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Aging developing nations and the care gap for noncommunicable diseases

A large and rapidly expanding population of older adults in developing countries demands urgent health ecosystem adaptations to meet the rising burden of noncommunicable diseases.

by Michael Conway
with Defne Yorgancioglu

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Contents

Introduction

Low- and middle-income countries (LMICs)[1] have historically been characterized by relatively young populations. But recently, declining birth rates and rising life expectancies have been fundamentally restructuring these countries' population pyramids. In the coming decades, the number of older people in LMICs is expected to more than double to 1.3 billion by 2050, accounting for around 60 percent of global growth in this demographic over the next 25 years.[2]

As life expectancy increases, the burden of age-related noncommunicable diseases (NCDs), including cardiovascular diseases, diabetes, and kidney diseases, is expected to rise alongside it.[3] Yet many healthcare ecosystems in LMICs continue to be ill-equipped to handle the growing burden of NCDs across expanding populations of older people, and to date, donors and private capital have not sufficiently focused on addressing the NCD burden in developing countries.

This report discusses the increasing prevalence of NCDs across LMICs, the challenges these countries face with care delivery and accessibility, and three solution areas that can help improve care and ease the burden of NCDs.

1 For the purposes of this report, LMICs are lower- and lower-middle-income countries that have a gross national income per capita of $4,515 or less, as defined by the World Bank. *Data Blog*, "World Bank country classifications by income level for 2024-2025," blog entry by Eric Metreau, Kathryn Elizabeth Young, and Shwetha Grace Eapen, World Bank Group, July 1, 2024.

2 McKinsey analysis of "Population estimates and projections," World Bank Group, accessed November 2024.

3 "Ageing & NCDs impact on health financing," World Bank Group, April 1, 2024; Ian R. Hambleton et al., "The rising burden of non-communicable diseases in the Americas and the impact of population aging: A secondary analysis of available data," *Lancet Regional Health Americas*, May 2023, Volume 21, Number 1000483; Yuebin Lv et al., "Burden of non-communicable diseases due to population ageing in China: Challenges to healthcare delivery and long term care services," *BMJ*, 2024, Volume 384.

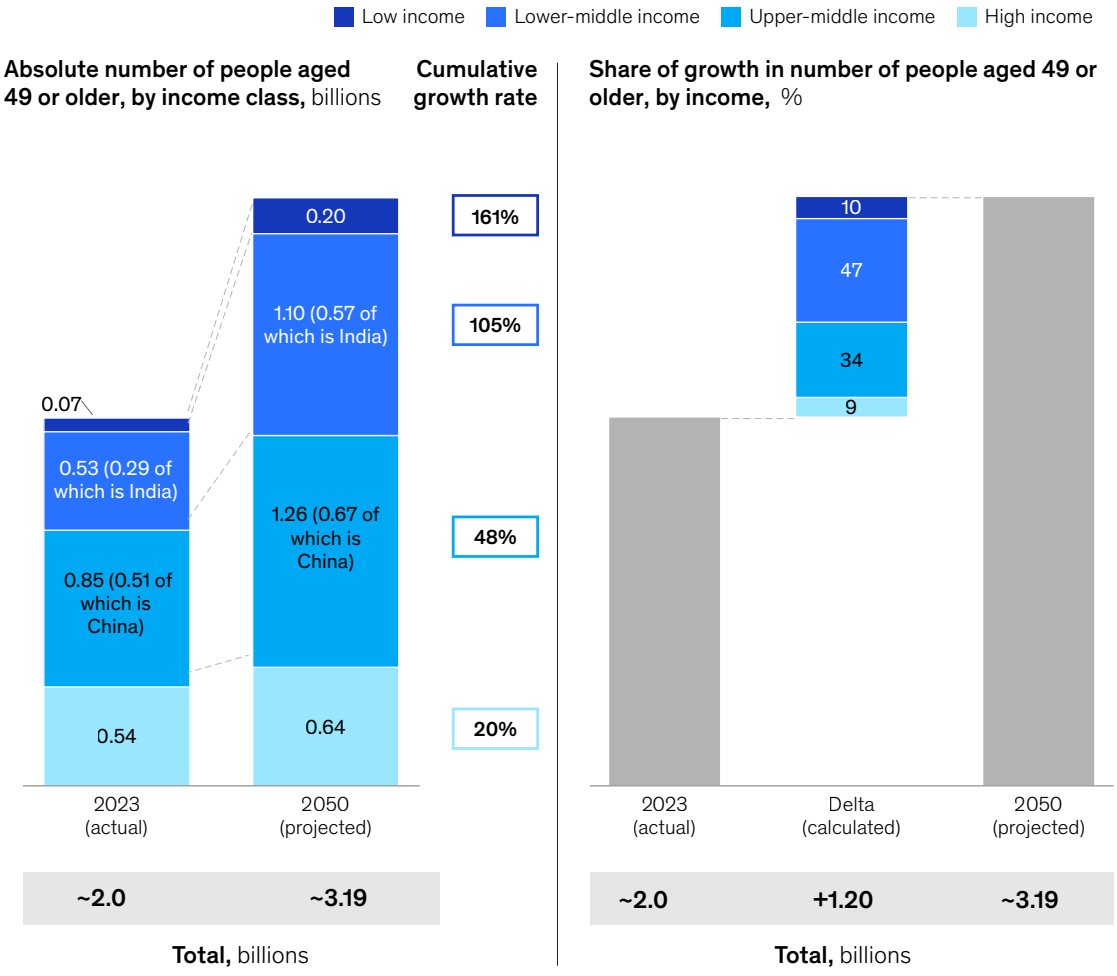
1 The aging population and the growing burden of NCDs

Already, LMICs are home to more than 600 million adults over the age of 49.[4] Today, the historically "young" region of sub-Saharan Africa has almost as many people over age 49 as the United States does (125 million and 137 million respectively) (Exhibit 1).[5]

The shift toward an older population is expected to be most profound in sub-Saharan Africa and South Asia, where the elderly population is projected to rise from 500 million to a cumulative 1.1 billion by mid-century (Exhibit 2).[6]

Exhibit 1

Globally, the share of people aged 49 or older is expected to rise drastically by 2050.



Note: Figures may not sum, because of rounding.
Source: "Population estimates and projections," World Bank Group, accessed November 2024

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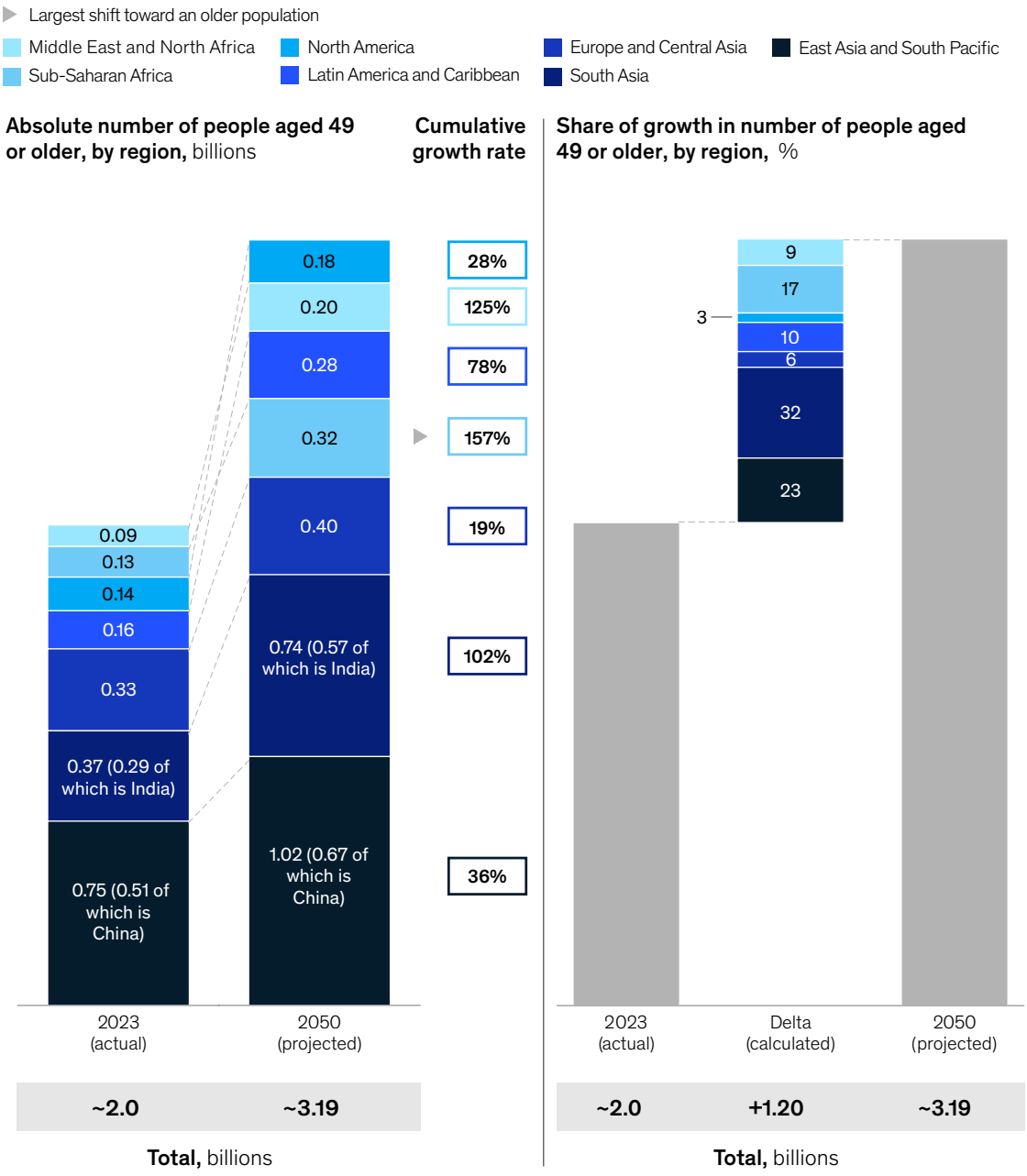
[4] McKinsey analysis of "Population estimates and projections," World Bank Group, accessed November 2024.
[5] McKinsey analysis of "Population estimates and projections," World Bank Group, accessed November 2024.
[6] McKinsey analysis of "Population estimates and projections," World Bank Group, accessed November 2024.

Exhibit 2

By 2050, the cumulative growth rate of the elderly population in sub-Saharan Africa is expected to be most drastic.



