

The best medicine for improving global health? Reduce inequality

Good health means addressing the underlying social and economic causes of ill health.

The past few years have not been easy on the world's health-care systems. When the United Nations set its Sustainable Development Goals (SDGs) in 2015, the threat of a pandemic sweeping the world would not have registered with most people.

In a series of weekly editorials marking the halfway point to the SDGs' 2030 deadline, *Nature* is looking at each of the 17 goals in turn. It is no surprise that progress towards number 3 – “Ensure healthy lives and promote well-being for all at all ages” – has been stuttering, at best. But that does not mean that the targets embedded in this goal should be lowered when world leaders gather in New York City in September to assess progress towards achieving the SDGs. Instead, the health goal should be strengthened by increasing focus on the economic, social and power inequities that drive disease and disability worldwide – and researchers must play their part in making that happen.

The UN's health and well-being targets cover a wide territory that includes reducing maternal mortality to one-third of current rates, halving road-traffic accidents and ending epidemics of diseases such as tuberculosis and malaria. Before the COVID-19 pandemic, there were a few encouraging signs of progress.

From 2015 to 2021, 146 countries out of 200 evaluated were on course to meet the SDG target of fewer than 25 deaths per 1,000 live births. One study using data from 2020 projected that the world's shortage of health-care workers would fall from 15 million to 10 million by 2030 (M. Boniol *et al. BMJ Glob. Health* 7, e009316; 2022). This would have gone some way towards meeting the SDG target to substantially increase the health-care workforce in low-income countries.

Even before the pandemic, there was growing concern that progress was beginning to level off in some areas that previously looked promising. The rate of maternal mortality, which declined from 2000 to 2016, was fairly constant in the five years after the SDGs were established. At the last count, in February 2020, it was still around three times the SDG target of 70 maternal deaths per 100,000 live births by 2030.

But then the pandemic hit, taking millions of lives, leaving millions of people living with disability and disrupting health-care systems worldwide. There were indirect, as well as direct, effects. With world leaders focusing on

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the pandemic, global spending on tuberculosis services dropped by 10%, from US\$6 billion in 2019 to \$5.4 billion in 2021; over the same period, deaths from tuberculosis rose from 1.4 million to about 1.6 million. Malaria-associated deaths rose by 12%, from 558,000 in 2019 to 627,000 in 2020. Childhood vaccination rates against diphtheria, tetanus and pertussis fell between 2019 and 2021.

Education was also affected by the pandemic: children from disadvantaged socio-economic backgrounds experienced more setbacks in their learning than did those from higher-income ones (B. A. Betthäuser *et al. Nature Hum. Behav.* 7, 375–385; 2023). Prolonged school closures in several countries meant that some children left the education system early. The full ramifications of that exodus on health and well-being might not come into focus for years. For girls and young women, for example, pregnancy and HIV rates tend to decrease the longer they stay in education.

The ambition of the SDG health targets was always lofty, but they can provide a foundation for formulating national strategies and allocating resources to improve health and well-being outcomes and counter disparities. Good health is not just down to biology; it is affected by the environment, opportunity, economics and discrimination. The COVID-19 pandemic laid such influences bare, with widespread disparities between rich and poor people in terms of outcomes, treatment availability and vaccine distribution. But public discussion of the social determinants of health fizzled out as the pandemic eased, says public-health researcher Sarah Hawkes at University College London. “We seem to have moved on,” she says. “There has been a collective memory loss of just how bad it was.”

That discussion must be revived in the context of the SDGs. More researchers need to be studying the economic and social determinants of health, to, for example, help fill the data gaps that hinder effective action. Many countries still do not separate health-care statistics by sex, ethnicity or whether someone is a refugee. Without this information, it is too easy to gloss over inequities and their causes.

But to truly address global health and well-being, governments must work to reduce economic inequality, not just between nations but also within them. This means both shoring up the funding needed to provide health care and reducing the poverty, discrimination and violence that contribute to ill health.

In May, the World Health Organization released a report that laid out the economic reforms needed to improve global health. The report, entitled ‘Health for All’, set out a range of economic measures, such as the reformation of taxes on wealthy individuals and multinational corporations, and called for allowing debt relief for low-income countries during pandemics and natural disasters.

It also called for a fundamental reformulation of how we perceive health and well-being: not as an expenditure to be chopped during times of austerity, but as an investment in a country's future economy and well-being. That is a call that must be heard and understood. Ultimately, we will not stand a chance of meeting the SDG health targets unless world leaders are willing to embrace the economic reforms necessary to reduce inequality.

