditions responsible for most premature deaths globally. However, the report suffers from a methodological and ontological bias: it focuses on direct causes of premature death and proposes mostly biomedical or technological solutions. Despite claiming they are not advocating for the proposed priority modules to be vertical programmes in the usual sense of the term,¹ the authors ignore that their effectiveness depends on health system capacities and downgrades health-system strengthening to a side-effect of specific interventions. Such a worldview also totally overlooks the importance of socioeconomic, political, and commercial determinants of health, and obliterates the role of more cost-effective non-health sector interventions in improving health. For instance, in the USA, clinical care has been shown to account for only 16% of health outcome variability, whereas socioeconomic factors and health behaviours account for 47% and 34%, respectively.² In low-income countries, socioeconomic determinants such as water and sanitation³ and economic downturns⁴ play a large role in mortality, particularly in children—yet the Commission neglects these in favour of commodity-based approaches.

Moreover, the report's focus on condition-specific interventions is inadequate for addressing complex problems induced by the root causes (eg, inflammation) behind multimorbidity.⁵ WHO has long pleaded for a shift away from disease-specific approaches towards a more holistic primary health-care approach.⁶ To that end, health systems should be redesigned and medical research approaches reframed to move away from a reductionist, linear causality approach, and adopt a complex, systems thinking approach, so as to improve health in a sustainable way.

We declare no competing interests.

***Elisabeth Paul, Garrett W Brown, Denis Porignon, Joachim Sturmberg**
elisabeth.paul@ulb.be

Université libre de Bruxelles, School of Public Health, Research Centre on Health Policies and Systems—International Health (Polissi), Brussels 1070, Belgium (EP); University of Leeds, School of Politics and International Relations, Leeds, UK (GWB); Université de Liège, Department of Public Health, Liège, Belgium (DP); University of Newcastle, College of Health, Medicine and Wellbeing, Newcastle, NSW, Australia (JS)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Hood CM, Gennuso KP, Swain GR, Catlin BB. County health rankings: relationships between determinant factors and health outcomes. *Am J Prev Med* 2016; **50**: 129–35.
- 3 Wolf J, Johnston RB, Ambelu A, et al. Burden of disease attributable to unsafe drinking water, sanitation, and hygiene in domestic settings: a global analysis for selected adverse health outcomes. *Lancet* 2023; **401**: 2060–71.
- 4 Doerr S, Hofmann B. Recessions and mortality: a global perspective. *Econ Lett* 2022; **220**: 110860.
- 5 Barnett K, Mercer SW, Norbury M, Watt G, Wyke S, Guthrie B. Epidemiology of multimorbidity and implications for health care, research, and medical education: a cross-sectional study. *Lancet* 2012; **380**: 37–43.
- 6 WHO. The world health report 2008: primary health care now more than ever. World Health Organization, 2008.

The *Lancet* Commission on Investing in Health's Global Health 2050 report concludes that by 2050, "countries that choose to do so could reduce by 50% the probability of premature death in their populations".¹ The same Commission concluded in their Global Health 2035 report that countries that chose to do so could achieve a "grand convergence" in health, whereby mortality rates from infectious diseases and maternal conditions would be reduced to those of the best-performing middle-income countries.² Has the concept of the grand convergence been abandoned with more than a decade to run until 2035? In 2024, 11 years and exactly mid-way between 2013 and 2035, instead of a mid-point assessment, we have a new target and new extended timeline—an additional 15 years until 2050. These shifts are not clearly explained let alone justified and set a worrying precedent for moving the goalposts if or when it appears we are off track.

Some of the few reasons the authors cite as motivation for this new report are the recent challenges of “rising geopolitical tensions, the increasingly manifest effects of climate change, growth in nationalistic populism, dwindling concern for global health, slowed progress towards UHC [universal health coverage], and, most significantly, the COVID-19 pandemic”.¹ They claim that this report is part of a “practical pathway” and is “more realistic” about public spending on health.¹ And yet, to achieve 50 by 50, the authors estimate that government health spending would need to at least double compared with today’s spending. How is that practical and realistic when data from the past two decades (2000–19) show almost half of low-income and lower-middle income countries are trending in the opposite direction?³ It seems the authors recognise these challenges but do not effectively incorporate the implications into their recommendations.