Note: Figures may not sum, because of rounding.
Source: "Population estimates and projections," World Bank Group, accessed November 2024

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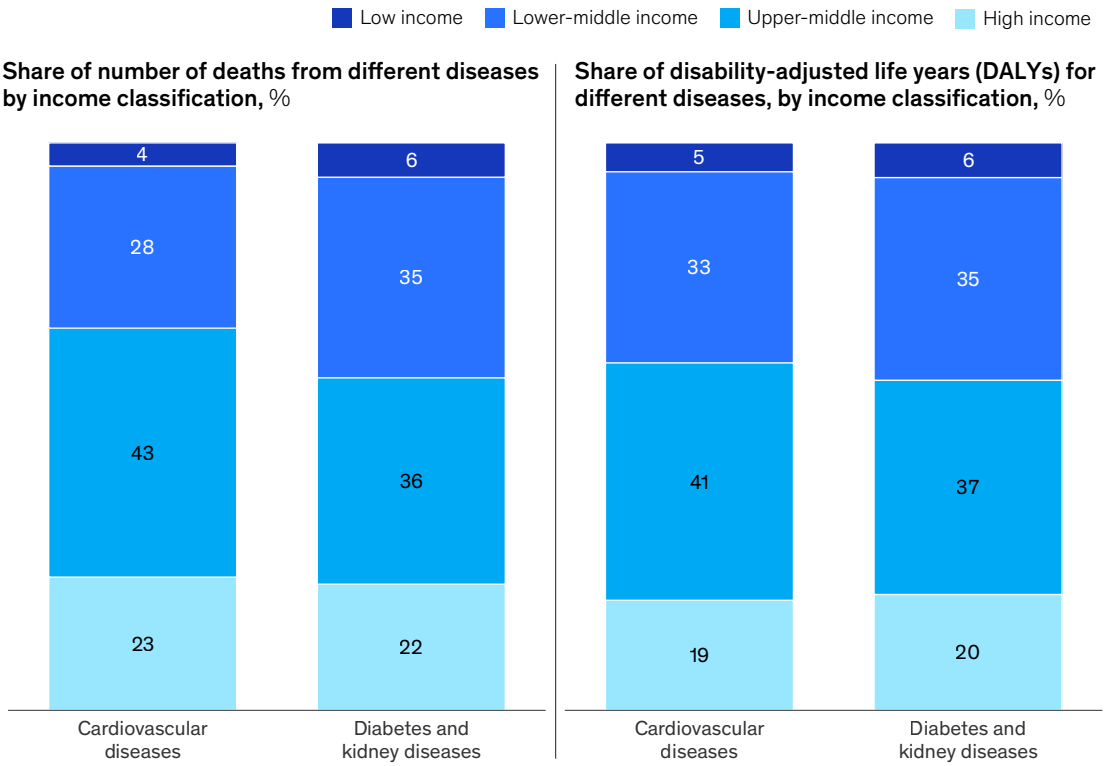
As populations age, the prevalence of NCDs will increase simultaneously. Already, the prevalence of NCDs by net number of patients in LMICs is comparable to—if not higher than—that in many high-income countries (HICs); but critically, the mortality and disability-adjusted life years (DALYs)[7] burden is substantially higher in LMICs because these regions face challenges in quality of care, accessibility, and individual awareness of disease symptoms and management. NCDs are linked to about 74 percent of global deaths annually—77 percent of which occur in LMICs.[8] For cardiovascular diseases (CVDs), diabetes, and kidney diseases in particular, the absolute number of deaths in LMICs far exceeds that of HICs (Exhibit 3).[9]

Exhibit 3

Mortality and DALY levels in LMICs exceed those in HICs for CVDs and diabetes and kidney diseases.



Note: LMICs are low- and middle-income countries, HICs are high-income countries, and CVDs are cardiovascular diseases. Figures do not sum to 100%, because of rounding.
Source: Institute for Health Metrics and Evaluation Global Health Data Exchange Global Burden of Disease database, accessed November 2024

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CVDs and diabetes (including diabetes-linked kidney disease) stand out as conditions with the most pressing unmet needs in an LMIC context. The Lancet Commission's most recent *Global Health 2050* report specifically calls out atherosclerotic CVD (ischemic heart disease and ischemic stroke), hemorrhagic stroke, and diabetes (including chronic kidney disease due to diabetes) as key drivers of the gap in life expectancy between

[7] According to the World Health Organization, DALY is a measure that combines years of life lost due to premature mortality and years lived with a disability based on the prevalence of an NCD in a population. See "Disability-adjusted life years (DALYs)," World Health Organization, accessed July 2, 2025.
[8] Mayank Anand, "Non-communicable diseases: Tailoring our approach to innovative finance," MedAccess, September 14, 2023.
[9] McKinsey analysis of the Institute for Health Metrics and Evaluation Global Health Data Exchange Global Burden of Disease database, accessed November 2024.

developing countries and higher-income countries.[10] CVDs continue to be the leading cause of death globally, accounting for more than 31 percent of worldwide deaths—over 75 percent of which occur outside of HICs.[11] (Exhibit 4).

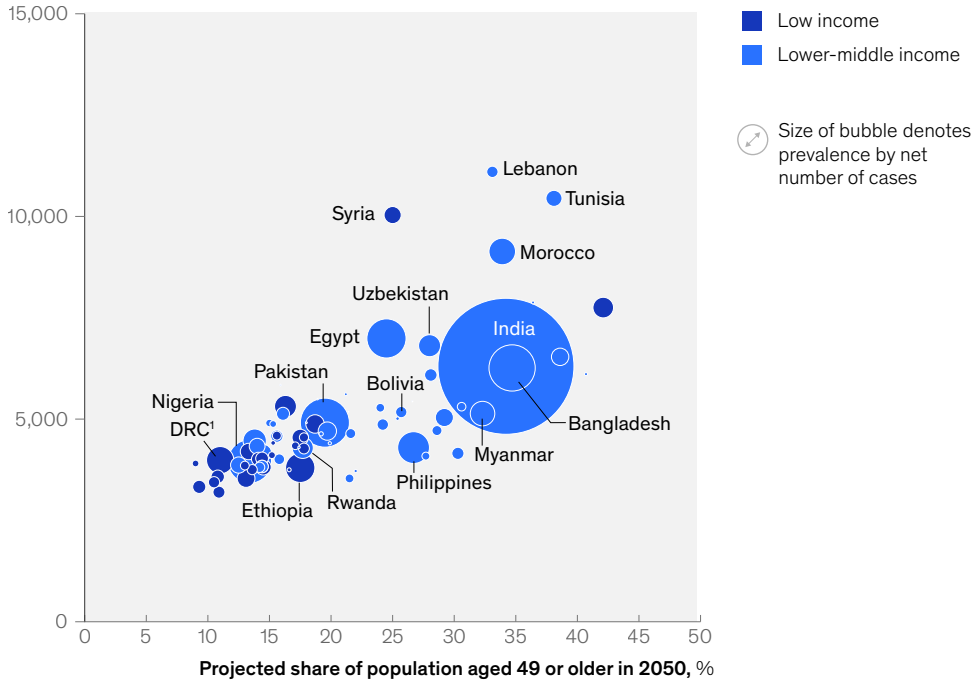
Similarly, about 40 percent of deaths linked to diabetes and kidney disease occur in low-income countries (LICs) and LMICs, compared with only 22 percent in HICs[12] (Exhibit 5).

Many healthcare ecosystems in LMICs continue to be ill-equipped to handle the growing burden of NCDs across expanding populations of older people. The WHO's universal health coverage (UHC) subindex on NCDs,[13] which evaluates countries based on their average coverage of essential healthcare services across a set of core interventions, reveals a high concentration of LMICs with low scores (about 60 or below on a scale of 80).[14]

Exhibit 4

Most deaths from cardiovascular diseases globally occur in low- and lower-middle-income countries.

Cardiovascular disease prevalence rate in 2021,
total cases per 100,000 people



[1]Democratic Republic of Congo.
Source: Global Burden of Disease database, Institute for Health Metrics and Evaluation, accessed August 22, 2025; "Population estimates and projections," World Bank, updated July 2, 2025; Stephanie H. Read and Sarah H. Wild, "Prevention of premature cardiovascular death worldwide," *Lancet*, March 7, 2020, Volume 395, Number 10226

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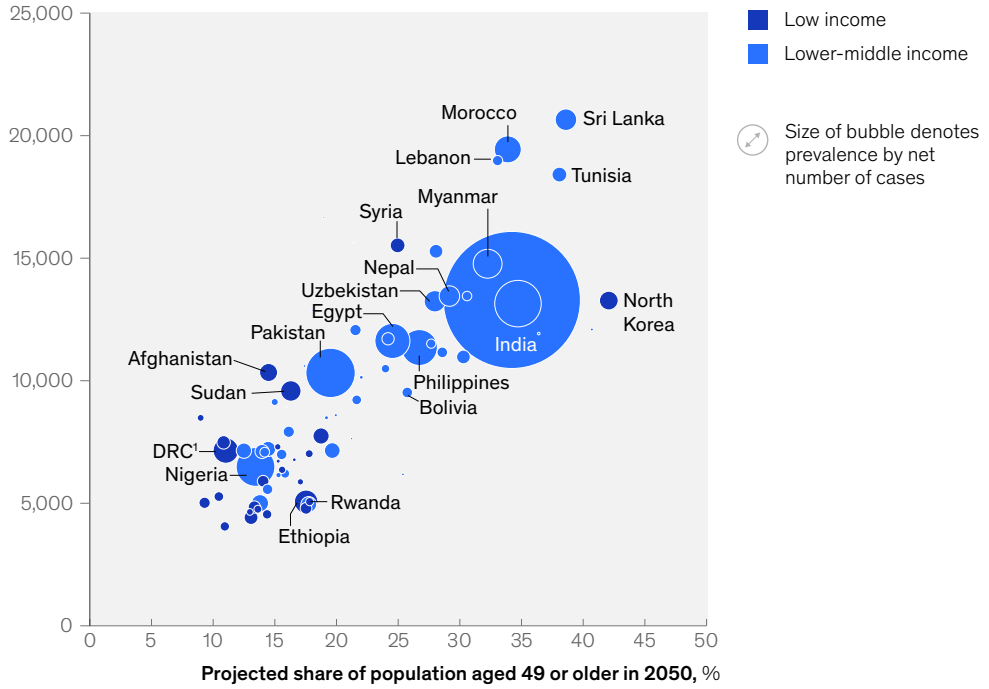
[10] Dean T. Jamison, "Global health 2050: The path to halving premature death by mid-century," *Lancet Commissions*, October 19, 2024, Volume 404, Number 10462.
[11] Stephanie H. Read and Sarah H. Wild, "Prevention of premature cardiovascular death worldwide," *Lancet*, March 7, 2020, Volume 395, Number 10226.
[12] McKinsey analysis of the Institute for Health Metrics and Evaluation Global Health Data Exchange Global Burden of Disease database, accessed November 2024; *Data Blog*, "World Bank country classifications by income level for 2024-2025," blog entry by Eric Metreau, Kathryn Elizabeth Young, and Shwetha Grace Eapen, World Bank Group, July 1, 2024.
[13] "UHC Service Coverage sub-index on noncommunicable diseases," WHO, updated May 1, 2023.
[14] "UHC Service Coverage sub-index on noncommunicable diseases," WHO, updated May 1, 2023.