Plastic waste is everywhere – countries must be held accountable

As UN negotiations on eliminating plastic pollution enter a crucial phase, researchers must design adequate measurement, monitoring and compliance systems.

Globally, some 400 million tonnes of plastic waste are produced each year¹. Plastics have infiltrated some of the planet's most remote and pristine areas, as two papers published in *Nature* show to dramatic effect^{2,3}.

Veronica Nava and her colleagues systematically assess the extent of plastic contamination in diverse freshwater lakes and reservoirs across 23 countries, and find them to be widely contaminated with plastic (see page 317). Meanwhile, Hudson Pinheiro and his colleagues show that larger pieces of plastic litter, known as macroplastics, represent the largest share of anthropogenic debris found in shallow and deep coral reefs at 25 locations across the Pacific, Atlantic and Indian ocean basins (see page 311). Even the deeper reefs, lying at depths of 30–150 metres, were found to be polluted; until now, the impact of plastics on these reefs has been little studied³.

Both studies will be important to talks, now under way at the United Nations, on a treaty to eliminate plastic pollution. This is an ambitious goal that will require a radical rethink of plastics production, recycling, remediation and disposal. Experience gained from decades of UN environmental treaties shows that trusted and effective measurement and compliance mechanisms are as important as the agreements themselves. So far, however, the negotiations do not include a specific plan to hold countries accountable for the pledges and promises they make on behalf of their plastics producers, exporters and recyclers. It is clear that this must change – and fast.

Multi-level problem

The research published this week highlights the multi-level problem that negotiators face. Pinheiro and his colleagues found debris in 77 of the 84 coral reef sites they surveyed globally. Larger pieces of debris, bigger than 5 centimetres across – mainly discarded or broken fishing equipment – were more prevalent in deeper reefs. This highlights complex trade-offs that treaty negotiators will have to grapple with to deliver a comprehensive solution to the plastics problem. Simply banning plastic nets and other fishing gear could harm livelihoods. Subsidies or incentives might be needed to enable communities that rely



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on fishing to switch from using gear that causes damage to deep reefs.

The study by Nava and her colleagues highlights another facet of any meaningful treaty: getting measurements right. Countries will need to discuss and agree a standard or system for how they measure plastic pollution. Nava *et al.* developed a protocol for categorizing and measuring plastic pollution in freshwater samples and applied it to samples collected at the surface of 38 lakes and reservoirs, most of them in the Northern Hemisphere. The authors also collected data on the size of the population near each lake, the lake's depth and how much of the land supplying inflow water is urban. Plastics in the samples were classified by shape, colour and size, and a subset were analysed using spectroscopic methods to identify the chemical composition of their polymers. This and other knowledge needs to feed into treaty talks.

The plastics treaty is on a supercharged schedule. Talks began in March 2022 and are due to conclude with a final text in 2024. If that happens, countries are expected to incorporate the treaty into national laws in 2025.

Environmental treaties often take between 5 and 15 years to complete, and accelerating the process could compel nations to focus on the essentials. However, at the most recent negotiating session, which concluded last month in Paris, countries spent most of the week discussing (and struggling to agree on) how they would make decisions. To adhere to the rapid timetable, subsequent sessions will need to get down to detail more quickly. But a downside of a fast-track approach is that there is less time for researchers and campaigners to influence the process.

The talks are being organized by the UN Environment Programme (UNEP), based in Nairobi. It is inviting observers, including researchers, to make written submissions by 15 August, ahead of the publication of the treaty's first draft text, or 'zero draft'. Researchers should take this opportunity to urge negotiators to establish an expert group on measurement and compliance as part of the talks.

UNEP told *Nature* that there is no dedicated expert group looking at measurement or accountability. However, a representative said that negotiators will “consider how other multilateral agreements provide for monitoring and suggest best practice”. Studying how other agreements manage monitoring is important, but monitoring is not the same thing as compliance. There is a risk that, in a rush to meet the timetable, negotiators will settle for a treaty that demands little or nothing in the way of compliance.

For the treaty negotiations to be successful, countries must commit to being held accountable. Not having a group within the negotiations charged with ensuring measurement and compliance could be a costly error. The time between now and the next session, due to be held in Nairobi in November, offers a valuable and urgent opportunity for researchers to get their voices heard – so that we can finally start to reduce the stark toll of plastic pollution on the global environment.

1. Lampitt, R. S. *et al. Nature Commun.* **14**, 2849 (2023).
2. Nava, V. *et al. Nature* **619**, 317–322 (2023).
3. Pinheiro, H. T. *et al. Nature* **619**, 311–316 (2023).