We are also struck by a depressing sense of *déjà vu*; the report notes that they depart from mainstream thinking on universal health coverage by “stressing the need for selectivity in the interventions initially included in health benefit packages”.¹ More than 40 years after Alma Ata,⁴ this is a step backwards. Communities the world over deserve holistic, people-centred health care. We appreciate the need to be evidence-informed and indeed to prioritise. But people-centred health is more than care for 15 conditions, and a focus that takes us back to dealing with specific diseases is unlikely to advance such an approach. The real world is messy and complex. Yet, the Commission’s report adopts an orderly and overly technocratic approach, in which failure is assigned to countries if they do not “choose” to prioritise health. This technocratic approach ultimately fails the people who depend on these health systems.

Let us assume, however, that a country wants to pursue the 50 by 50 goal; the report is silent on how countries should go

about adopting this goal and adapting their general intervention recommendations. For the Commission, the right decisions are clear and obvious, underscored by data and analytics. In reality, how do we support understaffed and overworked Ministry of Health staff, District Health Management Teams, and front-line health-care workers to make the right choices and implement them?

This brings us to our final point. Who is this report seeking to influence? It is easy to state that 50 by 50 can be achieved if you double public spending and make the right choices. In fact, why stop there? How much more could countries achieve if countries choose to triple spending on health? Or quadruple spending? But these are the wrong questions. The question is not what combination of interventions will achieve 50 by 50, but why aren’t countries—despite all these reports making a compelling case for health—choosing to prioritise health?

In *The Lancet’s* accompanying Comment to the Global Health 2035 report, Horton and Lo asked us to “assume that we have won the argument that health matters” and moved swiftly onto asking “What should a head of state now choose to invest in?”⁵ Worryingly, we continue to make this assumption and fail to accept that countries have not prioritised health when given compelling evidence for the need to make further investments. Failure to address why countries are not prioritising health means we risk continuing to make the case for health to ourselves, and we do not see the increases in spending and improved decision making needed to actually change the lives of the communities we have all committed to serve.

We declare no competing interests.

**Damian Walker, Justice Nonvignon, Saba Waseem, Dan Schwarz
damiangwalker@gmail.com*

Management Sciences for Health, Arlington, VA 22203, USA (DW, JN, SW, DS)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Jamison DT, Summers LH, Alleyne G, et al. Global health 2035: a world converging within a generation. *Lancet* 2013; **382**: 1898–955.
- 3 WHO. Global Health Expenditure Database. <https://apps.who.int/nha/database/> (accessed Oct 21, 2024).
- 4 Gish O. Selective primary health care: old wine in new bottles. *Soc Sci Med* 1982; **16**: 1049–54.
- 5 Horton R, Lo S. Investing in health: why, what, and three reflections. *Lancet* 2013; **382**: 1859–61.

We, the World Obesity Federation, on behalf of the global obesity community, are writing to express serious concern about the omission of obesity as a priority in the *Lancet* Commission on Investing in Health’s Global Health 2050 report.¹ Given the Commission’s aim of identifying priorities towards halving premature mortality by 2050, it is incomprehensible that obesity is absent aside from an indirect reference within the topic of health taxes. We believe that this is yet another example of systemic stigma.

The exclusion of obesity makes even less sense with respect to investment. The World Obesity Federation’s work on the global cost of inaction on obesity showed that obesity is already costing economies 2–3% of gross domestic product; by 2035, nine of the ten countries with the highest numbers of people living with obesity will be low-income and middle-income countries.² Obesity is a costly challenge for health systems and economies; its effect—in terms of health and economic impacts—is greater in low-income and middle-income countries, where health systems are least prepared and where its cost to economies affects development.³

Our work with other allies in the cardiometabolic space suggests that a focus on overweight and obesity in their own right can bring together multiple disease and risk factor groups, resulting in greater coordination and impact. Still, expert publication after expert publication revert to the simplistic and de-legitimised

For more on the **World Obesity Federation** see <https://www.worldobesity.org/>

framing in which obesity is hardly even considered a health issue.