Exhibit 5

Diabetes and kidney disease are prevalent, unmanaged conditions in low- and lower-middle-income countries.

Diabetes and kidney disease prevalence rate in 2021,
total cases per 100,000 people



[1]Democratic Republic of Congo.
Source: Institute for Health Metrics and Evaluation Global Health Data Exchange Global Burden of Disease database, accessed November 2024; *Data Blog*, "World Bank country classifications by income level for 2024-2025," blog entry by Eric Metreau, Kathryn Elizabeth Young, and Shwetha Grace Eapen, World Bank Group, July 1, 2024

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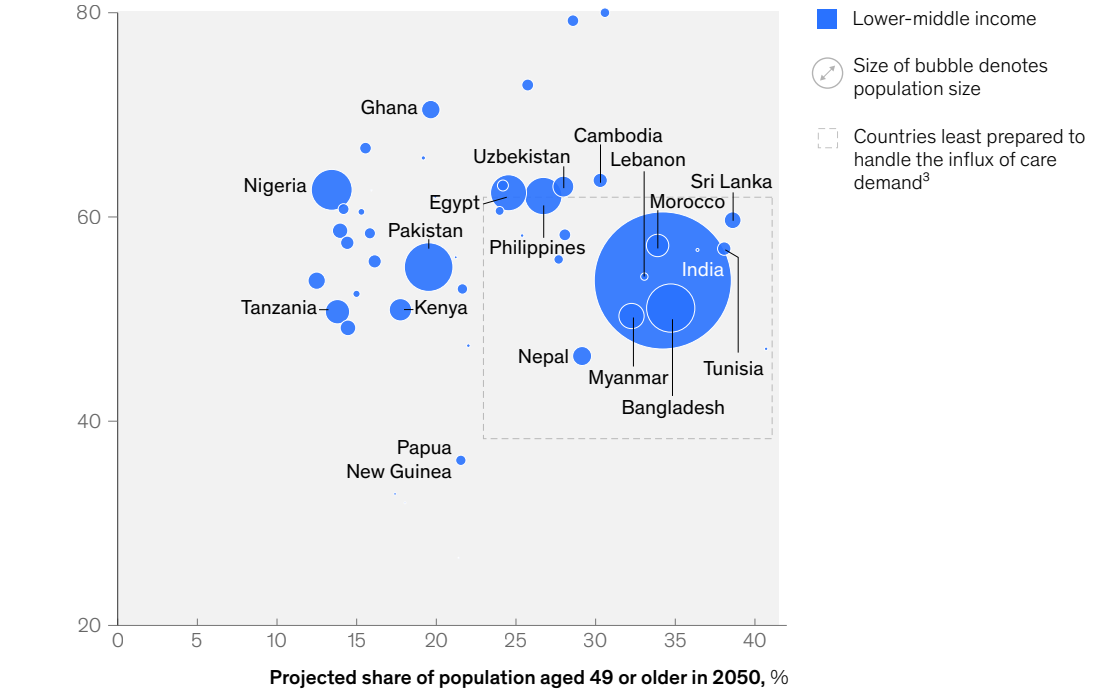
Many healthcare ecosystems in LMICs continue to be ill-equipped to handle the growing burden of NCDs across expanding populations of older people.

As LMIC populations age and the NCD burden grows, LMICs with low UHC coverage scores for NCDs but high expected growth of individuals aged 49 and older—including Bangladesh, Lebanon, Morocco, Nepal, Sri Lanka, and Tunisia—will be least prepared to handle the increase in demand for care (Exhibit 6). Despite this growing risk, few countries across Africa, Latin America, and Southeast Asia have codified national NCD policies, strategies, or action plans.[15]

Exhibit 6

LMIC health systems may be more strained as they prepare to care for an expanding aging population.

Health system strength and burden of aging



Note: LMICs are low- and middle-income countries.
[1]Noncommunicable diseases.
[2]Serves as a proxy for health system strength.
[3]Includes Bangladesh, Lebanon, Morocco, Nepal, Sri Lanka, and Tunisia.

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[15] "NCD country capacity: Policies, strategies and plans," WHO, April 1, 2025.

2 The care gap for NCDs

Donors and private capital have not focused sufficiently on addressing the NCD burden in developing countries. Annual development aid for health allocated to NCDs remained relatively stable over the past decade, while funding for communicable diseases increased, particularly after the COVID-19 pandemic.[16] In 2023, estimates suggest that only about 1 to 2 percent of development aid for health went toward NCDs.[17] Given recent shifts in the global public health landscape in 2025, NCDs are likely to face even greater funding constraints going forward.

Lack of external support means that NCD care is largely financed by governments or out-of-pocket patient expenses for private sector services,[18] creating a burning platform for LMICs to invest in relevant care infrastructure and capabilities for their future. Given expected restrictions on development aid for health globally in 2025 and beyond, LMICs must begin to identify key gaps in NCD care that would benefit from targeted investment independent of external funding.

As LMICs plan for the next five to ten years, four challenges are driving the care gap for NCDs. Public, private, and social sector actors must address these challenges to prevent widening disparities between LMICs and HICs.

Screening and diagnosis

Bridging the NCD care gap begins with an accurate assessment of the population's burden of disease and associated care needs. Given the limited availability of screening programs and diagnostic equipment, LMICs tend to have lower disease detection rates than HICs, with consequently fewer individuals being identified for treatment. Individuals who do receive treatment often begin seeking care in the later stages of disease progression, which necessitates more-complex and costly therapeutic interventions.[19]

For example, although the vast majority of CVD-related fatalities occur in LMICs, diagnostic testing for CVD risk factors is notably underused: 56 to 69 percent of adults with major risk factors for diseases such as hypertension, diabetes, and hypercholesterolemia remain undiagnosed.[20] Similarly, 87.5 percent of undiagnosed diabetes cases globally are estimated to be in LMICs, where more than 50.0 percent of diabetes cases remain undiagnosed, compared with about 30.0 percent in high-income countries.[21]

A previous McKinsey study estimated that fewer than half of patients living with hypertension across Africa and Asia are aware of their condition—and only about 30 percent of those who are aware are receiving treatment. Moreover, the number of undiagnosed diabetes cases in Southeast Asia and Africa is exceptionally high (accounting for up to 51.3 percent and 53.6 percent of cases, respectively[22]). In sub-Saharan Africa, an estimated 62.5 percent of diabetes cases are undiagnosed, primarily because of limited access to healthcare facilities, inadequately trained healthcare specialists, and insufficient screening efforts.[23]

Egypt. Despite a high incidence of diabetes, routine examinations for diabetes-related complications (such as eye and foot checks) are reportedly rarely performed in Egypt, and there is no nationwide policy for annual diabetes screenings.[24]

[16] "DAH flows," Institute for Health Metrics and Evaluation, May 2024.
[17] "DAH flows," Institute for Health Metrics and Evaluation, May 2024; "Financing NCDs," the NCD Alliance, accessed July 2, 2025.
[18] Mayank Anand, "Non-communicable diseases: Tailoring our approach to innovative finance," MedAccess, September 14, 2023.
[19] *Global expenditure on health: Public spending on the rise?*, WHO, 2021.
[20] Sophie Ochmann, "Diagnostic testing for hypertension, diabetes, and hypercholesterolaemia in low-income and middle-income countries: A cross-sectional study of data for 994 185 individuals from 57 nationally representative surveys," *Lancet Global Health*, September 2023, Volume 11, Number 9.
[21] "Chapter 3: Global picture" in *IDF Diabetes Atlas*, International Diabetes Federation, 2021.
[22] "Chapter 3: Global picture" in *IDF Diabetes Atlas*, International Diabetes Federation, 2021.
[23] Sonak D. Pastakia, "Diabetes in sub-Saharan Africa – from policy to practice to progress: Targeting the existing gaps for future care for diabetes," *Diabetes, Metabolic Syndrome and Obesity*, June 22, 2017, Volume 2017, Number 10.
[24] Mohamed R. Abouzid et al., "An overview of diabetes mellitus in Egypt and the significance of integrating preventive cardiology in diabetes management," *Cureus*, July 20, 2022, Volume 14, Number 7.

India. In India, fewer than 50 percent of individuals diagnosed with hypertension or diabetes receive treatment, and only about 20 percent have their blood pressure or blood glucose levels adequately managed. Workforce and equipment constraints (on blood pressure monitors, for example) often mean that hypertension screenings are reserved for the highest-risk groups rather than applied broadly across the population.[25]

Limited capacity for care delivery

Care delivery capacity in LMICs is significantly constrained across all levels of care because of limited foundational facilities, insufficient equipment and services, workforce shortages, and inadequate infrastructure.

Facilities, equipment, and services

Capacity and quality of care across healthcare facilities tend to be uneven and insufficient to meet demand across LMICs.[26] High population density and increased demand often create strain on urban healthcare facilities, leading to longer wait times and potential declines in care quality. On the flip side, rural populations face significant barriers, such as long travel distances, fewer clinicians and hospitals, and limited specialized care. Recent studies consistently link geographic accessibility of health services (the length of time required to travel to a site of care) to patient outcomes across a wide array of countries.[27]

Vietnam. Hospitals in major cities such as Hanoi and Ho Chi Minh City are outdated and overcrowded, operating at double their capacity with much of their medical equipment obsolete. Despite recent budget increases for the health sector, funding remains insufficient to meet growing demands for facility and service upgrades.[28]

Bangladesh and Ghana. In Bangladesh, dialysis units are primarily hospital-based and concentrated in the capital, with limited numbers of freestanding centers.[29] This inadequate dialysis infrastructure poses a significant barrier to accessing care for patients with end-stage kidney disease in many regions. In Ghana, half of regions have no dialysis facilities, and the country has no chronic peritoneal dialysis centers.[30]

Furthermore, more than 50 percent of medical equipment in developing nations is estimated to be nonoperational, hampering effective healthcare delivery.[31] This is further complicated by the fact that donations account for up to 80 percent of medical equipment in LMICs, and 40 to 70 percent of imported medical equipment is unusable due to insufficient training, inadequate infrastructure, and a lack of spare parts and support for repairs.[32] To illustrate, the average number of computed tomography (CT) scanners per million residents varies significantly by country income level, standing at 38.8 in HICs, 12.1 in upper-middle-income countries, 4.3 in LMICs, and only 0.7 in LICs.[33] Additionally, the use of continuous glucose monitoring (CGM) systems is reported to be significantly restricted in LMICs because of limited market access, high costs, and

[25] Ankur Kalra et al., "The burgeoning cardiovascular disease epidemic in Indians – perspectives on contextual factors and potential solutions," *Lancet Regional Health Southeast Asia*, May 2023, Number 12, Number 100156; Tabea K. Kirschbaum et al., "Targeting hypertension screening in low- and middle-income countries: A cross-sectional analysis of 1.2 million adults in 56 countries," *Journal of the American Heart Association*, July 2, 2021, Volume 10, Number 13.

