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# Why Orphan Medicines Remain Out of Reach in Low- and Middle-income Countries – and What Can Be Done

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# Contents

## Executive Summary

Rare diseases collectively represent a significant global health challenge, with more than 7,000 conditions affecting an estimated 300 million people worldwide. These conditions are commonly defined using prevalence thresholds that vary across jurisdictions. In the European Union, for example, a disease is considered rare if it affects fewer than 5 in 10,000 people, and medicines developed to treat such conditions are designated as orphan medicines.

While rare diseases affect populations globally, their burden in low- and middle-income countries (LMICs) is substantial and likely underestimated. Factors such as larger population sizes, higher birth rates, and limited access to early diagnosis and preventive care contribute to a heightened disease burden, while accurate prevalence and incidence data remain scarce due to pervasive underdiagnosis and weak surveillance systems. Diagnosis is also reported to be up to four times faster when approved treatments are available, further amplifying inequities between settings.

Scientific advances have enabled the development of effective treatments for some rare diseases; however, access to orphan medicines remains highly unequal across income groups. Evidence shows markedly lower approval and availability in low-income countries than in middle- and high-income settings. These disparities are shaped by the relatively low political priority afforded to rare diseases in many contexts, contributing to limited awareness, weak regulatory frameworks, inadequate value assessment, constrained funding, and insufficient health system capacity for timely diagnosis, specialist care, and treatment delivery. In LMICs, these barriers can be compounded by weaker incentives across the full pipeline, from research through launch. Small, hard-to-identify patient populations, limited diagnostic infrastructure, and constrained ability to pay can reduce incentives to generate local evidence, conduct studies, and invest in registration and launch, further limiting availability. Sustained progress, therefore, requires solutions that both address access constraints and protect incentives for research and innovation, including diagnostics, clinical research, and the development of therapies for conditions that still lack treatment options.

In response to gaps, industry and non-governmental organisations (NGOs) have supported access initiatives in LMICs, including donation programmes. While valuable for individual patients, these efforts are limited in scale and are not sustainable as a primary route to access. Durable progress will require systematic, health-system embedded approaches that strengthen diagnostic pathways, regulatory routes, market entry, financing, and distribution of orphan medicines within national health systems.

Against this backdrop, this report develops a structured understanding of the barriers to accessing orphan medicines in LMICs and identifies solutions that can address them. It does so by setting out a framework to map barriers across the patient and product pathways, synthesising existing initiatives already being implemented in LMICs, and drawing out key insights and practical ways forward.

Recent political momentum offers a timely opportunity to accelerate action. In May 2025, the World Health Assembly endorsed the WHO Rare Disease Resolution, supported by 41 Member States, mandating the development of a 10-year Global Action Plan on Rare Diseases (2028 to 2038). This creates a critical window for coordinated, multi-stakeholder engagement, including governments, payers, regulators, NGOs, international organisations, industry, and patient groups, to translate commitment into sustainable, equitable access for people living with rare diseases in LMICs.

# Setting the Scene: Access to Rare Disease Treatments in LMICs

## The Unmet Need for Orphan Medicines in LMICs

Rare diseases collectively represent a significant global health challenge, with more than 7,000 conditions affecting an estimated 300 million people worldwide[1,2]. These conditions are commonly defined using prevalence thresholds that vary across jurisdictions[3]. For example, in the European Union, a disease is considered rare if it affects fewer than 5 in 10,000 people[4], and medicines developed to treat such conditions are designated as orphan medicines[5, 6]. For consistency, this paper refers to treatments for rare diseases as *orphan medicines* throughout.

While rare diseases affect populations globally, their burden in low- and middle-income countries (LMICs), as defined by the World Bank, is substantial and likely underestimated[7, 8]. Factors such as larger population sizes, higher birth rates, and limited access to early diagnosis and preventive care contribute to a heightened disease burden, while accurate prevalence and incidence data remain scarce due to pervasive underdiagnosis and weak surveillance systems[7, 8, 9,10,].

Scientific advances over recent decades have enabled the development of effective treatments for some rare diseases; however, access to these therapies remains highly unequal across income groups[11]. A systematic analysis of orphan medicine availability found that none of the twelve orphan medicines assessed were approved in low-income countries, versus 26% in middle-income and 64% in high-income countries[12] (Figure 1). These disparities are further shaped by the relatively low political priority afforded to rare diseases in many settings, which contributes to limited awareness, weak regulatory frameworks, inadequate value assessment, constrained funding, and insufficient health system capacity for timely diagnosis, care, and treatment[1,7]. This low prioritisation also compounds the diagnostic odyssey. Although diagnostic delays affect many patients, they are typically longer for people living with rare diseases and are further amplified in LMICs, where limited disease awareness, constrained specialist capacity, and restricted access to diagnostic testing and referral pathways prolong uncertainty and delay appropriate care[13]. Evidence suggests that in settings where approved treatments are available, diagnosis occurs up to four times faster[14], highlighting how gaps in therapeutic availability can further amplify inequities.

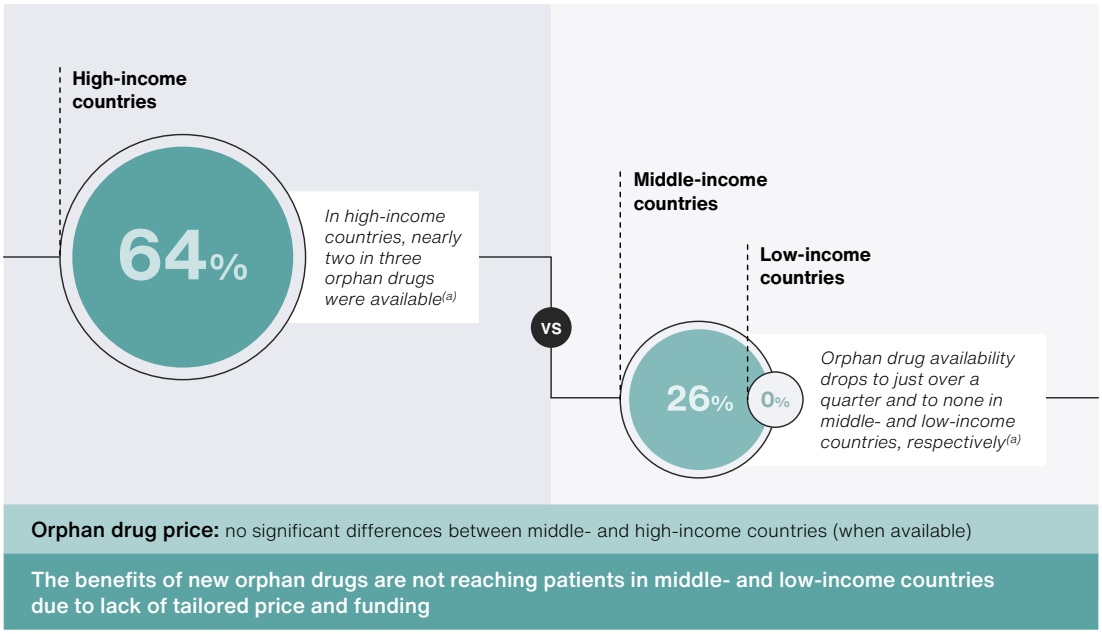
In this context, industry and non-governmental organizations (NGOs) have played a role in supporting access initiatives in LMICs[15], including through donation programmes, named-patient programmes and post-trial access programmes. While these efforts can be valuable for individual patients, they remain limited in scale and are insufficient to address the broader unmet needs of people living with rare diseases in the long term. In some countries, the majority of orphan medicines are currently accessed through such mechanisms, with medicines provided free of charge[16] – an approach that is neither sustainable nor scalable. Sustainable progress will require systematic, health-system embedded approaches to strengthen diagnosis, regulatory pathways, market entry, and distribution of orphan medicines within national health systems, in order to reduce preventable suffering and advance global health equity[11].

