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What Can the G7 Do to Achieve the *Global Health 2035* Goals?

Gavin Yamey, Sara Fewer, and Sabine Campe

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Gavin Yamey, Sara Fewer
Commission on Investing in Health Secretariat
University of California, San Francisco

Sabine Campe
SEEK Development, Berlin

I. Introduction*

Germany is chairing the G7 this year and has prioritized global health as one of the key issues on the G7 agenda. This report aims to inform the German government's focus on global health by discussing opportunities and policy options for Germany and the G7 to help advance a "grand convergence in global health" by 2035. The concept of grand convergence, first proposed by the *Lancet* Commission on Investing in Health (CIH) in its *Global Health 2035* report (http://GlobalHealth2035.org), refers to a reduction in avertable infectious, child, and maternal deaths down to universally low levels.

On December 3, 2013, *The Lancet* published *Global Health 2035: A world converging within a generation* (http://globalhealth2035.org). This report was written by the CIH, an independent, international group of 25 renowned economists and global health experts, chaired by Lawrence Summers and Dean Jamison (see Jamison et al. 2013). The report lays out an ambitious global health investment strategy for the post-2015 era. It provides a roadmap to achieve dramatic health gains within one generation through a "grand convergence" around infectious, child, and maternal mortality; major reductions in the incidence and consequences of non-communicable diseases (NCDs) and injuries; and the promise of universal health coverage.

Since the report launch, *Global Health 2035* has received widespread publicity and been the subject of high-level events and briefings with policymakers from donor, low- and middle-income countries, including in Beijing, Berlin, Johannesburg, London, Paris, Tunis, and at the World Economic Forum (Davos, Switzerland). The CIH's Secretariat is leveraging findings from *Global Health 2035* and conducting new analyses to help inform donor and domestic spending and priorities in global health. For example, Sweden's Expert Group for Aid Studies

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commissioned a team of authors from the CIH to review Swedish development assistance for health (DAH) and propose options that could enable Sweden to align its health aid with emerging post-2015 needs and priorities (see Yamey et al. 2014).

Global Health and the G7 Agenda: Policy Options to Achieve the Global Health 2035 Goals builds on the CIH's analysis and evidence to identify key global health research findings and priorities relevant to the three stated health priorities of the German government and the G7. These priorities are neglected tropical diseases (NTDs), pandemic preparedness, and antimicrobial resistance (AMR) (see World Health Organization 2014a).

This report begins by summarizing key findings of *Global Health 2035* on the main post-2015 challenges and opportunities in global health. We then take these findings and develop four cross-cutting policy recommendations for the G7 that would support all three G7 priorities: (1) invest in the discovery and development of new health tools (e.g. medicines, vaccines, diagnostics); (2) support policy and implementation research (including the science of scaling up health tools); (3) strengthen national health systems, including their ability to tackle cross-border threats (e.g. through disease surveillance), and (4) foster global coordination mechanisms. In each of these policy recommendations, we highlight concrete opportunities for the G7 and Germany to make effective contributions towards achieving dramatic gains in global health.

II. Key findings of Global Health 2035

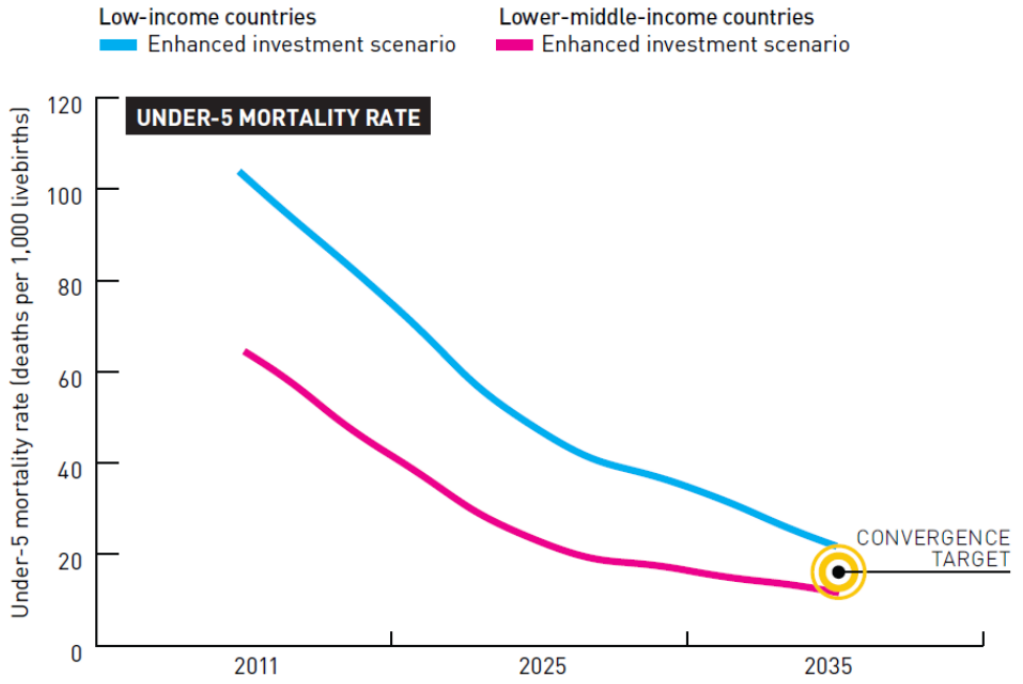
a. Key finding #1: A grand convergence in global health is feasible by 2035