[26] Todd P. Lewis et al., "Health service quality in 2929 facilities in six low-income and middle-income countries: A positive deviance analysis," *Lancet Global Health*, June 2023, Volume 11, Number 6.

[27] D. J. Weiss et al., "Global maps of travel time to healthcare facilities," *Nature Medicine*, 2020, Volume 26; E. P. Mseke, B. Jessup, and T. Barnett, "Impact of distance and/or travel time on healthcare service access in rural and remote areas: A scoping review," *Journal of Transport & Health*, July 2024, Volume 37.

[28] "Vietnam Country Commercial Guide," International Trade Administration, January 30, 2024.

[29] Shubharthi Kar and Foyjul Islam, "Global dialysis perspective: Bangladesh," *Kidney360*, October 2023, Volume 4, Number 10.

[30] Milipaak Japiong et al., "Factors affecting access to dialysis for patients with end-stage kidney disease in sub-Saharan Africa: A scoping review," *NursingOpen*, October 2023, Volume 10, Number 10.

[31] *Investing in Health*, "Tackling health care supply chain challenges through innovations in measurement," blog entry by Kathryn Andrews, Ruchika Bhatia, and Jigyasa Sharma, World Bank Group, November 17, 2022.

[32] *Investing in Health*, "Tackling health care supply chain challenges through innovations in measurement," blog entry by Kathryn Andrews, Ruchika Bhatia, and Jigyasa Sharma, World Bank Group, November 17, 2022; Aditya Vasan and James Friend, "Medical devices for low- and middle-income countries: A review and directions for development," *Journal of Medical Devices*, March 2020, Volume 14, Number 1; McKinsey analysis of MedAccess.

[33] Bander S. Hilabi, Sami A. Alghamdi, and Mansour Almanaa, "Impact of magnetic resonance imaging on healthcare in low- and middle-income countries," *Cureus*, April 17, 2023, Volume 15, Number 4.

low awareness. For example, recent analyses suggest that fewer than 10 percent of people with type 1 diabetes across Kenya and South Africa use a CGM.[34] In contrast, US CGM use among those with type 1 diabetes grew from 20 percent to 49 percent between 2010 and 2019.[35]

In addition, a large proportion of patients in LMICs lack access to diagnostic lab services because of capacity constraints, limited availability of sample collection points, and frequent stockouts of reagents and consumables. When the private sector supplies lab services for a region, diagnostic testing prices are often out of reach for patients. Furthermore, limited quality assurance mechanisms result in many test results being inaccurate or inconclusive.

Workforce

In 2020, HICs reported 4.8 times the total number of certified physicians per 10,000 people compared with LMICs, a trend perpetuated by the migration of skilled health workers from LMICs to wealthier nations.[36] HICs, which have about 120 nurses per 10,000 patients, often recruit nurses from LMICs, which have only five nurses per 10,000 patients, exacerbating inequities.[37] Surgeons are also highly concentrated in HICs, with approximately 7.15 surgeons per million people in HICs compared with just 0.04 in low-income nations.[38]

The workforce gap between LMICs and HICs is perhaps most evident in specialty care. For example, the United Kingdom and Germany have 29 and 45 cardiologists per million people, respectively, while the average number of cardiologists per million across Africa is just two.[39] This is true for endocrinology as well—the endocrinologist-to-population ratio is 4.84 per 100,000 people in Europe and 0.89 per 100,000 in the Americas. In stark contrast, in sub-Saharan Africa, the ratio of endocrinologists per 100,000 people is only 0.03.[40] Furthermore, in LMICs, specialist physicians are often available only at large urban and regional hospitals or through the private sector, leaving most suburban and rural populations without access to adequate care.[41] This scarcity especially limits the availability of care for patients with complex cases and contributes to a lack of oversight and training—for example, through continuing medical education (CME) programs—for frontline healthcare workers. Innovative approaches, such as artificial intelligence and digital health technologies, are expected to be part of the solution given their potential to expand the scope of practice for existing healthcare practitioners and bring expertise-driven care directly to underserved communities.

Infrastructure

Poor public infrastructure, such as an unreliable power supply and inadequate transportation networks, further hampers the delivery of healthcare services, especially in rural and remote areas across LMICs. For example, according to WHO and UNICEF, 22 percent of healthcare facilities globally lacked basic water service in 2022, while 8 percent lacked any sanitation services.[42] In fragile contexts, many of which exist in LMICs, these figures rise to 37 percent and 19 percent respectively.[43]

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[34] "Request for proposals from the manufacturers of continuous glucose monitoring devices not commercialized in Kenya and South Africa, for product evaluation and market introduction," FIND, February 3, 2023.

[35] Mary E. Lacy et al., "Patterns and trends in continuous glucose monitoring utilization among commercially insured individuals with type 1 diabetes: 2010–2013 to 2016–2019," *Clinical Diabetes*, 2024, Volume 42, Number 3.

[36] "Medical doctors (per 10 000 population)," WHO, April 30, 2025; Farouk Dako, "Growing health worker migration to the U.S. and U.K. raises fairness and training issues," Penn Leonard Davis Institute of Health Economics, May 1, 2024.

[37] Émilie Bortolussi-Courval, Natalie Stake-Doucet, and Birgit Umaigba, "Incentivizing an exodus: The implications of recruiting nurses from low-middle income countries to high-income countries," *PLOS Global Public Health*, September 2023, Volume 3, Number 9.

[38] Dominique Vervoort et al., "6 billion people have no access to safe, timely, and affordable cardia surgical care," *JACC: Advance*s, August 2022, Volume 1, Number 3.

[39] "Cardiologists (total) (per million people)," European Society of Cardiology, updated 2023.

[40] Osei Sarfo-Kantanka, "Spectrum of endocrine disorders in central Ghana," *International Journal of Endocrinology*, February 23, 2017.

[41] Jaymie A. Henry et al., "International consensus recommendations for the optimal prioritisation and distribution of surgical services in low-income and middle-income countries: A modified Delphi process," *BMJ Open*, January 2023, Volume 13, Number 1; Veena Sriram and Sara Bennett, "Strengthening medical specialisation policy in low-income and middle-income countries," *BMJ Global Health*, February 10, 2020, Volume 5, Number 2.

[42] *Water, sanitation, hygiene, environmental cleaning and waste management in health care facilities: 2023 data update and special focus on primary health care*, WHO and UNICEF, October 2024.

[43] "States of Fragility," OECD, updated 2025.

Care delivery capacity in LMICs is significantly constrained across all levels of care because of limited foundational facilities, insufficient equipment and services, workforce shortages, and inadequate infrastructure.

Kenya. Although 75 percent of Kenyans have access to electricity, 26 percent of the country's medical facilities lack a power connection, and only 15 percent of grid-connected facilities receive uninterrupted electricity. Moreover, the 74 percent of medical facilities that do have a power connection are not fully digitalized. Among other challenges, an unreliable power supply and lack of digital adoption force many healthcare systems to rely on manual health information systems, complicating targeted care.[44] Consequently, these systems struggle to manage multiple diseases simultaneously and lack integration, hampering effective healthcare delivery.

Malawi. Residents of rural Malawi face significant healthcare access challenges because of long distances to health facilities and inadequate transportation infrastructure—only 50 percent of Malawians live within five kilometers of a health center. In many areas, rough terrain and inadequate roads restrict transportation to bicycles, bicycle ambulances, motorcycles, and occasionally ox carts and trucks.[45]

Restricted access to innovative therapeutics

Access to newer classes of therapies for NCDs is significantly hindered by market access barriers in LMICs.[46] Even where those barriers are resolved, prohibitive costs can prompt both patients and physicians to rely too much on outdated therapies and treatment pathways, which can lead to higher rates of side effects, lower treatment efficacy, and suboptimal health outcomes overall (see sidebar "Diabetes prevalence and treatments in low- and middle-income countries").

While global public health actors have historically placed great emphasis on making drugs and vaccines for infectious diseases available and accessible to patients in LMICs, NCD therapies have received less attention (see sidebar "Treatment for cardiovascular disease in low- and middle-income countries").

Limited involvement from the life sciences industry to support the introduction and scaling of new medical products

Global and local pharmaceutical companies have expressed limited interest in proactively bringing new products to market in LMICs because of low financial potential, regulatory inefficiencies, lack of healthcare infrastructure, and a perceived lack of local pharmaceutical partners, including local manufacturers.

[44] Mwangi Gakunga, "Kenya lauded for achieving 75% electricity access rate," COMESA, June 9, 2021; "Case study: Supporting efficient use of energy for better rural health outcomes," Powering Renewable Energy Opportunities, November 24, 2020.
[45] Carlos Varela et al., "Transportation barriers to access health care for surgical conditions in Malawi: A cross sectional nationwide household survey," *BMC Public Health*, 2019, Volume 19, Number 264.
[46] Aderaw Yenet, Getinet Nibret, and Bantayehu Addis Tegegne, "Challenges to the availability and affordability of essential medicines in African countries: A scoping review," *ClinicoEconomics and Outcomes Research*, June 13, 2023, Volume 15.