The cost of inaction is substantial. Delayed diagnosis, limited access to treatment, and weak delivery infrastructure lead to avoidable morbidity and complications, productivity losses, and significant psychosocial and financial strain on families, with sustained pressure on health and social systems. Conversely, investment in diagnosis, care access, and infrastructure can generate meaningful returns by improving outcomes, reducing avoidable healthcare utilisation, supporting patient and caregiver productivity, and strengthening system capabilities.

Recent political developments offer a timely opportunity to accelerate action. In May 2025, the World Health Assembly 78 (WHA) endorsed the WHO Rare Disease Resolution, supported by 41 Member States, placing rare diseases firmly on the global health agenda. The Resolution mandates the development of a comprehensive 10-year Global Action Plan on Rare Diseases (2028-2038),

creating a critical window for stakeholders to engage in shaping a clear, feasible, and impactful roadmap grounded in current health system realities[17].

**Figure 1. Orphan Medicine Availability, 2012-2022**




*(a) From a list of 12 FDA-approved orphan products between 2012 and 2022, available in >20 markets, including >2 LMIC markets (agalsidase beta, alglucosidase alfa, bosentan, eculizumab, eliglustat, idursulfase, imiglucerase, ivacaftor, nusinersen, onasemnogene abeparvovec, ravulizumab, risdiplam)[18]*

## About This Report

This report aims to develop a structured understanding of the barriers to accessing orphan medicines in LMICs and to identify solutions that can address them. It examines both the nature of these barriers and the conditions under which progress has been possible, including the roles of different stakeholders across health systems.

The analysis draws on a targeted literature review of published and grey literature, complemented by interviews with pharmaceutical companies and independent experts from multiple regions. This mixed-methods approach is intended to capture the diversity of LMIC contexts, recognising that access challenges and potential solutions vary widely across countries and health system settings.

Improving access to orphan medicines is critical from both an equity and patient impact perspective. Limited access is associated with delayed diagnosis, progression of disease, reduced quality of life, and significant economic and social burden for patients and families[19]. At the same time, increasing global attention to rare diseases, reflected in the WHO Rare Disease Resolution and broader commitments to Universal Health Coverage, creates a timely opportunity to translate policy momentum into practical action[17].

Within this context, the report aims to support evidence-informed dialogue by providing:

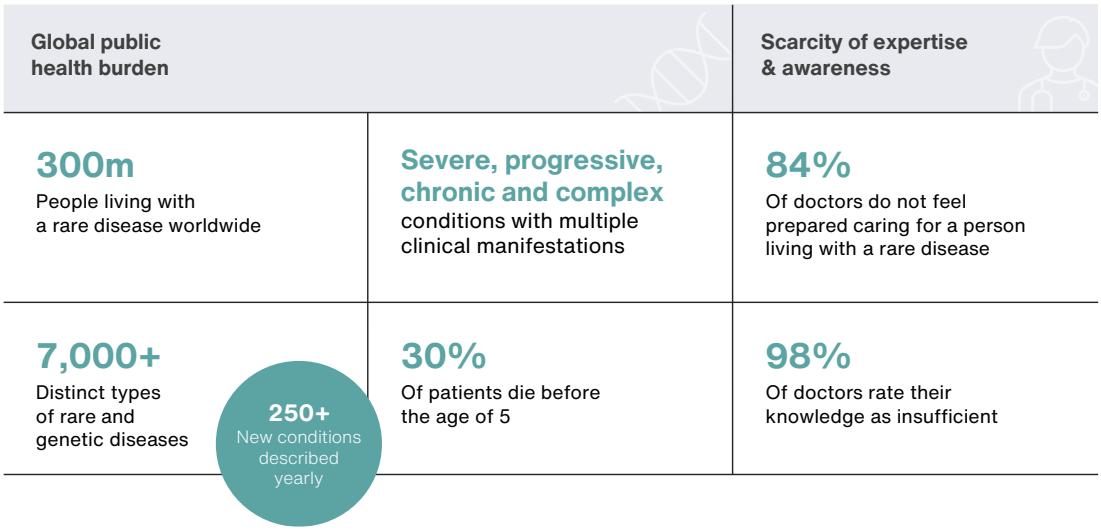
- a structured framework to understand access barriers along the patient and product pathways;
- an overview of existing solutions and initiatives implemented in LMICs; and
- a synthesis of key insights and potential ways forward, reflecting variation in country income level, health system capacity, and disease context.

# Beyond Affordability: Systemic Barriers to Access in LMICs

## The Rare Disease Ecosystem

While each of the 10,000 rare diseases are distinct, many share characteristics that pose common challenges for access to treatment. Rare diseases affect small patient populations and are frequently severely debilitating or life-threatening, chronic and progressive, with onset frequently in infancy or childhood; approximately 80% are of genetic origin[4]. As a result, many rare diseases require long-term or life-long treatment and coordinated specialist and multi-disciplinary care. However, clinical expertise is often scarce, awareness outside small specialist communities remains low, and diagnostic capacity is often inadequate[20,21,22]. At the same time, many emerging therapies rely on highly specialised manufacturing processes and complex supply chains, including cold-chain requirements, which can further constrain access[23,24]. These shared characteristics underscore the need for a rare disease-specific lens when considering access solutions (Figure 2).