Although there has been tremendous progress in global health over the past 20 years, a huge burden of preventable infectious, child, and maternal mortality persists in low-income countries (LICs) and lower-middle-income countries (LMICs), particularly among poor and rural populations. *Global Health 2035* finds, however, that the global community has the financial and ever-improving technical capacity to reduce such mortality rates to low levels universally by 2035, to achieve a "grand convergence" in health.

The CIH's modeling suggests that with enhanced investments to scale up existing and new health interventions, and the systems to deliver them, most LICs and LMICs could reduce rates of infectious, child, and maternal deaths down to levels seen today in the best-performing middle-income countries, such as Chile, Costa Rica, and Turkey. For example, as shown in Figure 1, the modeling found that by 2035, the under-5 mortality rate could be reduced to about 23 per 1,000 live births in LICs and around 11 per 1,000 live births in LMICs.

Achieving a grand convergence would avert about 10 million deaths per year from 2035 onwards, of which 4–5 million per year would be averted in LICs, and about 6 million per year in LMICs.

Figure 1:
A grand convergence in child mortality



A grand convergence requires aggressive scale-up of existing and new tools in LICs and LMICS, stronger health systems, and greater investment from the international community towards global public goods (including research and development, control of cross-border infections, and global leadership and stewardship).

b. Key finding #2: The returns on investing in health are very impressive

Global Health 2035 finds that there is an enormous payoff from investing in health. Over the period 1970 to 2000, reduced mortality accounted for around 11 percent of economic growth in LICs and LMICs, as measured using traditional national income accounting (based on GDP).

But while GDP captures the benefits that result from improved economic productivity (the so-called *instrumental* value of better health), it fails to capture the intrinsic value of better health—the value of health in and of itself. This *intrinsic* value, the value of additional life years (VLYs), can be inferred from people's willingness to trade off income, pleasure, or convenience for an increase in their life expectancy.

The CIH uses a more comprehensive understanding of the returns to investing in health by estimating this intrinsic value using a "full income" approach. The growth in a country's full income over a particular time period is given by the country's income growth measured in national income accounts plus the VLYs gained in that period. The CIH estimates that from 2000-2011, for example, about one quarter of the growth in full income in LICs and LMICs was from VLYs gained (see Jamison et al. 2013).

Achieving convergence would require significant increases in health spending in LICs and LMICs. The incremental cost, over and above current health spending, would be an annual average of about USD 70 billion from 2015 to 2035 (around USD 25 billion/year in LICs and USD 45 billion/year in LMICs). Most of the additional cost could eventually be financed domestically, through domestic economic growth together with new sources of revenue for the health sector, such as taxes on tobacco, alcohol, and sugar, and redirecting subsidies on fossil fuels to health spending. In the short term, however, DAH will play a crucial role. And even in the long term, the lowest income countries are likely to need external financial assistance for years to come.

While USD 70 billion per year from 2015-2035 is a substantial investment, the CIH found that the returns would be very favorable. With use of VLYs to estimate the economic benefits, *Global Health 2035* finds that the benefits would exceed the costs by a factor of about 9–20, making the investment highly attractive.