The omission of obesity as a priority from the Global Health 2050 report was not a surprise, but we sincerely hope it will be the last time that experts make this mistake.

JR is an employee of the World Obesity Federation (WOF), which receives core funding to support its mission through the sale of journals and SCOPE certification and fees; receives further support through members and income from regional and global congresses, including the International Congress on Obesity; and receives funding in the form of project and educational grants, and through partnerships with various stakeholders in accordance with WOF's policy on partnerships: funding partners have no input into or influence over WOF's work, and WOF retains full control over all policy positions, decisions, advocacy efforts, project execution, and campaigns. JR also declares unrelated organisational grants from Eli Lilly, Pfizer, Boehringer Ingelheim, and Currax. BH has received honoraria from Novo Nordisk, Eli Lilly, AstraZeneca, Boehringer Ingelheim, and Merck; has received support for attending meetings from Novo Nordisk; has participated on a data safety monitoring board or advisory board for Novo Nordisk, Eli Lilly, Currax, and Merck; is Past-President of the Brazilian Association for the Study of Obesity and President Elect of WOF. JCGH reports consulting fees from Allurion and Dupont; has participated on a data safety monitoring board or advisory board for Dupont, Mars, and Novo Nordisk; and reports leadership or fiduciary roles for WOF, European Coalition for People Living with Obesity, and European Association for the Study of Obesity. All other authors declare no competing interests.

**Johanna Ralston, Simón Barquera, Louise Baur, Bruno Halpern, Jason C G Halford, Stephen Ogwen*
jralston@worldobesity.org

World Obesity Federation, London EC1N 2SW, UK (JR); Instituto Nacional de Salud Publica, Cuernavaca, Mexico (SB); University of Sydney, Sydney, NSW, Australia (LB); Brazilian Association for the Study of Obesity and Metabolic Syndrome, São Paulo, SP, Brazil (BH); University of Leeds, Leeds, UK (JCGH); Stowelink Foundation, Nairobi, Kenya (SO)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 World Obesity Federation. World Obesity Atlas 2023. March 4, 2023. <https://data.worldobesity.org/publications/?cat=19> (accessed Oct 20, 2024).
- 3 Okunogbe A, Nugent R, Spencer G, Powis J, Ralston J, Wilding J. Economic impacts of overweight and obesity: current and future estimates for 161 countries. *BMJ Glob Health* 2022; **7**: e009773.

For those of us who advocate on behalf of the full spectrum of metabolic disorders, we read with concern the Lancet Commission on Investing in Health's Global Health 2050 report.¹ We are, however, fully aligned with one of the report's statements about its limitations: "The data for economic, social, demographic, and health-system indicators that informed this report include gaps and inaccuracies for all countries."

We offer brief evidence of two trends, the consideration of which would greatly improve the Commission.¹

First, the alarmingly high and growing prevalence of metabolic syndrome and related diseases, symptoms, and conditions that affect billions of people worldwide, such as those living with metabolic dysfunction-associated steatotic liver disease (MASLD; 38% of adults and 7–15% of children) and obesity (16% of adults and 160 million children).^{2,3}

Second, the quite encouraging advances in research, applied medicine, pharmacological advances, and technological innovation, which all point towards an increasingly comprehensive understanding of the metabolic system, the many challenges presented by metabolic dysfunction, and challenges for care models for these many billions of people, adults and children alike.