**Figure 2. Rare Diseases in Numbers[1,25,26,27,28,29]**




Across LMICs, the nature and severity of barriers to accessing orphan medicines vary widely and are shaped by differences in income levels, regulatory maturity, financing mechanisms, and health system capacity – including availability of trained healthcare professionals, diagnostic infrastructure, and local specialist expertise[11]. Access is further shaped by regional variation in disease burden, which often differs significantly from patterns observed in high-income countries. Some rare diseases are disproportionately prevalent in LMICs, including sickle cell disease (SCD), with the majority of patients living in sub-Saharan Africa, India, and the Middle East[30], and thalassemia, which poses a major public health burden in South and Southeast Asia and the Mediterranean region[31]. In some settings, stigma and limited awareness – particularly for genetically inherited conditions – may further delay diagnosis and referral[32]. Together, these factors amplify access challenges at multiple points along the access continuum and reinforce the need for context-specific approaches.

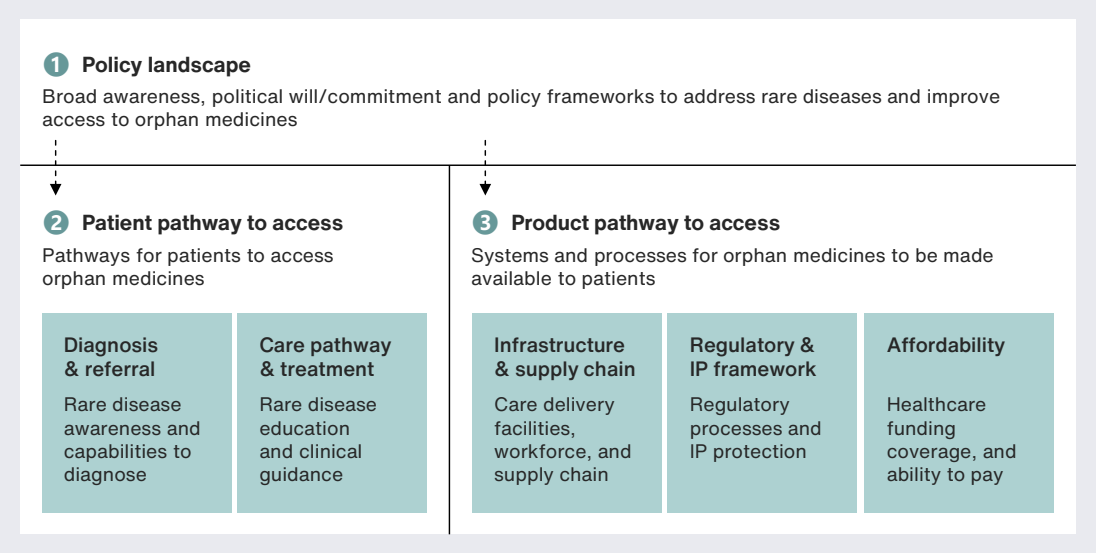
Achieving sustainable access, therefore, requires more than addressing affordability alone. Patients must be accurately diagnosed, supported by trained specialist healthcare professionals, and managed within care pathways that include appropriate diagnostic, referral, and monitoring infrastructure. This necessitates a holistic, ecosystem-based approach that considers challenges across the entire patient and product pathway, creating the conditions needed to ensure timely access to treatment while supporting long-term availability in a sustainable manner.

To support this analysis, this report introduces a framework to conceptualise the access ecosystem for orphan medicines in LMICs (Figure 3). The framework comprises three interconnected levels:

- **The policy landscape**, which defines the enabling environment for access**,** including political will and commitment, legal and regulatory frameworks and funding mechanisms**.**
- **The patient pathway,** which captures the odyssey from diagnosis and referral through to treatment and long-term management, reflecting the role of clinical capacity, care coordination, and health system organisation.
- **The product pathway,** which encompasses regulatory approval, intellectual property considerations, market entry, pricing and reimbursement decisions, procurement and the infrastructure and supply chains required to deliver treatments to patients.

Together, these three levels illustrate that sustainable access depends not on a single intervention, but on the alignment of policy, care delivery and product availability to enable equitable and durable access to treatment for people living with rare diseases.

**Figure 3. The Rare Disease Ecosystem**

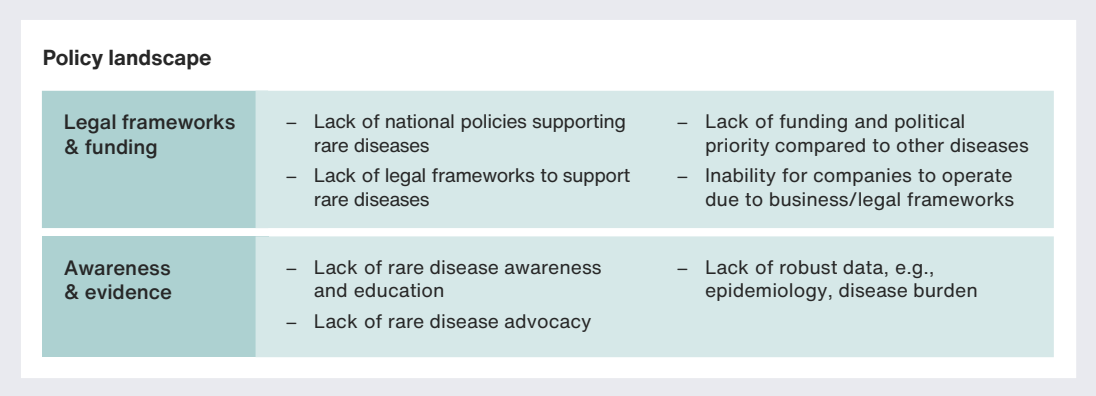



## Barriers Across the Rare Disease Ecosystem

Access to orphan medicines in LMICs is limited by multiple, interconnected barriers within the policy landscape, and along patient and product pathways. These barriers interact and reinforce one another, limiting health systems' ability to deliver timely, equitable, and sustainable access to orphan medicines.