Diabetes prevalence and treatments in low- and middle-income countries

Type 2 diabetes accounts for more than 90 percent of diabetes diagnoses globally.[1] Well-established medications such as metformin and sulfonylureas continue to dominate treatment for patients with type 2. But in low- and middle-income countries (LMICs), uptake has been slow across newer classes of oral medications, such as GLP-1 agonists (for example, semaglutide and tirzepatide), DPP-4 inhibitors (for example, sitagliptin and vildagliptin), and SGLT2 inhibitors (for example, empagliflozin and dapagliflozin). These classes of drugs are recommended as first-line treatment for patients with common comorbidities—GLP-1s and DPP-4s for patients with cardiovascular disease risk or obesity, and SGLT2s for those with congestive heart failure or kidney diseases—but are seldom used in LMIC contexts.[2]

Despite the availability of generic options,[3] the primary obstacle to adopting DPP-4 and SGLT2 inhibitors is their cost, which often restricts their use to the private sector, given the limited incentive to include these drug classes in national formularies. Across Africa and South Asia, patients typically pay out of pocket for these second-line oral medications, with annual treatment costs ranging from $150 to $1,500, according to McKinsey analysis—well above the price point for first-line oral medications. GLP-1 agonists, while rapidly gaining popularity across high-income countries, remain largely inaccessible in LMICs due to stringent cold-chain requirements and similarly high price points.[4]

Awareness and adoption among physicians also remain low, despite the demonstrated benefits of drug classes such as SGLT2 inhibitors, which have significant cardiovascular benefits and have been found to reduce the risk of cardiovascular mortality in diabetic patients by up to 38 percent.[5]

Cambodia. Fewer than 1 percent of eligible patients are estimated to have received SGLT2 inhibitors or DPP-4 inhibitors.[6]

Tanzania. Several SGLT2 and DPP-4 inhibitors are available but only through private sector healthcare systems.[7]

Egypt. Some pilots for innovative diabetes drugs (DPP-4 inhibitors, for example) have been implemented in the public sector. Health systems in Egypt are highly consolidated in the public sector (about 60 percent of diabetes cases are treated in public hospitals), creating an opportunity to scale these treatments.[8]

India. The DPP-4 inhibitor teneligliptin is widely used in India because it was introduced early and is now offered as a generic product. GLP-1 agonists are prescribed only at certain specialist centers because of cost considerations.[9]

Pakistan. SGLT2s and DPP-4s have been somewhat accepted in the private sector, with public channels slowly starting to include DPP-4s as well thanks to strong national price regulations.[10] GLP-1 agonists are available but very expensive, and fewer than 5 percent of eligible patients receive them.[11]

1 "Chapter 1: What is diabetes?" in *IDF Diabetes Atlas*, International Diabetes Federation, 2021.
2 Michael Razavi et al., "DPP-4 inhibitors and GLP-1RAs: cardiovascular safety and benefits," *Military Medical Research*, 2022, Volume 9, Number 45; S. Brunton, "GLP-1 receptor agonists vs. DPP-4 inhibitors for type 2 diabetes: Is one approach more successful or preferable than the other?," *International Journal of Clinical Practice*, February 6, 2014, Volume 68, Number 5; "SGLT2 inhibitors," National Kidney Foundation, updated December 9, 2024.
3 The DPP4 and SGLT2 classes are now mainly generic. There are generic GLP-1s, but they are not as effective as the branded options. See Meg Tirrell, "There's still no generic Ozempic, but a lower-priced daily injected GLP-1 is coming," CNN, December 23, 2024.
4 *Exploring the expansion of the Medicines Patent Pool's mandate to patented essential medicines: A feasibility study of the public health needs and potential impact*, Medicines Patent Pool, April 2020.
5 Soghra Rabizadeh, Manouchehr Nakhjavani, and Alireza Esteghamati, "Cardiovascular and renal benefits of SGLT2 inhibitors: A narrative review," *International Journal of Endocrinology and Metabolism*, 2019, Volume 17, Number 2.
6 *Exploring the expansion of the Medicines Patent Pool's mandate to patented essential medicines: A feasibility study of the public health needs and potential impact*, Medicines Patent Pool, April 2020.
7 *Exploring the expansion of the Medicines Patent Pool's mandate to patented essential medicines: A feasibility study of the public health needs and potential impact*, Medicines Patent Pool, April 2020.
8 McKinsey analysis.
9 *Exploring the expansion of the Medicines Patent Pool's mandate to patented essential medicines: A feasibility study of the public health needs and potential impact*, Medicines Patent Pool, April 2020.
10 McKinsey analysis.
11 *Exploring the expansion of the Medicines Patent Pool's mandate to patented essential medicines: A feasibility study of the public health needs and potential impact*, Medicines Patent Pool, April 2020.

Low financial potential

The substantial price reductions that would be needed to achieve cost-effectiveness for therapies in an LMIC setting are often not attractive to innovative global biopharma players. For example, only about 20 percent of sales of monoclonal antibodies—a newer biologic modality used frequently across oncology and immunology—

Treatment for cardiovascular disease in low- and middle-income countries

Hypertension continues to be the leading risk factor for stroke, ischemic heart disease, and other high-risk cardiovascular conditions globally.[1] A 2019 study analyzing national data from 44 low- and middle-income countries (LMICs) revealed that only 30 percent of LMIC residents with hypertension receive medication, and just 10 percent of LMIC residents with hypertension keep their blood pressure below the hypertension threshold.[2] The majority of hypertension patients in LMICs receive a single form of treatment (monotherapy)—typically including calcium channel blockers (CCBs), angiotensin-converting enzyme (ACE) inhibitors, diuretics, and angiotensin II receptor blockers (ARBs) as first-line treatments—despite evidence suggesting that many patients require additional second-line treatments to sustain optimal blood pressure.[3]

However, acceptance and uptake of both fixed-dose combinations (FDCs) and polypills remain low across LMICs. While the WHO has begun including FDCs in its model Essential Medicines List (EML) in recent years, FDCs are still not registered in many LMIC markets and have yet to gain broad acceptance by the international medical community.

India. A study of cardiologists' prescription rates for antihypertensive medication showed that beta blockers were prescribed at the highest rate (32 percent), followed by ARBs (25 percent) and CCBs (24 percent).[4]

Nepal. Fifty-six percent of patients with hypertension used CCBs, 24 percent used ARBs, and 10 percent used a combination of CCBs and ARBs.[5]

Although ACE inhibitors and statins are recognized as common treatments for hyperlipidemia, approximately half of the national EMLs in Africa do not feature any medications from these two categories.[6] Cholesterol-regulating medications that address high-risk populations—such as PCSK9 inhibitors—remain broadly inaccessible across LMICs.

Pakistan. A monthly supply of PCSK9 inhibitors costs $1,700, while statins range between $5.00 and $7.50 per month. Fewer than 1 percent of physicians prescribe PCSK9 inhibitors because of their high cost.[7]

India. Evolocumab, a PCSK9 inhibitor, is registered but similarly prohibitively expensive at 18,000 Indian rupees (US $200) per injection, administered biweekly.[8]

1 Bin Zhou et al., "Global epidemiology, health burden and effective interventions for elevated blood pressure and hypertension," *Nature Reviews Cardiology*, November 2021, Volume 18, Number 11.
2 Pascal Geldsetzer et al., "The state of hypertension care in 44 low-income and middle-income countries: A cross-sectional study of nationally representative individual-level data from 1.1 million adults," *Lancet*, August 2019, Volume 394, Number 10199.
3 Aram V. Chobanian et al., "Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure," *Hypertension*, December 2003, Volume 42, Number 6; Giuseppe Mancia et al., "2013 ESH/ESC Guidelines for the management of arterial hypertension: The task force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC)," *Journal of Hypertension*, July 2013, Volume 31, Number 7; Brian Hutchinson et al., "Comparing scale up of status quo hypertension care against dual combination therapy as separate pills or single pill combinations: An economic evaluation in 24 low- and middle-income countries," *eClinicalMedicine*, August 2024, Volume 75; Clara K. Chow et al., "Prevalence, awareness, treatment, and control of hypertension in rural and urban communities in high-, middle-, and low-income countries," *JAMA*, September 2013, Volume 310, Number 9.
4 Krunal Vishavadia et al., "A prescription trend analysis of antihypertensive pharmacotherapy across different specialties in India," *Journal of Hypertension*, May 2024, Volume 42.
5 Dinesh Neupane et al., "Antihypertensive drug therapy in Nepal: Findings from May measurement months 2019," *Journal of Hypertension*, April 2021, Volume 39.
6 Muhammad Jami Husain et al., "Access to cardiovascular disease and hypertension medicines in developing countries: An analysis of essential medicine lists, price, availability, and affordability," *National Library of Medicine*, April 2020, Volume 9, Number 9.
7 Muddassir Syed Saleem et al., "Optimizing PCSK9 inhibitor integration for cardiovascular disease management in Pakistan," *National Library of Medicine*, June 2024, Volume 18.
8 Kavita Bajeli-Datt, "Two jabs annually to control your cholesterol," *New Indian Express*, January 23, 2024.

occur outside of Canada, Europe, or the United States. Only 1 percent of sales take place in Africa even though the continent encompasses 17 percent of the global population.[47]

Regulatory inefficiencies

Pharmaceutical companies also cite regulatory inefficiencies as a key barrier to market entry in LMICs. Only an estimated 26 percent of WHO member countries have functioning national regulatory systems, and only seven LMIC systems have attained the WHO's minimum target maturity level.[48] In addition, technical and capacity

47 Sébastien Morin et al., "Expanding access to biotherapeutics in low-income and middle-income countries through public health non-exclusive voluntary intellectual property licensing: considerations, requirements, and opportunities," *Lancet*, January 2023, Volume 11, Number 1.
48 Sanjana Mukherjee and Leah Goodman, "Strengthening regulatory systems globally: a crucial step towards pandemic preparedness and response," *BMJ Global Health*, August 2023, Volume 8, Number 8.

constraints in LMICs often result in delayed processing times, which have historically ranged from four to seven years beyond processing times in HICs.[49] For example, a 2020 survey of national regulatory authorities for medical products (NMRAs) in 16 member states of the Southern African Development Community revealed inconsistent regulatory frameworks for medical products and an uneven scope of products regulated across the region. Only ten of the 16 surveyed NMRAs included essential medicines in their scopes.[50]

Moreover, insufficient regulatory review due to capacity constraints or an under-skilled regulatory workforce can lead to the proliferation of substandard and counterfeit products, which account for an estimated one in ten medicines in LMICs.[51] Such counterfeit products are particularly harmful to the market for generic alternatives (which are more cost-effective for low-income populations) and can ultimately inhibit trust in non-branded items and discourage generic investment.

Lack of healthcare infrastructure

Limited healthcare infrastructure presents yet another barrier to market entry for pharmaceutical players. Certain sophisticated therapies require tailored diagnostic infrastructure for patients to qualify (such as pathology and radiology services) as well as strict handling requirements, including reconstitution and intravenous infusion, which capacity-constrained LMIC healthcare systems may be unable to provide. Administering new therapies and managing adverse reactions also require specific training and expertise, which may be hindered by workforce shortages in LMICs.[52]

This lack of training and expertise is compounded by the fact that few international or local pharmaceutical manufacturers are known to have dedicated commercial or medical field teams aligned to LMICs—particularly in Asia and Africa—to help communicate the risks and benefits of new treatments. In contrast, the Latin American biopharma industry has a long history of engaging physicians on branded generic drugs for NCDs to improve appropriate use, which could serve as a positive example for other regions.[53]

Limited local manufacturing

In general, local manufacturers are more likely to invest in the activities required to introduce and scale new therapies into clinical practice because of their relative proximity to the local medical community. For example, they can more easily support the integration of new treatment options into available CME programs. Local manufacturing remains limited in some LMIC contexts, however, particularly in Africa, where 70 percent of pharmaceutical products are imported.[54] Past McKinsey research has addressed the barriers and boosters to local manufacturing.[55]

[49] Vincent Ahonkhai et al., "Speeding access to vaccines and medicines in low- and middle-income countries: A case for change and a framework for optimized product market authorization," *PLOS One*, November 2016, Volume 11, Number 11.