There are historical precedents for achieving rapid declines in avoidable mortality, even in low-income settings, providing further evidence that countries could achieve convergence by focused health sector investments. For example, Rwanda's aggressive scale-up of health interventions was associated with a 60 percent reduction in the maternal mortality ratio and a 67 percent decrease in the under-5 mortality rate between 2000 and 2010 (see Farmer et al. 2013). These results provide planning ministries in LICs and LMICs, as well as donor agencies, with a strong new rationale for increasing health spending.

c. Key finding #3: Fiscal policies are the most powerful and under-used lever to curb NCDs and injuries

The CIH identified the increase in NCDs and injuries in LICs and LMICs as a main global health challenge moving forward. As these countries successfully tackle infections and maternal and child health conditions, they accelerate the shift in their disease burden to NCDs and injuries in adults (Feachem et al. 2013, Bobadilla et al. 1993). This transition is due to ageing of the population and the global spread of NCD risk factors, including smoking and harmful use of alcohol. Rates of cardiovascular disease, once they are adjusted for age, are now higher in LICs and middle-income countries (MICs) than in high-income countries (see Di Cesare et al. 2013). On top of the growing burden of NCDs, many LICs and MICs are also experiencing a rise in deaths from road traffic injuries, linked with increasing rates of urbanization and motorization. Such injuries are the world's leading cause of death among people aged 15–29 years (see Di Cesare et al. 2013).

Global Health 2035 finds that the burden of NCDs and injuries can be sharply curtailed through fiscal policies and "packages" of low cost clinical interventions. Fiscal policies (e.g. taxation of tobacco, alcohol, and sugar-sweetened beverages, and removal of fossil fuel subsidies) are a powerful, under-used lever for curbing NCDs and injuries and for raising new domestic revenue for health spending. For example, one modeling study suggested that a 50 percent price increase in cigarettes from tax increases in China would prevent about

20 million deaths and generate an extra USD 20 billion in revenue annually in the next 50 years (see Jha et al. 2012). Over the same time frame, a 50 percent tobacco price increase in India would prevent around 4 million deaths and generate an extra USD 2 billion in revenue annually see Jha et al. 2012). In addition, *Global Health 2035* suggests that all countries should provide the WHO's recommended package of "best-buy" clinical and population-based interventions for NCDs (Box 1) (see Jamison et al. 2013, World Health Organization 2011).

However, national governments in LICs and LMICs need targeted evidence to better understand the benefits of fiscal policies and intervention packages, and to ensure their effective implementation.

Box 1:
The WHO's recommended 'best buys'

Risk factor / disease	Interventions
Tobacco use	– Raise taxes on tobacco – Protect people from tobacco smoke – Warn about the dangers of tobacco – Enforce bans on tobacco advertising
Harmful use of alcohol	– Raise taxes on alcohol – Restrict access to retailed alcohol – Enforce bans on alcohol advertising
Unhealthy diet and physical inactivity	– Reduce salt intake in food – Replace trans fat with polyunsaturated fat – Promote public awareness about diet and physical activity (via mass media)
Cardiovascular disease (CVD) and diabetes	– Provide counselling and multi-drug therapy (including blood sugar control for diabetes mellitus) for people with medium-high risk of developing heart attacks and strokes (including those who have established CVD) – Treat heart attacks (myocardial infarction) with aspirin
Cancer	– Hepatitis B immunization beginning at birth to prevent liver cancer – Screening and treatment of pre-cancerous lesions to prevent cervical cancer

Source: World Health Organization (2011).

d. Key finding #4: Pro-poor pathways to achieving UHC are an efficient means to achieve health and financial risk protection

Another key global health challenge identified by the CIH is the impoverishing effects of medical expenditures on households and societies (see Jamison et al. 2013). UHC offers the promise of financing health gains and providing health security while minimizing the financial risks to households of excessive health expenditures. *Global Health 2035* endorsed two pro-poor (progressive) pathways toward UHC that commit to covering the poor from the outset

("progressive universalism"). In the first, publicly financed insurance would cover essential health-care interventions to achieve convergence and tackle NCDs and injuries. This pathway would directly benefit the poor, since they are disproportionately affected by these problems. The second pathway provides a larger benefit package, funded through a range of financing mechanisms (e.g. payroll taxes, insurance premiums, copayments), with poor people exempted from all payments. The CIH report argued that pro-poor UHC yields high health gains per dollar spent and that "poor people would gain the most in terms of health and financial protection."

However, decision-makers in LICs and LMICs need more policy-oriented research to better understand the health benefits of these interventions and platforms, and to design effective financing and delivery systems.