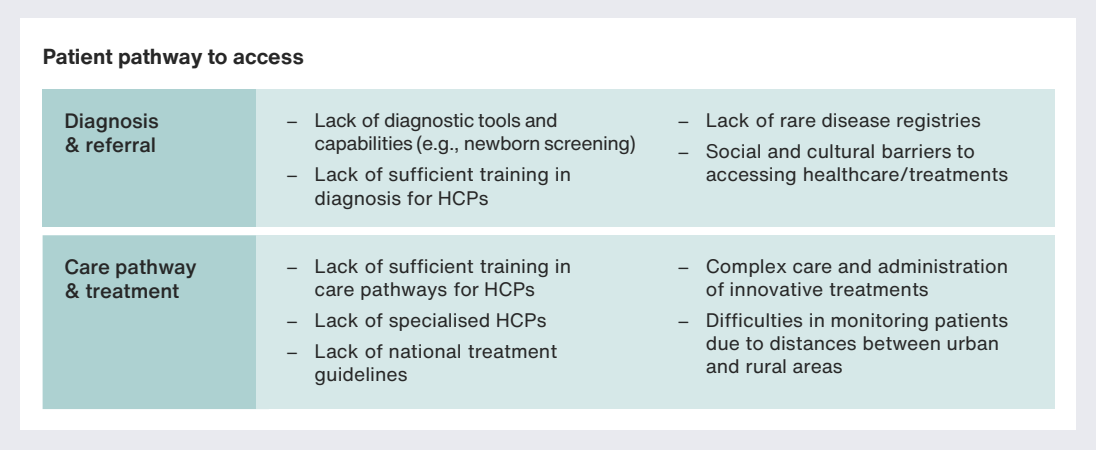
**Policy landscape barriers.** Rare diseases are often not systematically embedded within national public health priorities in LMICs[1], as they compete with other pressing priorities such as infectious diseases or highly prevalent non-communicable diseases (e.g., diabetes). Many countries lack dedicated rare disease policies or action plans, as well as legal and regulatory frameworks to support access to orphan drugs, including provisions for orphan designation and policies that support research and clinical development, alongside mechanisms to protect the rights of people living with rare diseases[1,33]. Limited awareness among policymakers, weak patient advocacy, and the absence of robust epidemiological data on disease prevalence and burden further constrain political prioritisation and public investment [1,11]. Rare diseases are also frequently excluded from Universal Health Coverage benefit packages, resulting in fragmented or ad hoc funding arrangements[34,35]. In some settings, unfavourable business and legal environments, including complex procurement processes, high taxes and tariffs, and weak intellectual property protection, reduce incentives for sustainable market entry by manufacturers[36,37,38,39].

**Figure 4. Policy Landscape Barriers**




**Patient pathway barriers.** Challenges arise from a lengthy diagnostic odyssey that spans screening, confirmatory testing, and referral into long-term care[1,40,41,42]. This pathway is often slow, even in well-resourced settings. For example, in Europe, the average total diagnostic time is 4.7 years; people living with rare diseases wait a median of 9 months for a confirmed diagnosis after symptom onset, and one in four wait more than 5 years[42]. The pathway is further complicated in LMICs. In this context, delayed or missed diagnoses are common due to limited availability of diagnostic tools, genomic capacity, insufficient training of healthcare professionals, the lack of national newborn screening programmes, and weak referral systems, including a lack of rare disease registries[1,43,44]. Social, cultural, and geographic factors further restrict access to diagnostic services, particularly for patients in rural or underserved areas[1]. Following diagnosis, access to appropriate care is constrained by shortages of specialised healthcare professionals, limited multidisciplinary care capacity, and the lack of national clinical guidelines for rare diseases[1]. Care pathways are often fragmented, with weak coordination across specialties and limited support for patients and caregivers, including during transitions from paediatric to adult care[1,45,46,47]. Ongoing monitoring and follow-up are further challenged by disparities in infrastructure and service availability between urban and rural settings[1].

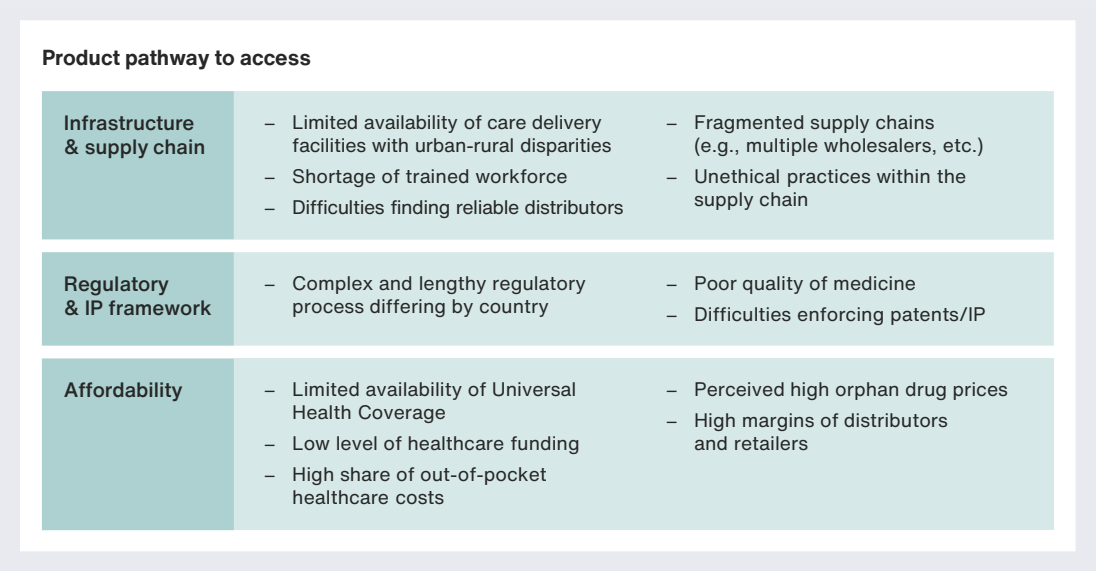
**Figure 5. Patient Pathway Barriers**




**Product pathway barriers.** The product pathway presents additional barriers related to infrastructure, regulation, and affordability. Many LMIC health systems lack the facilities, trained workforce, and reliable supply chains required to deliver complex and innovative orphan medicines, including cold-chain infrastructure and specialised administration and monitoring capabilities, with pronounced urban–rural disparities[1,48,49,50,51]. Supply chains are often fragmented, with limited forecasting and

demand planning, reliance on intermediaries, and high logistical costs for last-mile delivery[52,53,54,55]. Regulatory processes are frequently complex, lengthy, and variable across countries, contributing to delays in approval and market entry[11,56,57,58]. Limited regulatory capacity, lack of accelerated or tailored pathways for orphan drugs, and weak enforcement of quality and intellectual property standards may further discourage manufacturer engagement[11,59,60,61,62,63]. Affordability remains a critical constraint, driven by limited Universal Health Coverage, low public health spending, high out-of-pocket costs, and additional costs along fragmented supply chains, placing treatments out of reach for many patients even when available[11,64,65,66].

**Figure 6. Product Pathway Barriers**




Taken together, these challenges highlight that limited access to orphan medicines in LMICs does not stem from a single barrier, but from cumulative and reinforcing gaps in policy, and along the patient and product pathways. This complexity underscores the need for coordinated, ecosystem-based approaches that address interdependencies across the access continuum, rather than isolated constraints to achieve sustainable and equitable access.