[50] "A rapid assessment of the National Regulatory Systems for medical products in the Southern African Development Community," *Journal of Pharmaceutical Policy and Practice*, October 2020, Volume 13, Number 64.

[51] Vincent Ahonkhai et al., "Speeding access to vaccines and medicines in low- and middle-income countries: A case for change and a framework for optimized product market authorization," *PLOS One*, November 2016, Volume 11, Number 11.

[52] *Package of essential non-communicable diseases interventions for humanitarian settings*, International Rescue Committee and USAID, August 4, 2025.

[53] Elize M. Fonseca and Ken Shadlen, "Health: Regulating and promoting generic drugs and Latin America," *Berkley Review of Latin American Studies*, Fall 2020.

[54] Marie-Paule Kieny, "The private sector and pharmaceutical industry in Africa," Proparco, January 18, 2018.

[55] Andrea Gennari, Tania Holt, Emma Jordi, and Leah Kaplow, "Africa needs vaccines. What would it take to make them here?," McKinsey, April 14, 2021; "Acting now to strengthen Africa's health systems," McKinsey, May 29, 2020.

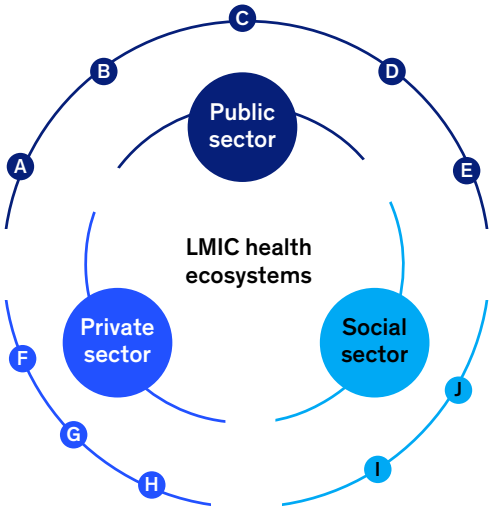
3 Addressing the burden of NCDs in LMICs

In the next five to ten years, LMICs will need to proactively invest in capability building to address the burden of NCDs in their aging populations. Public, private, and social sector stakeholders will all play different roles in preparing health ecosystems to meet rising care needs. With development aid for healthcare projected to remain constrained for the foreseeable future, much of the responsibility for driving progress will rest on the shoulders of countries themselves. Therefore, it is urgent for LMICs to mobilize domestic resources, foster innovative partnerships, and implement sustainable strategies to strengthen their health systems from within (Exhibit 7).

Exhibit 7

Three areas offer the most potential to increase capabilities in addressing noncommunicable diseases across LMICs.

Key stakeholders in low- and middle-income country (LMIC) health ecosystems



Potential solution areas

Scale care delivery capacity while enabling better access to services supplied by other health ecosystem stakeholders

- (A) Extending national health insurance coverage to other provider types
- (B) Improving care coordination across the ecosystem
- (C) Engaging patients directly to promote care seeking
- (D) Providing direct financial support
- (E) Addressing social determinants of health at a community level

Engage or develop local and regional private sector organizations

- (F) Actively involving LMICs in biopharmaceutical R&D
- (G) Investing in the accessibility and uptake of newer therapeutics
- (H) Supporting the development and implementation of health interventions

Continue to leverage philanthropy dollars and expertise to bridge residual market failure

- (I) Aligning incentives across sectors
- (J) Catalyzing new capital through innovative financing

Source: Institute for Health Metrics and Evaluation Global Health Data Exchange Global Burden of Disease database, accessed November 2024

McKinsey & Company

Scale public care delivery capacity while enabling better access to services supplied by other health ecosystem stakeholders

The chronic nature of NCDs requires reliable baseline prevention, detection, and treatment capabilities that are accessible to a country's whole population. To this end, strengthening primary healthcare (PHC) systems will be an essential first step in improving care capacity for NCDs at the national level. Today, the accessibility and quality of PHC remain relatively weak in LMICs because of insufficient funding.[56] For example, estimated per

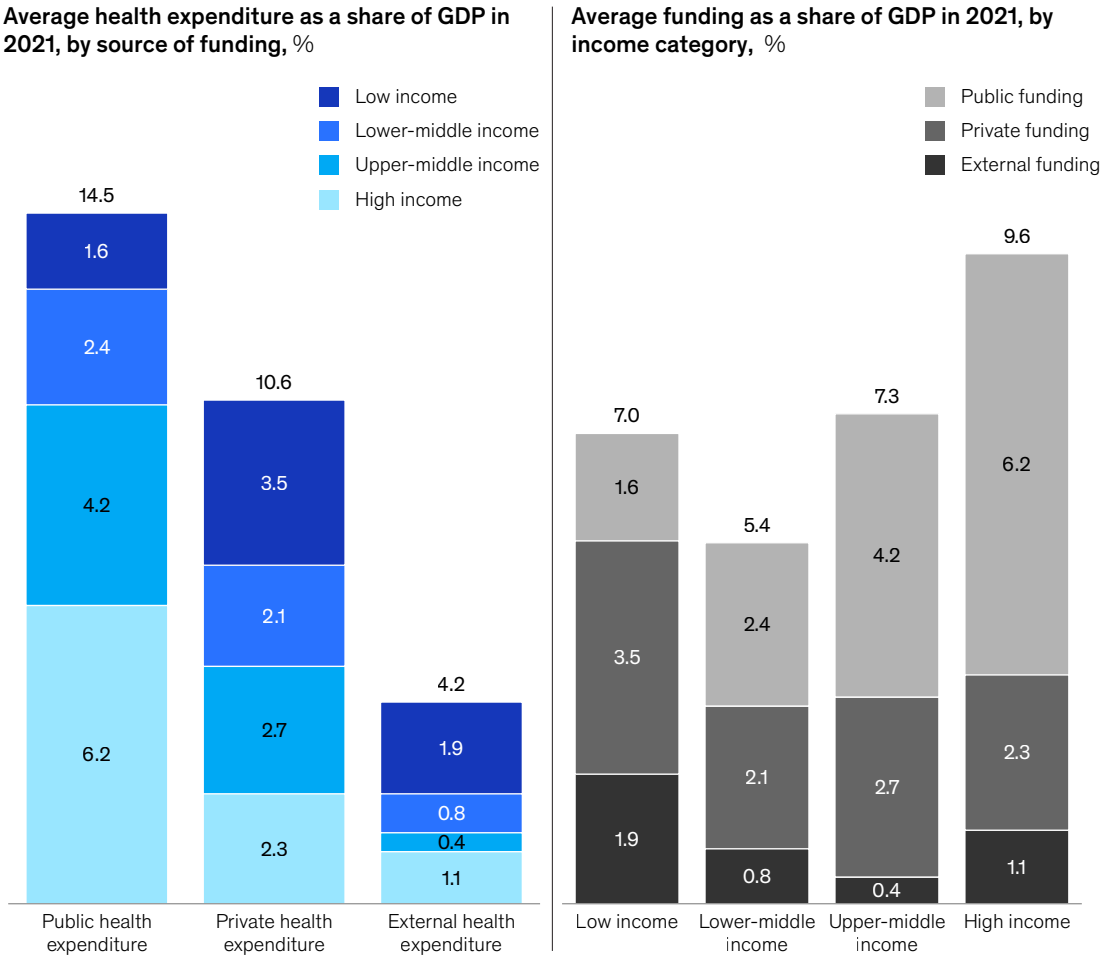
[56] K.M. Saif-Ur-Rahman et al., "Participatory approaches in primary health care related implementation research in low-and middle-income countries: A narrative review," *Public Health in Practice*, December 2022, Volume 4.

capita PHC spending in LMICs ranged between $15 and $60 in 2024; however, analyses suggest that about $97 of per capita PHC spending would be required to cover care for just 80 percent of the population.[57]

Today, the private sector provides about 40 to 60 percent of health services in LMICs because of capacity constraints in national health systems (Exhibit 8).[58] The *Lancet* Commission on Investing in Health reported that the amount individuals spend on their own healthcare—via both out-of-pocket patient expenses and through voluntary private health insurance—is expected to increase significantly over the coming years.[59] This trend is projected to coincide with a continued scaling back of foreign aid for health in LMICs, positioning the private sector to play an increasingly prominent role in addressing healthcare needs.

Exhibit 8

Compared with HICs, health services in LICs and LMICs are largely privately funded.



Note: LICs are low-income countries, LMICs are low- and middle-income countries, and HICs are high-income countries. Figures may not sum, because of rounding.
Source: "Population estimates and projections," World Bank Group, accessed November 2024

McKinsey & Company

[57] J. C. Alegre et al., "Strengthening primary health care in low- and middle-income countries: furthering structural changes in the post-pandemic era," *Frontiers in Public Health*, February 2024, Volume 11.
[58] "Engaging the private sector for universal health coverage and health security," WHO, April 2023.
[59] Dean T. Jamison et al., "Global health 2050: The path to halving premature death by mid-century," *Lancet*, October 2024, Volume 404.

Consequently, public sector investment in NCD care should both aim to enhance the care capacity of national health systems and support mechanisms that promote access to and uptake of services furnished by private sector care delivery organizations.[60] Such an approach will necessitate collaborative, cross-sector partnerships to create more-integrated and efficient healthcare delivery networks.

Extend national health insurance coverage to other care delivery types

The public sector in LMICs has an opportunity to expand healthcare coverage for populations through nationalized health insurance plans to support care access across care delivery settings. Multiple successful examples show how public funding can also enable better access to private sector health services, providing access to private sector innovation and capabilities while maintaining affordability and accessibility through government regulation and subsidies (with appropriate guardrails).