III. The G7 and global health

The G7's three health priorities (NTDs, pandemic preparedness, and AMR) overlap closely with the future global health challenges identified in *Global Health 2035* and there is a much needed role for international collective action in tackling all three. Historically, the G7/G8 has facilitated critical advances in global health, such as launching the Global Fund to Fight AIDS, Tuberculosis, and Malaria and pledging public commitments to tackle NTDs (Global Fund 2015, Global Network to End Neglected Tropical Diseases 2015). This year, as the era of the Millennium Development Goals comes to an end and the international community finalizes a post-2015 development framework, the G7's leadership in global health is particularly important.

Germany started its G7 Presidency by hosting a pledging conference in Berlin in January 2015 at which donors pledged over USD 7.5 billion to Gavi, the Vaccine Alliance, an amount that exceeded expectations and that could fund immunizations for an additional 300 million children (see Usher 2015). At this conference, Chancellor Angela Merkel presented a six-point plan, called the "white helmets initiative," to help the German government respond to international health emergencies, such as Ebola, by strengthening health systems, readying crisis response mechanisms, and investing in the development of new tools (The Press and Information Office of the Federal Government, Germany 2015).

To support the goals of *Global Health 2035,* the G7 must advance its work with coordinated, aggressive action to address four bottlenecks common across the three G7 priority areas: (1) a shortage of new tools (e.g. medicines, vaccines, and diagnostics) needed to treat and prevent diseases of poverty; (2) a lack of research to inform effective policies and improve the scale-up of health tools; (3) weak national health systems that are currently struggling to deliver quality care, monitor diseases, and respond to crises; and (4) a gap in the authority and capacity of global institutions to coordinate international collective action. These bottlenecks risk wasting already limited resources, reversing progress from past investments, and leaving us unable to respond to future health challenges.

In the following section, we discuss four key policy opportunities for the G7 to leverage its DAH to help achieve the vision of the *Global Health 2035* report:

(1) Invest in the discovery and development of new health tools (e.g. medicines, vaccines, diagnostics);

(2) Support policy and implementation research (including the science of scaling up health tools);

(3) Strengthen national health systems, including their ability to tackle cross-border threats (e.g. through disease surveillance); and

(4) Foster global coordination mechanisms.

IV. Policy Recommendations

a. Policy recommendation #1: Invest in the discovery and development of new tools

Global Health 2035 shows that the current generation has the potential to secure tremendous gains in global health, including eliminating NTDs, controlling pandemics, and slowing the spread of AMR. However, these improvements are only possible with the discovery and development of new health technologies (e.g. medicines, vaccines, and diagnostics). A grand convergence is impossible to achieve with today's tools alone. Germany and the G7 can best support convergence and its priority areas by directing most of its support towards research and development (R&D), a necessary global public good that the CIH identifies donor countries as uniquely equipped to support.

The international community currently spends about USD 2 billion a year on R&D for HIV/AIDS, TB, and malaria, and less than USD 1 billion for all of the 17 NTDs and related infections of poverty (Policy Cures 2014). In total, this is just 1–2 percent of global spending on health R&D. *Global Health 2035* calls for a doubling to USD 6 billion a year by 2020 and for all countries to play their part in reaching this target. Half of this additional funding, argues the CIH, should come from middle-income countries such as China, Brazil, and India. Non-profit product-development partnerships (PDPs) are a particularly promising mechanism for international collective action on R&D for diseases of poverty. They are effective coordination instruments that bring various research efforts together, and a recent independent evaluation of Germany's current funding for PDPs recommends Germany should continue that program (see Boulton et al. 2015).

One innovation that could help to support R&D for NTDs would be a new coordination mechanism or platform to bring together today's disparate, fragmented efforts. The CIH is currently in consultation with a number of partners, including PATH and the Bill & Melinda Gates Foundation, to explore the feasibility of a "unified" platform for NTDs R&D that would bring together R&D investors from all sectors—public, private, and social impact investors. The value of such a platform would be in helping to overcome the problem of investors having to make

investments independent of each other and without the information, funding or coordination needed to bring an innovation to scale.

Better tools for NTDs: Although technologies are currently available to control and even eliminate many NTDs, all NTDs are both "tool ready" but also "tool deficient".[16] For instance, drugs used for African sleeping sickness are highly toxic and require long treatment regimens. Those used to treat Chagas disease have questionable efficacy and are difficult to deliver in weak healthcare systems. In addition to new drug treatments, there is an urgent need for preventive and therapeutic NTD vaccines (also known as "antipoverty vaccines") as a means to shape elimination strategies, and improved diagnostic tools. Most of today's diagnostic tools were developed nearly a century ago (see Hotez, Pecoul 2010). The G7 should urgently invest in R&D to develop new NTD diagnostic tests, drug treatments, vaccines, and surveillance tools.