## Solutions Across the Rare Disease Ecosystem

Building on the barriers described above, the following section outlines policy solutions and solutions along the patient and product pathways that can strengthen system readiness and enable more sustainable access to orphan medicines in LMICs.

### Policy Solutions

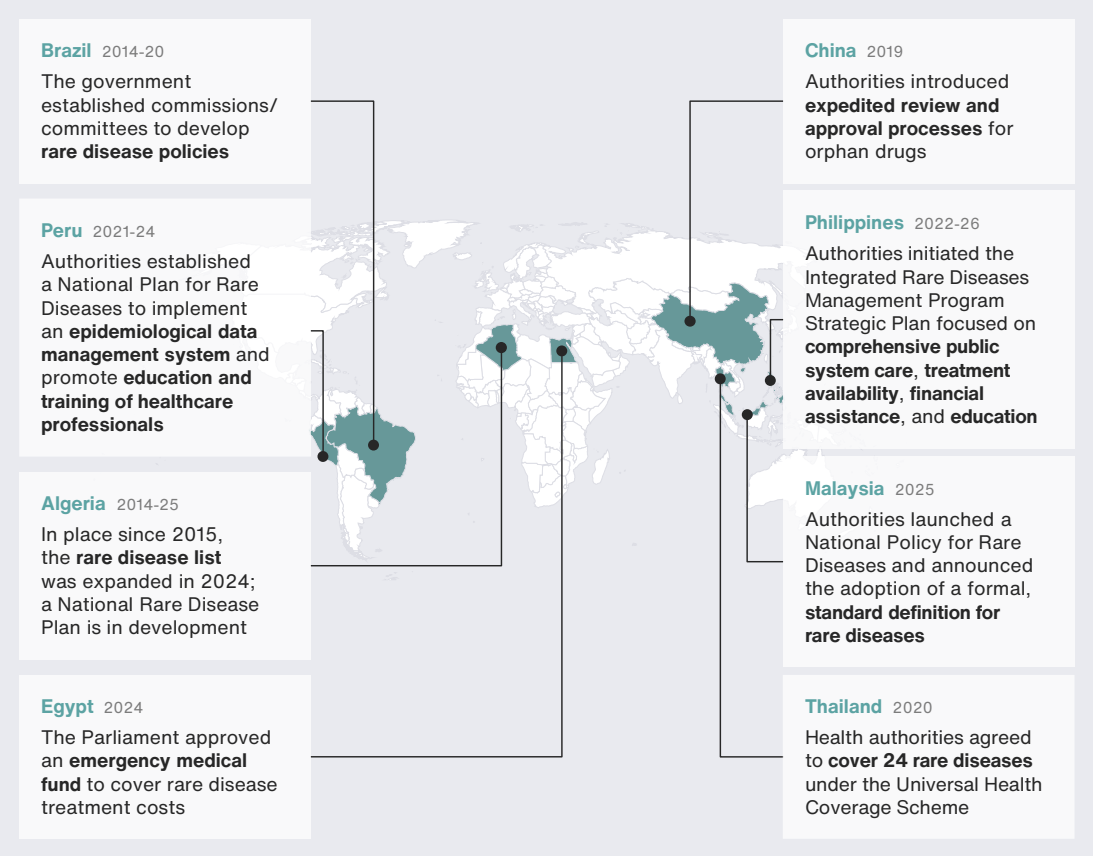
Political will and commitment shape public health priorities and, in turn, determine whether rare diseases are recognised and addressed within national health agendas. These priorities are translated into policies, which policymakers implement through laws, regulations, strategies, programmes, or operational processes. In this way, policy plays a central role in shaping the access ecosystem, providing the foundation for whether patients receive a timely diagnosis, can access specialist care, and ultimately obtain the treatments they need.

Sustained political commitment can enable the design and financing of health systems that respond to rare disease needs, including investment in diagnostic and care infrastructure, stronger coordination

across stakeholders, and action to address regulatory, financial, and systemic barriers[1]. Together, these elements help establish the conditions needed to support people living with a rare disease and to enable more equitable and sustainable access to care and treatment.

In practice, however, only a limited number of countries have adopted dedicated policies for rare diseases, signalling political commitment[11] (Figure 7). While such policies are recently emerging, their development alongside broader global initiatives suggests opportunities to promote more consistent and coordinated policy approaches across countries.

**Figure 7. Examples of Policies for Rare Diseases across LMICs[67,68,69,70,71,72,73]**




Policy operates at multiple levels across the access ecosystem, each with the potential to contribute to a more supportive policy environment for addressing rare diseases in LMICs. Policymakers and policy processes can be broadly grouped into three interconnected layers, at global, regional, and national levels, each influencing access in different but complementary ways.

**Global-level policymakers,** such as the World Health Organization (WHO), play an important role in shaping international priorities and coordinating action on rare diseases[1]. They help elevate the visibility of rare diseases on the global health agenda, support countries to strengthen health systems, and promote approaches that align with broader goals such as the Universal Health Coverage. World Health Assembly (WHA) resolutions and global action plans further support these efforts by setting shared principles, outlining strategic roadmaps, and providing guidance to inform national and regional action.

**Table 1. Examples of global policy initiatives**

| | |
|---|---|
| *WHA Rare Disease Resolution*[1] | In May 2025, the 78th World Health Assembly (WHA78) adopted a landmark, first-ever resolution on rare diseases (WHA78.11), establishing them as a global health priority for equity, inclusion, and improved care for over 300 million people. Key actions include integrating rare disease care into national health systems and developing a 10-year global action plan. |
| *WHO-RDI's Memorandum of Understanding*[74] | Supports a shared understanding of rare diseases and lays the foundation for a global network of experts and centres of expertise. |
| *RDI's Global Network*[75] | Promotes a networked care approach, enabling local healthcare providers to access national, regional, and global expertise through digital platforms. |
| *WHO Essential List of Medicines*[76] | Influences access by identifying priority medicines and highlighting where specialised diagnostics, infrastructure, and training are needed, which can support faster access in some countries. |
| *Eradicating malaria*[77] | Illustrates how global alignment around a clear long-term goal can mobilise sustained action across the WHO, governments, NGOs, and other partners. |

**Regional policymakers,** including bodies such as the African Union, the Association of Southeast Asian Nations (ASEAN), regional WHO offices, and the Union of South American Nations (UNASUR), provide an important platform for coordinated action across countries. At this level, regional cooperation can help align regulatory approaches, support convergence on access and reimbursement processes, and enable the sharing of knowledge, infrastructure, and resources[78,79]. Regional mechanisms may also enable solutions such as patient pooling, joint procurement, and shared access to specialised services, which are particularly relevant for rare diseases that require concentrated expertise[80].