Thailand. Thailand's Universal Coverage Scheme provides citizens with comprehensive health coverage, including services from private healthcare systems. Funded by general taxation, the scheme ensures that even those with limited financial resources can access essential health services.[61]

Rwanda. Under Rwanda's community-based health insurance program, citizens can obtain health insurance for $2 per year. The actual cost of care per citizen—which ranges from $14 to $20—is funded equally by the government and international donors. Care is delivered through a network of local health clinics, district hospitals, and referral hospitals, accessible only via network referrals.[62]

Ghana. Ghana's National Health Insurance Scheme (NHIS) enables citizens to access both public and private facilities for healthcare services; 33 percent of facilities participating in NHIS are private.[63] Funded through a combination of taxes and premiums, NHIS has significantly increased access to healthcare services for more than half of the population by reducing out-of-pocket costs. But there is still room to address persistent barriers to enrollment coverage (through renewal fees and indirect costs such as transportation, for example), particularly for more disadvantaged segments of the population.[64]

India. The Ayushman Bharat universal health coverage program has fostered partnerships between government and private healthcare organizations, creating a unified framework for delivering comprehensive health services and ensuring continuity of care for patients.[65]

Improve care coordination across the ecosystem

Given the heterogeneous landscape of public and private sector–funded health services in most LMICs, it is essential to develop consistent infrastructure and care coordination frameworks to govern the delivery of health services for NCDs across all facets of a healthcare ecosystem. Building this infrastructure requires the establishment of interoperable health information systems that enable data sharing and communication between different care organizations across public and private facilities. For example, if a Ministry of Health adopts a specific electronic medical record (EMR) system nationwide, private hospitals would ideally adopt compatible systems. Additionally, fostering strong partnerships among governmental bodies, private healthcare organizations, and community organizations can facilitate the alignment of policies and practices, ensuring that patients receive integrated care regardless of where they seek it. Effective training on integrated-care pathways

[60] "Private providers" refers not only to for-profit entities but also to nonprofit and faith-based health providers.
[61] Kanitsorn Sumriddetchkajorn et al., "Universal health coverage and primary care, Thailand," *Bulletin of the World Health Organization*, April 2019, Volume 97, Number 6.
[62] "Kigali, Rwanda," Yale School of Medicine, accessed July 2, 2025.
[63] Lauren Suchman et al., "Seeking care in the context of social health insurance in Kenya and Ghana," *BMC Public Health*, May 2020, Volume 20.
[64] Adu Owusu Sarkodie, "Effect of the National Health Insurance Scheme on healthcare utilization and out-of-pocket payment: Evidence from GLSS 7," *Humanities and Social Sciences Communications*, November 2021, Volume 8.
[65] "About Pradhan Mantri Jan Arogya Yojana (PM-JAY)," National Health Authority, accessed July 2, 2025.

is also crucial to enhance healthcare workers' ability to navigate and coordinate within a multifaceted healthcare environment.

Kenya. The Ministry of Health has implemented the Kenya Health Information System (KHIS), which integrates data from both public and private health facilities to improve coordination across the health sector. Kenya has also adopted Health Level Seven and Fast Healthcare Interoperability Resources data standards to align with global best practices.[66]

Estonia. Estonia's e-health system integrates EMRs across the entire healthcare sector. Approximately 98 percent of primary care physicians, all hospital physicians, and all pharmacists use this system. It centralizes patient data, making it accessible to all authorized healthcare delivery organizations, thereby streamlining administrative processes and improving patient care.[67]

Engage patients directly to promote awareness and a willingness to seek and pay for care

Health literacy, coupled with behavioral and cultural factors, can strongly influence health outcomes for NCDs. In resource-limited LMICs, low awareness of risk factors and inconsistent guidance from different facets of the healthcare ecosystem can lead to poor patient outcomes. Communicating disease information and health-promoting habits well before patients present with risk factors should therefore be a key investment priority for LMICs. Now and in the future, patients in LMICs will face choices on whether to spend money on diagnosis and treatment. In that context, it is vital for patients to understand the health risks from untreated diabetes or hypertension, for example. Manageable expenditures in the short term could yield long-term benefits in terms of patients' ability to work and their quality of life.

Tools such as educational campaigns, digital health tools, mobile phones and apps, web-based technologies, and social media could increase public health literacy and promote active patient engagement in care. By providing individuals with knowledge and tools to understand their health conditions and treatment options, LMICs can enable better-informed decisions and strengthen patient agency in accessing health services. Local community involvement can also help ensure that messaging aligns with language, cultural, and religious norms.

Bangladesh. BRAC, a prominent nongovernmental organization (NGO), runs extensive health education campaigns targeting NCDs, especially for hypertension and diabetes. The organization uses community health promoters to deliver information directly to households, with a focus on risk factors such as smoking, unhealthy diets, and physical inactivity.[68]

Philippines. The eHealth Philippines (ehealth.ph) initiative includes mobile apps and SMS-based programs that provide health information and reminders for managing chronic conditions. These digital tools help improve health literacy and patient engagement.[69]

Provide direct financial support at the individual level

Incentives for private spending through direct financial support (such as direct monetary transfers or vouchers) can reduce the burden of out-of-pocket health expenses and provide a safety net for individuals willing to engage with private healthcare organizations. By fostering an environment in which individuals feel capable

[66] Antony G. Musabi and Andrew Kiprop Kipkebut, "Healthcare services interoperability in Kenya: Challenges and opportunities," *E-Health Telecommunication Systems and Networks*, March 2024, Volume 13, Number 1.
[67] "Estonia's e-health records: Smart, secure, and patient-centric," e-Estonia, accessed July 2, 2025.
[68] Ariful Haque et al., "Integrating a community-based approach to non-communicable diseases care: a pilot programme in Bangladesh," *Lancet Global Health*, March 2022, Volume 10.
[69] See the eHealth Philippines website; Bettina D. Evio and Sheila R Bonito, "Formative evaluation of the implementation of eHealth in the Philippines: A qualitative study," *Acta Medica Philippina*, Jule 2024, Volume 58, Number 12.

and motivated to invest in their own health, LMICs can expect a significant increase in private spending that complements public sector efforts. For instance, USAID historically pioneered the use of direct monetary transfers to individuals to enhance food security. Impact evaluations conducted by multiple organizations demonstrated that these direct monetary transfers consistently drove positive outcomes.[70] Similar mechanisms could be adapted for health services.

Kenya. Kenya was an early leader among African countries in providing cash transfers to households in extreme poverty. Currently, Kenya's National Social Safety Net Programme provides direct cash support to 1.6 million vulnerable households across the country. Cash transfers are unconditional, enabling recipients to use the funds for any purpose they choose.[71]

Pakistan. The Ehsaas Nashonuma is a conditional cash transfer program in Pakistan targeting pregnant women, breastfeeding mothers, and children up to 23 months old. Beneficiaries receive quarterly stipends: 1,500 Pakistani rupees (about $5) for mothers and boys, and 2,000 Pakistani rupees (about $7) for mothers and girls. These transfers are contingent on beneficiaries eating nutritious food, getting immunizations and health checkups, and participating in health awareness sessions. The program uses a fully digital system to enroll and track eligible beneficiaries.[72]

Bangladesh. The Bangladesh Maternal Health Voucher Scheme provides vouchers to pregnant women to encourage the use of maternal health services, such as prenatal, delivery, and postnatal care. The program significantly increased the use of these services from qualified care organizations. Compared with women in similar subdistricts, women in intervention areas were more than 46 percentage points more likely to use a qualified provider for maternal care and more than 13 percentage points more likely to deliver their babies in a hospital or other institution.[73]

Address social determinants of health at a community level

Public investment in preventive care and community-based initiatives can help reduce the NCD burden by promoting lifestyle changes. The WHO has outlined an array of interventions under its "NCD Best Buys" guidance, but the impact of such activities will require consistent implementation at the national and local level.[74]

China. In China, the Shandong–Ministry of Health Action on Salt and Hypertension (SMASH) program reduced the population's sodium intake by almost 24.8 percent in five years through community-based interventions, including mass media campaigns, distribution of salt-measuring spoons, promotion of low-sodium products, and educational outreach, leading to a measurable decline in systolic blood pressure across the province.[75]

Colombia. In Bogotá, the installation of a cable car to encourage use of public rather than private motorized transportation yielded an 11.1 percentage-point increase in commuters opting for public transportation and thereby a walk to the nearest transit stop, as well as an increase in moderate to vigorous exercise in renovated parks that were near the cable car's route.[76]

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70 "Research on cash transfers," GiveDirectly, updated December 22, 2020.
71 Malak Shaher, "Education amid hardship: How cash transfer programmes help families invest in their future," UNICEF, October 7, 2024.
72 "Ehsaas Nashonuma," EHSAAS 2047, accessed July 2, 2025.
73 Ha T. H. Nguyen et al., "Encouraging maternal health service utilization: An evaluation of the Bangladesh voucher program," *Social Science & Medicine*, April 2012, Volume 74, Volume 7.
74 "NCD 'best buys' and other effective interventions," World Health Organization, 2018.
75 Xiaofu Du et al., "Effect of salt reduction interventions in lowering blood pressure and salt intake in Zhejiang Province, China, 2017–2021: A randomized controlled trial," *Nutrients*, March 2025, Volume 17, Number 5.
76 Laura Baldovino-Chiquillo et al., "Effects of an urban cable car intervention on physical activity: The TrUST natural experiment in Bogotá, Colombia," *Lancet Global Health,* 2023, Volume 11.

Incentives for private spending through direct financial support . . . can reduce the burden of out-of-pocket health expenses and provide a safety net for individuals willing to engage with private healthcare organizations.

Engage or develop local and regional life sciences companies

Activating the life sciences industry in LMICs can help bring critical NCD treatments to local populations and support further R&D for solutions that are better tailored to local contexts.

Actively engaging with biopharmaceutical R&D

Working with the biopharma industry will be essential to increase the availability and accessibility of health technologies for NCDs that respond to local needs in LMICs. Countries should engage local biopharma actors at every step along the value chain—from setting the agenda for R&D to align with local priorities, to preclinical research, to the clinical development, manufacturing, and promotion of priority products.

For example, GSK invested £25 million in 2014 to establish its Africa Open Lab, which focuses on R&D for NCDs in Africa. The lab has aimed to facilitate collaborations between GSK scientists and African research centers to conduct high-quality epidemiological, genetic, and interventional research to enhance understanding of NCDs in Africa.[77] The initiative has supported projects across 11 countries and has informed revisions to multiple national and regional medical guidelines, including the African Severe Asthma Program in Uganda, the African Prospective Study on the Early Detection and Identification of Cardiovascular Disease and Hypertension in South Africa, and the CREOLE study in Nigeria investigating combination treatments for blood pressure.[78]

Clinical trials in LMICs can also help advance health equity by providing access to cutting-edge treatments and fostering trust in—and ownership of—new therapies. To date, South Asian countries have been represented in only 5 percent of worldwide randomized control trials, while sub-Saharan African countries have been involved in only 2 percent.[79] Today, some LMICs have provisions for faster access to domestically tested drugs to ensure that local populations benefit directly from the innovations to which they contribute.

Brazil. Brazil's National Health Surveillance Agency has stringent guidelines ensuring that participants of clinical trials and the broader population benefit from the research conducted in the country. Specifically, if a clinical trial is conducted in Brazil, the resulting product must be made available to the Brazilian population. This ensures that the benefits of participating in clinical trials extend beyond the research phase to treatment accessibility.[80]

[77] "GSK announces new strategic investments in Africa to increase access to medicines, build capacity and deliver sustainable growth," GSK, March 31, 2014.