Prioritizing new antibiotics: The global crisis of AMR has been described by England's chief medical officer as "an apocalyptic threat" that is of a similar magnitude to climate change (see Torjesen 2013). AMR therefore warrants a particular priority in the R&D agenda. The CIH notes that in some countries, the TB drugs that have been used for decades no longer work in 20 percent of patients, and multi-resistant TB is a severe problem, including in Eastern Europe (see Global Alliance for TB Drug Development 2013). "For malaria," says the CIH report, "just one new drug class—called the artemisinins—stands between cure and failure." (Jamison et al. 2013). Even more dangerous, and with greater long-term consequences, common fatal infections such as pneumonia are becoming resistant to first-line antibiotics such as penicillin. The development of antibiotics has decreased steadily since the 1960s, with fewer companies bringing forth ever fewer compounds. Although there is no purely technological fix to tackling AMR, *Global Health 2035* argues that new antibiotics, vaccines, and point-of-care diagnostics will all be needed.

Developing new pandemic control methods: The international community must invest in R&D to prepare for new infectious threats, such as pandemic influenza. Concern is growing that the world could soon face an especially deadly pandemic, similar to the 1918 influenza pandemic, which caused 50 million deaths before the era of mass rapid, international transit (see Jamison et al. 2013). S similar pandemic today would affect the entire world population and be particularly devastating to poor populations (see Lightfoot et al. 2013). The World Bank estimates that such a pandemic would cost about USD 3 trillion (the World Bank 2013a). Given this anticipated global economic shock, the cost: benefit ratio of investing in pandemic preparedness is likely to be highly favorable—the World Bank argues that the annualized benefits from preventing flu pandemics and other major outbreaks is around USD 37 billion (The World Bank 2013b).

The G7 must help prepare for this global threat by supporting the development of new pandemic control methods, such as a universal influenza vaccine as well as new disease surveillance technologies. Furthermore, delays in conducting trials of new treatments during the recent Ebola crisis revealed that, moving forward, there must be clear guidelines on the testing and use of new drugs to respond to epidemics (see Gates 2015).

b. Policy recommendation #2: Support policy and implementation research

Achieving a grand convergence in health, and tackling the health challenges identified by the G7, will require very rapid scale up of critical health interventions. However, there are significant gaps in knowledge on the implementation strategies that will make this scale-up possible. The G7 should support policy and implementation research to determine the population factors, policies, and delivery systems that work best for scaling up interventions in LICs and LMICs.

Maximizing the impact of NTD treatments through better policies and delivery: In many of the world's poorest communities, we have the tools to treat high-burden NTDs but we are failing to reach all the people in need. These treatments are low-cost and good value for money (see Seddoh et al. 2013), and several pharmaceutical companies with a strong presence in G7 countries are donating NTD treatments free of charge (World Health Organization 2013). *Global Health 2035* estimates that a major proportion of the burden of NTDs in sub-Saharan Africa could be substantially reduced or controlled by 2020 at a cost of only USD 300-400 million annually (see Seddoh et al. 2013, Molyneux et al. 2005). And with continued investment, mass treatment could also lead to the elimination of lymphatic filariasis (elephantiasis) and trachoma. But evidence on NTD implementation strategies is limited. Initial research suggests that treatments delivered through community-based platforms (e.g. schools, community-health workers) and in partnership with other sectors (e.g. water, sanitation, and hygiene interventions) can help sustain the impact of NTD control and prevention efforts, but these strategies are not well documented(Sabin Vaccine Institute and the Global network for Neglected Tropical Diseases 2014). When community engagement and delivery strategies are well understood, however, these approaches can lead to significant success. For instance, during 2012, over 100 million people across 24African countries were treated for onchocerciasis (river blindness) through effective community-directed strategies (World health Organization 2013, 2015). To maximize the value of treatment donations, achieve high impact, and help fulfill its previous commitments to scale-up access to treatments, the G7 should support research to identify the best implementation strategies for NTDs.