**Table 2. Examples of Regional Policy Initiatives**

| | |
|---|---|
| *APEC Action Plan on Rare Disease*[81,82] | Encouraged member economies to implement actions by 2025, including defining rare diseases, raising public awareness, promoting research and development, strengthening healthcare capacity, and supporting early diagnosis and access to new treatments. The action plan has 30 targets across 10 pillars in Malaysia; these pillars were adapted into six strategic pillars within the 2025 National Policy for Rare Diseases. |
| *Cross-border care agreements*[83] | Allows patients to receive treatment in another country when specialised expertise, infrastructure, or experience is not available domestically, through regional or bilateral agreements. |

**National policymakers,** including governments and health authorities, play a central role in translating policy intent into practice. At this level, action includes prioritising rare diseases within national health strategies, establishing regulatory and access frameworks for orphan medicines, securing sustainable funding for healthcare infrastructure, workforce development, and treatment costs, and promoting awareness among healthcare professionals and the public. National policies are critical for converting global and regional commitments into concrete improvements in diagnosis, care, and access.

**Table 3. Examples of National Policy Initiatives across high-income countries and LMICs**

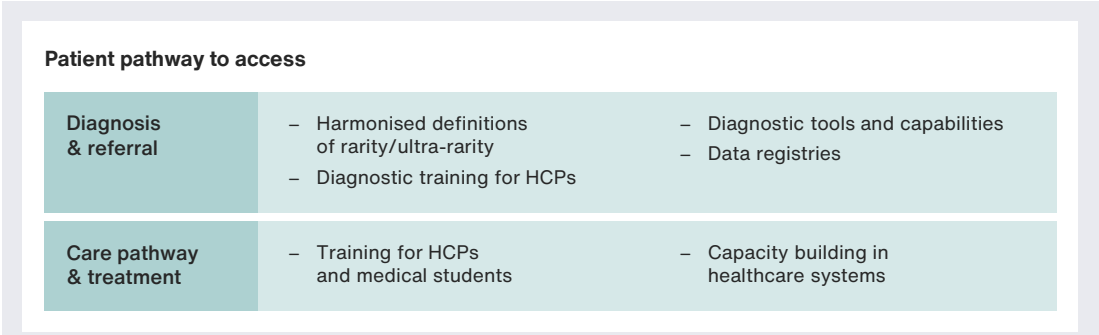
| | |
|---|---|
| *Prioritisation of rare diseases in South Korea*[84] | A set of initiatives, including the Rare Disease Management Act, Medical Expenses Support Project, and a national Rare Disease Helpline, that have strengthened the policy environment and supported access to approximately 100 orphan medicines. |
| *Singapore Rare Disease Fund*[85] | A fund established by the Ministry of Health to support access to a defined list of medicines for specific rare diseases, with government matching of public donations at a 3:1 ratio. |
| *Centres of Excellence for rare diseases in India*[86] | Designation of 8-10 Centres of Excellence for rare disease diagnosis, prevention, and treatment, with dedicated funding for equipment and staff; exemption of orphan medicines from customs duties. |
| *Country partnerships for HCP training*[87] | Bilateral partnerships enabling countries to share expertise and build clinical capacity, e.g., Rwanda-Belgium HCP training. |
| *National Rare Disease Registry in Colombia*[88] | Following legislation promoting clinical guidelines for rare diseases, Colombia established a national registry to collect epidemiological data and inform future policy and planning. |

Across all levels, policymakers can improve access to orphan medicines by recognising rare diseases as a public health priority and by establishing the systems and processes required to support timely diagnosis, effective care delivery, and treatment access. While global actors set the strategic direction and mobilise support, regional bodies enable coordination and shared solutions, and national governments operationalise solutions through legislation, funding mechanisms, and care pathways.

## Patient Pathway Solutions

In response to the challenges identified along the patient pathway, this section outlines a suite of practical solutions to strengthen how patients are identified, referred, and supported in accessing appropriate care and treatment. These solutions focus on building the core system capacities, while recognising the role of the wider enabling environment in ensuring treatments are available, affordable, and delivered reliably within health systems (Figure 8).

**Figure 8. Patient Pathway Solutions**



*Diagnosis and Referral*

Timely diagnosis and appropriate referral are critical entry points to rare and ultra-rare disease care, yet this stage of the patient pathway is frequently constrained by limited diagnostic capacity, insufficient training, and weak data systems[1,89]. Addressing these challenges requires coordinated action across definitions, workforce development, and data infrastructure strengthening.

One priority solution to the lack of adequate diagnostic tools and systematic newborn screening approaches is the adoption of harmonised definitions of rarity and ultra-rarity at global, regional, and national levels, including through integration within the International Classification of Diseases (ICD)[90]. Consistent definitions would support more reliable patient identification, coding, and tracking across healthcare systems, facilitating earlier diagnosis and a more robust understanding of disease burden than can support prioritisation for policymakers. Another way to improve diagnostic timeliness is to strengthen primary care: primary care physicians are well placed to recognise when symptoms warrant escalation and to refer patients for rare disease evaluation, particularly in settings where specialist pathways are fragmented and a "unifying" diagnosis may otherwise be missed[89,91].

Limited training among HCPs also contributes to delayed or missed diagnoses[92]. This can be mitigated through strengthened education and training programmes – from medical school onwards – to improve recognition of rare disease symptoms and timely referral to specialist care. Digital tools can play a complementary role in supporting frontline clinicians, particularly in settings with limited specialist access. For example, Screen4Care, a European initiative supported by the European Union's Horizon 2020 research and innovation programme and the European Federation of Pharmaceutical Industries and Associations (EFPIA), aims to significantly shorten the time to diagnosis and treatment for rare diseases[93]. In order to do so, this initiative combines expanded newborn genetic screening with AI-based analysis of electronic health records, supported by a patient-centred digital ecosystem that enables data sharing and earlier, more informed decision-making[93]. Beyond system-level infrastructure, AI can also directly augment clinical judgment: AI-supported clinical decision tools such as "accelRare" have been developed to help general practitioners confirm suspicion of a possible rare disease diagnosis and accelerate referral to specialist centres[94].

**Box 1. AI-supported clinical decision tools example**

**accelRare** is a pre-diagnosis AI-supported medical device tool distributed by Sanofi. The tool assists GPs and primary care doctors in confirming the suspicion of a possible rare disease and speeds up referral of patients to specialist centres, using symptoms, medical history, and test results.

It is currently available in France only, but is being considered for launch in Algeria.

In parallel, public–private initiatives have demonstrated how targeted investments can strengthen diagnostic capacity at scale. Partnerships between governments and industry have supported the provision of diagnostic equipment, reagents, and training at national referral hospitals, enabling access to essential tests (e.g., tissue testing and biomarker diagnostics) that were previously unavailable or unaffordable (e.g., the "Empower Kenya" initiative)[95].