In the aggregate, the quality of life and premature mortality impacts are staggering. Yet, save one reference to the metabolic system in the narrow (but important) instance of neonatal health, there is a near-complete absence of discussion on the metabolic system, particularly its syndromic disorders, such as metabolic syndrome, obesity, MASLD,⁴ and metabolic dysfunction-associated steatohepatitis. In this regard, the Commission lacks the medical and public health momentum towards comprehensive, person-centred treatment and care.⁵

JVL has received grants (paid to institutions) from AbbVie, Boehringer Ingelheim, Echosens, Gilead Sciences, Madrigal Pharmaceuticals, Moderna, MSD,

Novo Nordisk, Pfizer, and Roche Diagnostics; received consulting fees from Echosens, GSK, Madrigal Pharmaceuticals, Novavax, Novo Nordisk, and Pfizer; received honoraria for lectures from AbbVie, Echosens, Gilead Sciences, GSK, Janssen, Moderna, MSD, Novo Nordisk, Pfizer, and Proscindio (outside of the submitted work); declares a paid leadership role at the Global NASH Council (ended); and declares unpaid leadership roles at Healthy Livers, Health Livers and HIV Outcomes. MBB has received grant support from the US National Institutes of Health, US Centers for Disease Control and Prevention/National Institute for Occupational Safety and Health, Pfizer, The Kinetix Group, Histindex, and Siemens; has served as a consultant for The Kinetix Group, Madrigal, Pfizer, Fibronostics, Novo Nordisk, GSK, Boston Pharma, Merck, Boehringer Ingelheim, and CurveBio; and has participated on a data safety monitoring board or advisory board for Surrozen, Madrigal, GSK, Novo Nordisk, and Boehringer Ingelheim. FK was awarded research grants (paid to institution) from Gilead Sciences and Merck. HL has received grants (paid to institution) from Novo Nordisk and Eli Lilly; and payment or honoraria for lectures from Novo Nordisk and Eli Lilly. HL reports grants and honoraria from Novo Nordisk and Eli Lilly; has received support for attending meetings or travel from Novo Nordisk; and has participated on data safety monitoring or advisory boards of Medifast, Eli Lilly, and Robard. KC is a consultant for Arrowhead Pharmaceuticals, 89Bio, Boehringer Ingelheim, Bristol Myers Squibb, Echosens, Eli Lilly & Co, GSK, MGGM, Novo Nordisk, Sagimet Biosciences, Terns Pharmaceuticals, and Zealand Pharma; has been awarded research grants (paid to institution) from Boehringer Ingelheim, Echosens, Inventiva Pharma, Labcorp, Perspectrum, and Target-NASH; and has received research materials or drug supplies (to institution) from Boehringer Ingelheim, Echosens, Inventiva Pharma, Labcorp, and Perspectrum. All conflicts of interest reported here are unrelated to this Correspondence.

**Jeffrey V Lazarus, Meena B Bansal, Fasiha Kanwal, Holly Lofton, Kenneth Cusi*
jeffrey.lazarus@sph.cuny.edu

CUNY Graduate School of Public Health and Health Policy, New York, NY 10027, USA (JVL); Division of Liver Diseases, Icahn School of Medicine at Mount Sinai, New York, NY, USA (MBB); Section of Gastroenterology and Hepatology and Institute for Clinical and Translational Research, Baylor College of Medicine, Houston, TX, USA (FK); NYU Grossman School of Medicine, Division of Bariatric Surgery and Department of Internal Medicine, New York, NY, USA (HL); Division of Endocrinology, Diabetes, and Metabolism, University of Florida, Gainesville, FL, USA (KC)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Riazhi K, Azhari H, Charette JH, et al. The prevalence and incidence of NAFLD worldwide: a systematic review and meta-analysis. *Lancet Gastroenterol Hepatol* 2022; **7**: 851–61.
- 3 WHO. Obesity and overweight. May 7, 2025. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight> (accessed June 17, 2025).

- 4 Rinella ME, Lazarus JV, Ratzliff V, et al, and the NAFLD Nomenclature consensus group. A multisociety Delphi consensus statement on new fatty liver disease nomenclature. *J Hepatol* 2023; **79**: 1542–56.
- 5 Lazarus JV, Mark HE, Anstee QM, et al, and the NAFLD Consensus Consortium. Advancing the global public health agenda for NAFLD: a consensus statement. *Nat Rev Gastroenterol Hepatol* 2022; **19**: 60–78

We commend the efforts of the *Lancet* Commission on Investing in Health's Global Health 2050 report to envision a healthier future and significantly reduce mortality by 2050.¹ However, we regret the weak emphasis given on environmental factors, besides tobacco smoke, when acting on these factors could be an essential way to reduce the burden induced by the priority health conditions identified.