Improving information on AMR prevention: AMR prevention requires global, coordinated action to slow the use of antibiotics worldwide. Increasingly, European countries and the United States are taking steps to measure, monitor, and regulate their use of antibiotics but there remains a dangerous lack of action worldwide to prevent AMR, particularly in LICs and MICs (see Burwell et al. 2015, van Boeckel et al. 2015). The WHO's draft global action plan on antimicrobial resistance and a recent report by the *Lancet* Infectious Diseases Commission include important calls to action, including: scaling up immunization programs to prevent infectious diseases that require antimicrobial medicines; increasing regulation of antibiotic consumption in livestock; and increasing education among patients, physicians, and across sectors on the appropriate use of antibiotics (see World Health Organization 2014b, Laxminarayan et al. 2013). However, there is too little information available to policymakers in LICs and MICs that would highlight the local health and economic impact of AMR, raise

AMR as a political priority, and inform effective policies (see Laxminarayan et al. 2013; Gelband, Delahov 2014). The G7 should support targeted research to help inform decision-making in LICs and MICs to prevent AMR.

c. Policy recommendation #3: Strengthen national health systems

The gains envisioned in the *Global Health 2035* report can only be achieved with much stronger health systems to deliver health services and interventions. Health systems strengthening (HSS), including strengthening the workforce, health information systems, and disease surveillance, is also crucial in controlling NTDs and cross-border threats. *Global Health 2035* asserts that dealing with cross-border externalities is a core function of the international community, and it should be key responsibility of the G7 within the broader UN system (see Jamison 2013).

Preparing health systems for pandemic response: The recent Ebola crisis has shown that pandemics can only be controlled with strong health systems in poor countries. It is critical that the G7 support the creation of strong national health systems. *Global Health 2035* estimates that in LICs, most of the incremental costs of achieving convergence over the next 20 years are health systems costs, mainly for infrastructure, equipment, and vehicles. With projected economic growth, LMICs will be able to finance HSS mostly through domestic spending, while LICs will need external assistance as they transition to greater domestic health investments. The G7 has a critical role in providing targeted development assistance to strengthen health systems in these countries. A multi-functional workforce will help ensure that the necessary surveillance and response mechanisms are in place for crisis management.

Coordinating AMR prevention interventions: AMR prevention requires HSS and coordination across sectors and agencies. Strong national health systems can help promote the appropriate use of antibiotics through improved monitoring, prescription standards, and higher service quality. To facilitate this, the *Lancet* Infectious Diseases Commission recommends that national governments create AMR task forces to coordinate inter-sectoral responses, including surveillance, regulation, infection control, and awareness raising (see Laxminarayan et al. 2013).

d. Policy recommendation #4: Foster global coordination mechanisms

Global Health 2035 calls on the international community to invest in the capacity building of international institutions, such as the WHO, that provide critical leadership and global coordination in global health (see Jamison 2013). This global coordination can help enable the three earlier recommendations by setting priorities for R&D, facilitating sharing of policy and implementation research, and setting best practices for health systems worldwide. These core functions are underfunded, however, hampering the international community's ability to respond to key health challenges. In fact, over the past 20 years, the WHO's regular budget

has decreased steadily in real terms (see Institute for Health Metrics and Evaluation 2012). The consequences of this drop in funding have become apparent with the WHO's slow response to the Ebola crises. Now, "the United Nations and the WHO are studying the lessons from the Ebola epidemic and ways to improve international crisis management" to inform ways to strengthen the WHO's capacity and clarify the roles of others, including the World Bank and G7 (see Gates 2015). Similarly with AMR, global institutions can help attract political attention and create funding mechanisms for AMR-focused R&D and prevention efforts. The G7 should support the planning and financing of global institutions to provide leadership and stewardship to coordinate a comprehensive response to NTDs, pandemics, and AMR.

V. Conclusion

The *Global Health 2035* report shows that there is tremendous potential to achieve dramatic gains in global health over the next 20 years, particularly with regards to the G7's priorities of eliminating NTDs, preparing effectively for pandemics, and tackling AMR. These challenges require urgent international collective action and demand the leadership and focused investment of the G7. To maximize its impact and help mobilize action for the post-2015 health agenda, the G7 should target its efforts towards four critical policy options: investing in new tools, supporting policy and implementation research, strengthening national health systems, and fostering global coordination. By working in partnership with donor, low- and middle-income countries on these policy options, the G7 can set the course to achieve a grand convergence in global health.

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Open access

A version of this publication is available for electronic download at GlobalHealth2035.org.

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Editorial team: Margitta Führmann
Helga Huss
Prof. Dr. Henning Klodt (responsible for content, pursuant to § 6 MDStV)
Dieter Stribny

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