**Box 2. Diagnostic capabilities example**

**Empower Kenya** is an initiative between Roche and the Ministry of Health in Kenya, focused on developing comprehensive and sustainable healthcare system improvements for cancer care.

One of the projects included enhancing diagnostic capacities at two national referral hospitals by providing tissue testing machines and reagents free of charge, meaning breast cancer patients could receive free HER2 diagnostic testing.

Finally, establishing robust rare disease patient registries is a critical enabler for epidemiological analysis, healthcare resource planning, and regulatory processes[96,97]. Aligning registries with marketing authorisation requirements and promoting interoperability across national, regional, and global platforms can maximise their value and support more efficient health system planning and response[98].

### *Care Pathway and Treatment*

Following diagnosis, patients often face additional barriers to accessing appropriate care due to shortages of specialised healthcare professionals and limited experience in managing rare disease care pathways. Addressing these gaps requires targeted investment in workforce development, clinical capacity building, and system-level support mechanisms.

One promising solution is to expand opportunities for clinicians from LMICs to receive specialised training through cross-border partnerships with established centres of expertise[99,100]. Exposure to advanced, multidisciplinary models of care enables clinicians to develop the skills required to manage complex rare diseases and to adapt best practices to local contexts. Such initiatives have been implemented across a range of disease areas, including oncology and rare metabolic disorders, through fellowships, observerships, and structured exchange programmes supported by NGOs, academic centres, pharmaceutical companies, and international organisations (e.g., CMLPath to Care™ with the Max Foundation, the Empower Kenya initiative, Suandok Breast Cancer Network).

To ensure sustainability and long-term impact, trained professionals must be supported upon return to their home countries through appropriate retention mechanisms, including professional recognition, career progression pathways, and adequate working conditions. These measures are essential to translate individual capacity building into lasting improvements in national care delivery and continuity of care of patients.

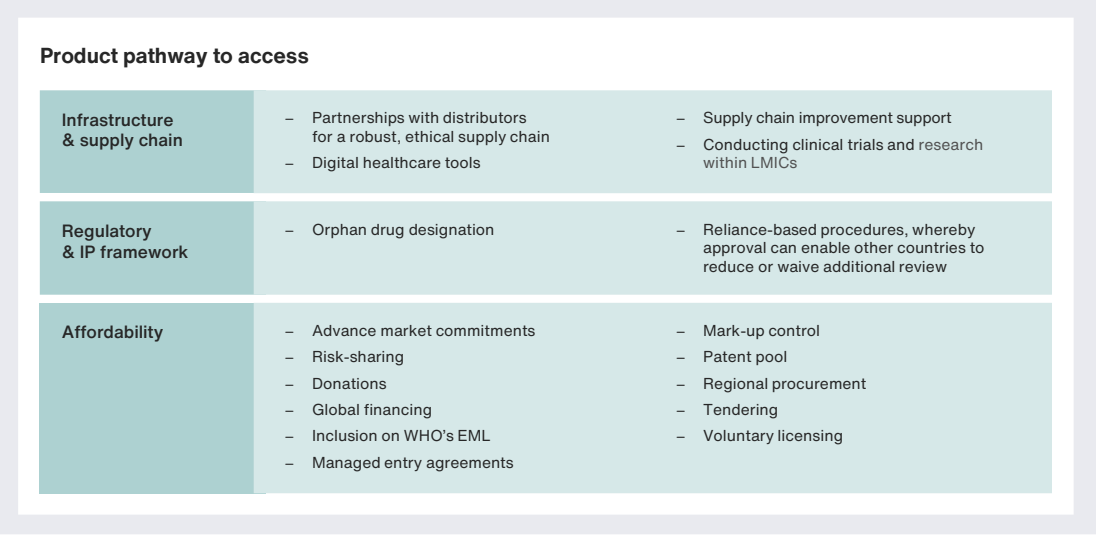
**Table 4. Initiatives Targeting Care Pathway and Treatment Improvements**

| | |
|---|---|
| *Lysosomal Storage Disorder (LSD) Charitable Access Program (CAP)*[101] | Several NGOs work together to improve access to treatments for rare diseases. This program focuses on rare metabolic disorders and trains healthcare professionals on rare disease awareness, clinical skills, and patient management. It also runs small, hands-on training sessions where expert clinicians teach local doctors, share best practices, and support networking. |
| *CMLPath to Care*[102] | Novartis and the Max Foundation created an access program for patients with chronic myeloid leukaemia and other rare cancers. Alongside medicine donations, the program provides psychosocial support and education for healthcare professionals and patients through patient advocacy organisations. |
| *The Consortium on Newborn Screening in Africa (CONSA)*[,103104] | CONSA is an international network established by the American Society of Hematology (ASH) to demonstrate the benefits of newborn screening and early intervention for children with SCD in sub-Saharan Africa, supported by industry partners Bristol Myers Squibb, Novartis, Revvity, and Novo Nordisk. CONSA also builds local capacity through training for HCPs; for example, it delivered a two-day programme for community health workers to strengthen linkage of diagnosed infants to follow-up care, deliver community education and counselling, and promote newborn screening. |
| *Suandok Breast Cancer Network*[105,106] | The Suandok Breast Cancer Network in Thailand received a grant to deliver lectures and workshops about metastatic breast cancer referral procedures and treatments to general surgeons and nurses who were taking care of breast cancer patients, as there were no oncologists or breast surgeons in the country. |

## Product Pathway Solutions

In response to the challenges identified along the patient pathway, this section sets out a suite of practical solutions to strengthen how patients access and receive treatment. It considers the full supporting environment, from the infrastructure and supply chains needed to deliver medicines reliably, to the regulatory and IP frameworks, and affordability solutions that shape product availability for patients (Figure 9).

**Figure 9. Product Pathway Solutions**




### *Infrastructure and Supply Chains*

Access to orphan medicines depends on the availability of care delivery infrastructure, resilient supply chains, and a trained healthcare workforce. In many LMICs, these requirements are undermined by fragmented delivery systems and pronounced urban–rural disparities, which limit the ability to deliver complex therapies consistently and equitably.

One important strategy to address infrastructural gaps and build local capacity is the development of networks of Centres of Excellence (CoEs). CoEs can concentrate scarce expertise, infrastructure, and resources, enabling timely referral and access to specialised care for people living with rare diseases[107,108]. In geographically dispersed settings, impact depends on moving from stand-alone centres to an integrated network: cross-centre collaboration (including shared clinical protocols, tele-expertise, and interoperable data infrastructures) can extend specialist support beyond a single site and, where appropriate, enable cross-border coordination. While only a subset of rare disease patients currently has access to disease-modifying therapies, CoE networks can service both current treatment needs and lay the groundwork for future access for a much broader population. Acting as referral hubs, CoEs enable general practitioners and non-specialist providers to connect patients with specialist services more efficiently. Their scope and scale should be adapted to local contexts, with implementation at national, regional, or subnational levels as appropriate. In addition to care delivery, CoEs can serve as platforms for clinical research and clinical trials, contributing to longer-term capacity building through infrastructure investment, workforce training, and strengthened research and clinical capabilities.