For example, climate change is mentioned early in the report, but only to be dismissed as having “highly uncertain but conceivably large consequences for human mortality by 2100, although estimated effects on mortality by 2050 are much smaller”.¹ This dismissal seems to be due to the authors equating temperature-related deaths to the overall impact of climate change, disregarding substantial effects of climate change, such as impaired food security,² extreme precipitation events,³ or changes in the distribution of infectious factors—on this last topic, the Commission rightly mentions the threat of future pandemics, without recalling that most known infectious agents are sensitive to climate and might be affected by climate change.⁴ The potential contribution of climate change mitigation policies in promoting a healthy future are also disregarded by the report, when they could generate huge health co-benefits arising from improved air and diet quality and increased physical activity.⁵ Thus, the Commission seems to have adopted a strictly disease-oriented perspective, that would benefit from being complemented by a risk factor-oriented approach identifying the

main drivers of the suggested priority conditions. Complementing the high priority interventions (mostly related to screening, vaccination, or therapeutic actions; Commission table 8)¹ with primary prevention actions related to tobacco, alcohol, atmospheric pollution, sedentary behaviours, climate change, poor diet, and exposure to lead and other chemicals would be essential.

We declare no competing interests.

**Kévin Jean, Rémy Slama*
 kevin.jean@bio.ens.psl.eu

Team Eco-Evolution Mathématique (KJ) and Team SMILE (RS), IBENS, École Normale Supérieure, CNRS, INSERM, Université Paris Sciences & Lettres, Paris, France; Paris Research in Health Environment and Climate (PARSEC), École Normale Supérieure, Inserm, Paris 75005, France (KJ, RS); Modelling, Epidemiology and Surveillance of Health Risks (MESuRS) Laboratory, Conservatoire National des Arts et Métiers, Paris, France (KJ)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Mirzabaev A, Bezner Kerr R, Hasegawa T, et al. Severe climate change risks to food security and nutrition. *Clim Risk Manage* 2023; **39**: 100473.
- 3 Ban J, Lu K, Liu Y, et al. Projecting future excess deaths associated with extreme precipitation events in China under changing climate: an integrated modelling study. *Lancet Planet Health* 2024; **8**: e723–33.
- 4 Mora C, McKenzie T, Gaw IM, et al. Over half of known human pathogenic diseases can be aggravated by climate change. *Nat Clim Chang* 2022; **12**: 869–75.
- 5 Whitmee S, Green R, Belesova K, et al. Pathways to a healthy net-zero future: report of the *Lancet* Pathfinder Commission. *Lancet* 2024; **403**: 67–110.

Authors' reply

We greatly appreciate the letters responding to our *Lancet* Commission on Investing in Health's Global Health 2050 report.¹ Global Health 2050 was intended to offer new ideas and spark debate about the future of global health. Our Commission is not the final word on global health, nor could it comprehensively cover every issue. We offered a generic framework for national action on a target—halving premature death—that we believe countries can rally around, but our recommendations require adaptation to different contexts. In populous

countries with subnational differences in health, attention could focus on reducing disparities in implementation and outcomes. Collaborations with the Commission are now under way in Nepal, Nigeria, and Xishui County in China, and will hopefully offer lessons for others interested in our Commission.

Our recommendations were intended for immediate action and were based on interventions that have proven to be feasible, impactful, and cost-beneficial. Inevitably this means certain health topics received more attention than others because of differences in the maturity of the scientific evidence and policy experience. For example, obesity is one of the greatest health threats of the 21st century, but we lack effective, scalable strategies for changing individual behaviour or overhauling the global food system, and no country has made progress on obesity prevalence.² Innovations such as GLP-1 agonists and multidisciplinary clinics for metabolic dysfunction are promising, but they require more evidence and experience before they can be recommended to all countries.