[78] Juliet Addo et al., "The Africa non-communicable diseases (NCD) Open Lab: Impact of a portfolio of clinical studies to deepen the understanding of NCDs in sub-Saharan Africa," *Journal of Global Health*, May 2024, Volume 14.

[79] Jay J. H. Park et al., "Urgently seeking efficiency and sustainability of clinical trials in global health," *Clinical Trials in Global Health*, May 2021, Volume 9, Number 5.

[80] Daniel Wei L Wang and Octavio Luiz Motta Ferraz, "Pharmaceutical companies vs. the State: who is responsible for post-trial provision of drugs in Brazil?," *Journal of Law, Medicine & Ethics*, 2012, Volume 40, Number 2; Daniel Wei Liang Wang, "Post-trial access in the intersection between research ethics and resource allocation," *Journal of Medical Ethics*, March 23, 2025.

South Africa. The South African Health Products Regulatory Authority mandates that participants in clinical trials have post-trial access to investigational drugs that have proved effective. This policy is part of South Africa's broader commitment to ensuring that the local population benefits from local clinical trials, particularly in the context of life-saving treatments and medications.[81]

Invest in the accessibility and uptake of newer therapeutics

Local biopharma companies can also meaningfully affect public health by actively registering new products and promoting them to both public and private care delivery organizations. While global biopharma companies have little incentive to engage in the cumbersome process of registering and promoting new products in small LMIC markets, local players are likely to have both the drive and resources to encourage the use of new therapies by local clinics.[82]

Ethiopia. When a local biopharma company brought azithromycin to market, the government added it to the list of products available to public health facilities for the first time (which it had not done when the antibiotic was manufactured by non-local players).[83]

Engaging the biopharma industry to create sustainable ecosystems for local drug manufacturing and establishing regional supply chains will also be critical for strengthening local economies. These steps are especially critical considering that multilateral and bilateral organizations have historically played a central role in procuring drugs, vaccines, and diagnostics on behalf of LMICs. As this support diminishes, strengthening local capacity will be paramount to ensuring uninterrupted access to life-saving health commodities. By fostering local production capabilities, biopharma companies can support the development of robust, self-sufficient healthcare systems that are independent of international aid and less vulnerable to global supply chain disruptions. Effective tech transfer practices will be required to unlock sustainable domestic supplies of health technologies in this context.

India. Global multinational corporations have partnered with top local companies for the biosimilar market. For instance, an Indian company launched a biosimilar version of adalimumab under the brand name Exemptia at one-fifth the cost of the original.[84]

Brazil. The Brazilian government partnered with Novartis to transfer technology for the production of a rituximab biosimilar, allowing Brazil to manufacture the drug domestically through a production-partnership model in which Novartis shares its manufacturing expertise in exchange for market access and potential price reductions.[85]

Support the development and implementation of health interventions

The biopharma industry can also partner with local health organizations and authorities to advance the development of contextually appropriate NCD interventions, providing both the investment and the technical expertise needed for implementation.

Ghana. The Novartis Foundation partnered with the Lower Manya Krobo municipality in Ghana to develop a community-based hypertension management project (ComHIP). This initiative has implemented blood pressure

[81] "Select a country: United States" and "Select a country: South Africa," ClinRegs, accessed July 2, 2025.
[82] Michael Conway, Tania Holt, Adam Sabow, and Irene Yuan Sun, "Should sub-Saharan Africa make its own drugs?," McKinsey, January 10, 2019.
[83] Michael Conway, Tania Holt, Adam Sabow, and Irene Yuan Sun, "Should sub-Saharan Africa make its own drugs?," McKinsey, January 10, 2019; *Ethiopian essential medicines list, Ethiopian Food and Drug Authority and Ministry of Health*, October 2024.
[84] "India's Cadila launches first cheaper copy of world's top-selling drug," Reuters, December 9, 2014.
[85] Morton Aaron Scheinberg et al., "Partnership for productive development of biosimilar products: perspectives of access to biological products in the Brazilian market," *Einstein (Sao Paulo)*, September 2018, Volume 16, Number 3.

screenings for numerous residents, resulting in an increase in control rates from 36 to 72 percent over a 12-month follow-up period.[86]

Mongolia. The CARDIO4Cities approach, codesigned by the Novartis Foundation and local authorities, improved hypertension management across medical facilities by accelerating detection, standardizing care, providing continual medical education, and creating clinical-decision support systems for health workers. Improving hypertension management and the availability of antihypertensive medications resulted in an increase of blood pressure control rates among hypertensive patients from 3.0 percent in first quarter 2018 to 17.7 percent in third quarter 2019, with the proportion of patients achieving blood pressure control rising from 3.1 to 19.7 percent over the same time period.[87]

Other private sector actors—such as medical societies, disease-focused NGOs, and patient advocacy groups—can further enhance the accessibility and quality of care for NCDs by ensuring the development and consistent application of up-to-date medical guidelines. By aligning objectives across stakeholders, these organizations can work to streamline care paradigms, standardize clinical practices, and disseminate best practices. They also play a crucial role in educating clinicians, supporting evidence-based treatment protocols, and fostering continual professional development.

Ghana. The Ghanaian Ministry of Health and the Ghana Health Service collaborated with Bayer to launch the Ghana Heart Initiative. This partnership has resulted in the creation of national guidelines for CVD risk assessment and management, the training of 650 healthcare professionals, and the establishment of a 24/7 support center for CVD management.[88]

South Africa. In partnership with the International Diabetes Federation and local health departments, the "Diabetes South Africa" initiative runs education campaigns and support groups, enhancing public awareness and clinician training for better diabetes management.[89]

The biopharma industry can also partner with local health organizations and authorities to advance the development of contextually appropriate NCD interventions, providing both the investment and the technical expertise needed for implementation.

[86] "Community-based Hypertension Improvement Project (ComHIP)," Novartis Foundation, accessed July 2, 2025.
[87] Johannes Boch et al., "Implementing a multisector public-private partnership to improve urban hypertension management in low-and middle-income countries," *BMC Public Health*, December 2022, Volume 22.
[88] "Moving non-communicable disease care forward," Bayer, updated June 8, 2022.
[89] "Diabetes South Africa," International Diabetes Federation, accessed July 2, 2025.

Continue to leverage philanthropic dollars and expertise to bridge residual market failures

Philanthropic organizations are well positioned to bridge the gap between public and private sector stakeholders while serving as advocates for LMICs' needs. In the current environment of constrained development aid, it will be important for social sector actors to think critically about the best ways to optimize resourcing for NCDs.

Offset market failures by aligning incentives across sectors

Philanthropic organizations can play a key role in designing and implementing mechanisms to harmonize incentives between public and private sector actors to advance care for NCDs. Philanthropic organizations may also have higher flexibility and risk tolerance for investment, positioning them to use innovative financing solutions (such as pooled procurement mechanisms or volume guarantees) across medical products for NCD care. Market-shaping interventions such as these can be effective solutions in situations where the unit cost of a medical product does not provide adequate incentive for a supplier to make it available in a given market despite unmet need from the patient perspective, which is especially relevant in LMICs.

The Clinton Health Access Initiative, for example, uses pooled procurement to negotiate better prices for first- and second-line HIV treatments, securing price reductions of up to 60 percent and 75 percent of original manufacturer prices, respectively.[90]

Catalyze new capital through innovative financing

Additionally, philanthropic organizations can attract investment through public–private partnerships and other market-driven approaches (such as conditional funding and catalytic funding in impact investing), effectively reducing the perceived risk and enhancing the potential returns of public health initiatives for private investors. Such collaborations combine the efficiency, innovation, and financial resources of the private sector with the regulatory support, public accountability, and long-term stability of the public sector.

The AMR Action Fund. This fund, a coalition of pharmaceutical companies, foundations, and development banks, makes equity investments in biotech companies that are developing new antimicrobial drugs—both small-molecule compounds and innovative modalities. The fund is expected to raise $1 billion for these causes.[91]

The Cameroon Cataract Bond. The Cameroon Cataract Bond project, a partnership among multiple private foundations and investors, provides the Magrabi ICO Cameroon Eye Institute with private investment (a pay-for-performance loan) to fund cataract surgeries in Cameroon. Investors are repaid based on the number of successful operations, incentivizing the efficient and effective delivery of medical services.[92]

Philanthropic organizations are also uniquely positioned to keep NCDs on the global public health agenda through their influence and public platforms. Given the challenging funding environment anticipated for many global public health philanthropies in 2025 and beyond, organizations will likely be conducting stringent investment portfolio reviews to prioritize only the highest-impact initiatives. In this context, it is imperative that NCD programs remain a central focus to prevent further exacerbation of health inequities. By prioritizing NCDs in their fundraising and advocacy efforts, philanthropies can ensure sustained attention and commitment from international stakeholders to address the burden of NCDs in LMICs.

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90 *Annual report 2021*, Clinton Health Access Initiative, November 2022.
91 "AMR Action Fund," IFPMA, accessed July 2, 2025.
92 "Cameroon Cataract Development Impact Loan offers innovative approach to prevent blindness," Conrad N. Hilton Foundation, October 5, 2017.

Looking ahead, the efforts of public, private, and social sector stakeholders must evolve to create a more integrated and sustainable health ecosystem that can effectively manage the rising burden of NCDs in LMICs. As illustrated, the growing prevalence of NCDs poses significant challenges to already strained health systems in these regions. Our evolving global public health landscape is increasingly placing the onus of healthcare investment on countries as external funding sources become more constrained. To implement the outlined solutions effectively, stakeholders must embrace forward-looking strategies that bridge current care gaps and build resilient health systems equipped to handle future health challenges.

In practice, decisions about which solutions to implement and when should be guided by a rigorous evaluation of each solution's ROI so that potentially limited funding and other resources are directed at interventions that offer the greatest potential for improving health outcomes and quality of life. In this process, it will be crucial to tailor interventions to the specific contexts of each country, considering local health system nuances, cultural factors, and sociopolitical conditions. Additionally, countries must ensure they have adequate political commitment, leadership backing, and a strong change management approach to effectively drive the successful execution and scaling of initiatives.

Mobilizing efforts to deliver on these suggested solutions will therefore require a strategic and coordinated approach across sectors. Investing in a collaborative, cross-sectoral ecosystem will be crucial for creating future-proof healthcare infrastructures in LMICs that are capable of supporting NCD care over the coming decades.

Michael Conway is a senior partner in McKinsey's Philadelphia office. **Defne Yorgancioglu** is a consultant in the Washington, DC, office.

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