

Global Health Inequities and Noncommunicable Diseases: Why Prevention Must Reach the People Most at Risk

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ABSTRACT

Noncommunicable diseases (NCDs), including cardiovascular disease, cancer, chronic respiratory disease and diabetes, are a major cause of preventable illness and death worldwide. Their burden is not distributed evenly: people living in low- and middle-income countries often face greater exposure to risk factors and more barriers to early diagnosis, continuous treatment and specialist care. In 2021, NCDs caused at least 43 million deaths globally, and 82% of deaths from NCDs occurring before age 70 were in low- and middle-income countries (World Health Organization [WHO], 2025). These inequalities overlap with infectious diseases, childhood undernutrition, unsafe water, air pollution and climate-related health risks. This article presents a narrative perspective on how poverty, uneven health infrastructure, environmental exposure and shortages of health workers can reinforce one another. It also considers the need to avoid framing chronic disease solely as a matter of individual behaviour: food environments, housing, transport, education and access to preventive services shape the choices people can realistically make. Practical priorities include stronger primary healthcare, affordable essential medicines, community-based screening, cleaner household energy, reliable surveillance and fairer distribution of health workers and resources. The article is a policy-oriented narrative discussion based on selected public-health sources; it does not report original data or a systematic literature review. Its central argument is that medical knowledge can improve population health only when prevention and care are accessible to the communities that need them most.

Keywords: health inequity, noncommunicable diseases, primary healthcare, air pollution, climate change, health systems, prevention

INTRODUCTION

Health is often discussed as though disease were simply a biological event: a person becomes ill, receives treatment and either recovers or continues living with the condition. In reality, health is also shaped by income, education, housing, employment, the environment and the availability of healthcare. These conditions influence whether a person can avoid preventable risks, recognise symptoms early, reach a clinic and afford long-term treatment. For this reason, global health inequality is not only a medical problem; it is also a question of how societies distribute opportunity, protection and public resources.

Noncommunicable diseases (NCDs)—especially cardiovascular diseases, cancers, chronic respiratory diseases and diabetes—illustrate this challenge. WHO estimates that NCDs caused at least 43 million deaths in 2021. Of the 18 million people who died from an NCD before age 70, 82% lived in low- and middle-

income countries (WHO, 2025). These figures show that chronic disease is not confined to wealthy or ageing populations. It is a major public-health challenge in countries where health services may also be responding to infectious disease, maternal and child health needs, malnutrition and limited access to safe water.

This article argues that reducing the burden of NCDs requires more than telling individuals to eat better or exercise more. Personal choices matter, but they are made within social and economic conditions. Effective prevention therefore depends on accessible primary care, healthier environments, early detection and policies that make healthy choices practical rather than merely desirable.

2. The scale and unequal distribution of the problem

The four major NCD groups account for a substantial share of global mortality. WHO reports that, in 2021,

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cardiovascular diseases caused at least 19 million deaths, cancers 10 million, chronic respiratory diseases 4 million, and diabetes more than 2 million deaths when kidney disease deaths related to diabetes are included (WHO, 2025). These estimates describe different disease groups and should not be added to unrelated estimates without checking definitions and overlap.

An important point is where premature deaths occur. More than four-fifths of NCD deaths before age 70 were in low- and middle-income countries. This pattern reflects several interacting pressures: exposure to tobacco smoke and air pollution, unhealthy food environments, physical inactivity, delayed diagnosis, out-of-pocket costs and shortages in sustained treatment. The same community may face both infectious and chronic disease burdens. A health system forced to manage acute outbreaks while lacking stable funding for long-term care can struggle to provide continuity for either.

Child health provides another measure of unequal protection. A child's health depends not only on medical services after illness begins, but also on nutrition, clean air, safe water, sanitation, housing and household income. When these foundations are missing, preventable illness can begin early and affect education, family finances and health across the life course.

3. Why inequities persist

3.1 Poverty and the cost of care

Even when an effective treatment exists, it may not be realistically available to a family that must choose between healthcare, food, transport and other basic needs. The cost of consultation, diagnostic tests, medicines and travel can lead people to delay care or stop treatment once symptoms improve. NCDs often require continuing monitoring rather than a single visit, making affordability especially important. Financial protection, transparent pricing and reliable access to essential medicines should therefore be treated as core elements of disease prevention and control.

3.2 Uneven healthcare infrastructure and workforce distribution

Urban hospitals may offer specialist services that are unavailable in rural or remote areas. Distance, transport costs, limited diagnostic facilities and staff shortages can turn a manageable condition into a serious one. The problem is not solved by constructing a clinic alone: facilities also need trained staff, dependable electricity and water, basic equipment, medicine supplies, referral pathways and systems for follow-up. Retaining health workers in underserved areas requires safe working conditions, professional development and fair compensation, alongside broader workforce planning.

3.3 Risk is shaped by the environment

Air pollution is a clear example of a health risk that individuals cannot control on their own. Exposure may come from traffic, industry, power generation, construction dust or the use of polluting fuels for cooking. It contributes to respiratory and cardiovascular harm, while children are particularly vulnerable because their bodies are still developing. A Zero Carbon Analytics briefing, drawing on estimates for 2021, reported that more than 19,000 deaths among children under five in Bangladesh were attributable to air-pollution-related causes; this is an estimate of attributable deaths, not a count of individually verified cases (Zero Carbon Analytics, 2025). The figure illustrates why clean household energy, better ventilation and reductions in outdoor pollution belong within public-health policy.