Frameworks around social and commercial determinants of health can be useful tools for research or agenda-setting, but they do not automatically yield concrete, realistic policy solutions. Where we had compelling evidence for specific intersectoral policies to address major risk factors (eg, tobacco use or childhood stunting), our Commission called for action. Where this evidence was weak or lacking (eg, creating healthy urban living conditions in resource-limited settings), our Commission was silent. In some cases, we briefly acknowledged a problem and its proposed solutions but did not go deeper because we did not have novel insights to offer. This is why the Commission spent less time on climate change than on pandemic preparedness and response. Action on environmental risks has been covered extensively in the most recent edition

of the Disease Control Priorities series.³ We urge readers not to dismiss medical technologies that do not address the root causes of ill health. Our Commission cites research showing that, for example, most of the progress on child mortality worldwide can be attributed to technological progress rather than improvements in upstream determinants. More evidence is needed on economically workable policies that can tackle the major risk factors for our 15 priority conditions.

Global Health 2050 extends our original concept of “grand convergence”⁴ to a broader target for premature death that is fitting in all countries.¹ In countries that have not achieved the convergence targets, achieving 50 by 50 will require focus on infections and maternal health conditions.¹ It is true that numerous countries are not on track for either target. Global Health 2035 and Global Health 2050 show that these targets are achievable using existing technologies and manageable increases in health spending. Comprehensive primary health care and universal health coverage remain important long-term goals, but they are far off for many countries. Global Health 2050 had strong views on how to go about health systems strengthening, starting with the Arrow mechanism to improve access to medicines.¹ More generally, our modular approach encourages actions on specific diseases that can strengthen health systems overall; in this way it builds on the diagonal approach that helped catalyse health reform in Mexico and elsewhere.⁵

The Commission argues that governments should prioritise health because of its intrinsic value and positive effects on the broader economy. Why countries are not prioritising health is an empirical question beyond the scope of our work. Our task was to provide compelling evidence for those inclined to be sceptical of health spending. We sought to marry the idealism of public health

and the caution of economics to help make our case. Reductions in official development assistance by several donor countries, beginning in 2024 and accelerating in 2025, underscore the need for greater national ownership over health policy and collaboration between health and finance ministries. We believe our Commission offers a framework for stewardship of available resources and provides guidance for navigating through economically challenging times.

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**David A Watkins, Angela Y Chang, Omar Karlsson, Wenhui Mao, Ole F Norheim, Osundu Ogbuoji, Marco Schäferhoff, Gavin Yamey, Dean Jamison*
davidaw@uw.edu

University of Washington, Seattle, WA 98195, USA (DAW); University of Southern Denmark, Odense, Denmark (AYC); Duke University, Durham, NC, USA (OK, WM, OO, GY); Harvard University, Boston, MA, USA (OFN); Open Consultants, Berlin, Germany (MS); University of California, San Francisco, San Francisco, CA, USA (DJ)

- 1 Jamison DT, Summers LH, Chang AY, et al. Global health 2050: the path to halving premature death by mid-century. *Lancet* 2024; **404**: 1561–614.
- 2 Phelps NH, Singleton RK, Zhou B, et al, and the NCD Risk Factor Collaboration (NCD-RisC). Worldwide trends in underweight and obesity from 1990 to 2022: a pooled analysis of 3663 population-representative studies with 222 million children, adolescents, and adults. *Lancet* 2024; **403**: 1027–50.
- 3 Mock CN, Smith KR, Kobusingye O, et al. Injury prevention and environmental health: key messages from disease control priorities, third edn. In: Mock CN, Nugent R, Kobusingye O, Smith KR, eds. Injury prevention and environmental health. The International Bank for Reconstruction and Development/The World Bank, 2017.
- 4 Jamison DT, Summers LH, Alleyne G, et al. Global health 2035: a world converging within a generation. *Lancet* 2013; **382**: 1898–955.
- 5 Knaul FM, Bhadelia A, Atun R, Frenk J. Achieving effective universal health coverage and diagonal approaches to care for chronic illnesses. *Health Aff* 2015; **34**: 1514–22.