3.4 Food systems, education and the limits of individual blame

Unhealthy diets and physical inactivity are recognised NCD risk factors, but explanations based only on personal discipline are incomplete. The affordability and availability of nutritious foods, marketing, work schedules, safe public spaces and access to health information all influence behaviour. In some communities, inexpensive calorie-dense foods may be easier to obtain than fresh produce. Health education is important, but it works best when supported by environments that make healthier options affordable and accessible. Malnutrition and obesity can coexist within the same population and, in some settings, within the same household.

4. Climate change connects environmental and health inequality

Climate change can intensify existing health disadvantages by affecting heat exposure, food security, water availability, housing and the spread of some infectious diseases. WHO estimates that, between 2030 and 2050, climate change could cause approximately 250,000 additional deaths per year from undernutrition, malaria, diarrhoea and heat stress alone; this is a projection, not a prediction of an exact annual total (WHO, n.d.-a). Communities with weaker infrastructure and fewer resources to prepare for extreme weather are often less able to protect health or restore services after disasters.

Climate-sensitive diseases do not respond to temperature alone. Rainfall, land use, housing, mosquito-control measures, population movement and access to diagnosis also matter. WHO notes that vector-borne diseases disproportionately affect poorer populations and that climate change can alter the distribution and seasonality of vectors (WHO, 2024). It would therefore be inaccurate to claim that warming automatically causes every disease to rise everywhere. The more defensible conclusion is that climate change can shift risks and add pressure to health systems, making local surveillance and prevention increasingly important.

5. Why solutions often fall short

Public-health interventions may fail when responsibility is divided across agencies that do not coordinate. A clinic cannot solve unsafe drinking water, air pollution or poor road access by itself. Likewise, a national prevention campaign has limited effect if medicines are unavailable or follow-up services are too far away. Corruption and weak accountability can worsen these problems, but they should be investigated with evidence rather than assumed to explain every service failure. More broadly, short-term projects can create visible activity without ensuring long-term staffing, supplies, maintenance or measurable outcomes.

Global emergencies have also shown that the availability of medical products does not guarantee fair access. Equitable distribution requires transparent allocation, resilient supply chains, adequate local capacity and cooperation between countries. The

objective should not be to replace international assistance with self-sufficiency in every setting, but to build systems that can provide essential services reliably before, during and after a crisis.

6. Priorities for action

1. **Strengthen primary healthcare.** Make screening, blood-pressure measurement, diabetes testing, counselling and follow-up available close to where people live. Primary-care teams should have referral links to specialist services and reliable patient records.
2. **Make essential treatment affordable.** Improve access to quality-assured essential medicines and diagnostics, reduce avoidable out-of-pocket costs, and use transparent subsidy or financial-protection programmes for people who cannot afford care.
3. **Invest in prevention without blaming patients.** Combine clear public information with policies that support nutritious food, physical activity, tobacco control and reduced exposure to harmful air pollution.
4. **Protect children's environments.** Expand access to clean cooking fuels, safe water, sanitation, adequate nutrition and cleaner air. Monitor environmental exposure and direct resources to communities facing the greatest risks.
5. **Build climate-resilient health services.** Prepare clinics for heatwaves, floods and other disruptions; protect medicine cold chains and records; and coordinate disease surveillance with local environmental and disaster-management teams.
6. **Support and retain the health workforce.** Improve training, safe working conditions, career development and incentives for serving underserved areas. Workforce policies should address the reasons staff leave, not only the consequences of migration.
7. **Measure whether policies reach people.** Publish clear indicators such as screening coverage, medicine availability, waiting times, preventable hospital admissions and household health spending, disaggregated where possible by income, sex, age and rural or urban residence.
8. **Work with communities.** Involve local health workers, schools, patient groups and community

organisations in designing programmes. Feedback mechanisms can help identify barriers that national plans overlook.

DISCUSSION

The evidence considered here points to a consistent lesson: medical advances cannot achieve their full benefit when access depends heavily on a person's income or location. Prevention is not a substitute for treatment, and treatment is not a substitute for action on the conditions that produce avoidable illness. Both are necessary. Governments can make progress by integrating NCD services into primary care while also acting on air quality, food systems, clean energy, education and financial protection.

Technology, including artificial intelligence, may help with risk assessment, clinical decision support and public-health monitoring. However, digital tools cannot compensate for missing clinicians, unreliable electricity, unaffordable treatment or poor-quality data. Any use of technology should be evaluated for safety, privacy, bias and accessibility, especially where underserved populations are concerned. The measure of innovation should be whether it improves outcomes fairly, not simply whether it is technically impressive.

This article has limitations. It is a narrative perspective based on selected public-health sources rather than a systematic review; it did not use a predefined search strategy, formal quality appraisal or original dataset. The statistics cited refer to specific years and should not be interpreted as current-year counts. Further work could compare country-level indicators of NCD outcomes, primary-care coverage, air pollution and household health expenditure using a transparent method and clearly stated inclusion criteria.

CONCLUSION

Global health inequity persists not because the world lacks all the necessary medical knowledge, but because protection and care remain unevenly distributed. NCDs, infectious diseases, air pollution and climate-related hazards interact with poverty and weak health systems, placing the greatest burden on communities with the fewest resources to respond. Progress requires sustained investment in primary healthcare, affordable medicines, prevention, envi-

ronmental protection and a supported health workforce. It also requires accountability: programmes should be judged by whether they reach people and improve outcomes, not merely by whether they are announced. The ethical test of global health progress is whether preventable suffering becomes less dependent on where a person is born, where they live or what their family can afford.

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