Strengthening product delivery infrastructure is equally critical. Proven approaches from non-rare disease settings, including removing or reducing VAT and customs duties on medicines, regulating mark-ups, strengthening cold-chain storage, and improving last-mile delivery, can be adapted to improve supply chain reliability and equity. Several initiatives illustrate this potential.

**Table 5. Initiatives Targeting Supply Chain and Infrastructure Improvement**

| | |
|---|---|
| *Accord for a Healthier World*[109,110] | Pfizer's Accord for a Healthier World aims to expand access to selected medicines and vaccines in 45 lower-income countries, complemented by health system strengthening efforts. As part of the Accord, Pfizer has implemented supply chain capacity building initiatives in Rwanda and another sub-Saharan African country, including the development of a track-and-trace system, improvements to cold chain infrastructure, and training programmes tailored to country-specific supply chain needs. |
| *Global Platform for Access to Childhood Cancer Medicines*[111,112] | This platform brings together St. Jude, WHO, UNICEF, the PAHO Strategic Fund, governments, the pharmaceutical industry, hospitals, NGOs, and other non-profit decision makers. Its goal is to ensure a continuous supply of quality-assured cancer medicines for children. The initiative includes an operational unit, a procurement agency, and technology to forecast country-level needs to support medicine's safe procurement and distribution. |
| *Empower Kenya*[95] | One of the projects included improving supply chain management, optimizing cold chain and safety protocols, and reducing the middleman and markups in the supply chain |

Together, these examples highlight how coordinated infrastructure and supply chain investments form a critical foundation for sustainable access to orphan medicines.

### *Regulation and Intellectual Property*

Regulatory complexity and lengthy approval timelines remain major barriers to timely access to rare disease therapies, particularly where regulatory requirements differ significantly across countries and capacity is limited[11,57,58].

One important solution is the promotion of regulatory reliance and harmonisation. Through different reliance-based procedures that leverage regulatory assessments conducted by trusted authorities, countries can reduce duplication of effort, optimise limited regulatory capacity, and accelerate approval timelines[113,114]. At the global level, this approach can be supported by the WHO Collaborative Registration Procedure, which enables national regulators to rely on WHO prequalification or assessments by mature regulatory authorities[115]. At the regional level, initiatives such as the ASEAN Pharmaceutical Regulatory Framework, the recently established Africa Medicine Agency, and the Pan American Network for Drug Regulatory Harmonization provide additional reliance pathways, including for mutual recognition, while promoting regulatory convergence and shared standards[116,117,118]. At the country level, an example is Hong Kong's "1+ mechanism", which streamlines registration by allowing certain new medicines for life-threatening or severely debilitating conditions, supported by local clinical data and endorsed by local experts, to apply with one reference regulatory approval (instead of two)[119]. To further speed access, the government is expediting the 1+ pathway for innovative drugs (foreign regulatory approval plus local expert review) and is piloting it for severe/rare disease treatments recommended by the Hospital Authority[120].

Further incentives for innovation and access can be created through the establishment and strengthening of orphan drug designation (ODD) frameworks, supported by a clear definition of rare diseases. Clear and predictable ODD pathways, supported by defined eligibility criteria, reduced administrative burden, and expedited review timelines, can encourage manufacturers to develop and register orphan medicines in a wider range of countries[121].

Finally, the adoption of unified electronic product information, such as leaflets (e-leaflets), can improve access to up-to-date drug information[122]. E-leaflets enable the dissemination of up-to-date,

easily accessible information on drug use, safety, and administration in multiple languages, overcoming limitations associated with printed materials and supporting broader understanding among healthcare professionals and patients.

### *Affordability Solutions*

Affordability is frequently cited as the primary barrier to access to orphan medicines in LMICs, with attention often focused on the price of medicines[123]. While medicine prices can be a constraint, affordability challenges are more complex and cannot be resolved through price reductions alone. Experience from multiple settings demonstrates that lowering medicine prices, in isolation, does not result in sustainable patient access when broader health system financing and delivery constraints remain unaddressed.

Affordability barriers extend beyond medicine prices to include limited coverage under Universal Health Coverage schemes, low levels of public health expenditure, high reliance on out-of-pocket payments, and cumulative mark-ups across fragmented supply chains. In many health systems, medicines account for only a portion of total healthcare costs. For example, analyses by IQVIA show that pharmaceutical expenditure represents approximately 15% of total healthcare spending on average across high-income countries, highlighting that the costs of diagnosis, healthcare personnel, infrastructure, and ongoing care often exceed the cost of medicines themselves[124].

Short-term mechanisms such as donation programmes, including those that cover medicines as well as associated costs of care such as diagnostics, hospitalisation, and healthcare staff, have helped address access gaps in specific contexts. In several countries, innovative orphan medicines are currently accessed primarily through such mechanisms, with medicines provided free of charge.

**Box 3. Charitable Programmes Examples**

**Sanofi-Genzyme's Indian Medical Advisory Board (IMAB)**[125] was established in 2007 under the India Charitable Access Program (InCAP) to provide structured clinical governance for access to enzyme replacement therapy (ERT) in India. InCAP is positioned as a charitable/humanitarian programme that provides free ERT to eligible patients with lysosomal storage disorders, with IMAB acting as the oversight mechanism to support objective, guideline-aligned decisions. The IMAB is described as comprising renowned international physicians, approximately 10 Indian clinicians from multiple centres, and Sanofi-Genzyme representatives, and its functions include reviewing ERT applications, determining and prioritizing eligibility, overseeing ERT administration, and advising on diagnostic evaluation and ongoing clinical monitoring.

**Box 4. Donation Programs Examples**

**The World Federation of Hemophilia (WFH) Humanitarian Aid Program**[126,127] addresses gaps in access to haemophilia care in emerging countries by supporting national member organizations (NMOs), haemophilia treatment centres (HTCs), and healthcare practitioners (HCPs) through education and training, alongside donations of factor and non-factor replacement therapies. In 2024, the programme distributed 291 million IU of clotting factor and 2.8 million mg of non-factor replacement therapy.

**Stroke Medicine Access Program – Philippines:** In 2016, the government of the Philippines implemented the Stroke Medicine Access Program, which aimed to provide more than 1,000 vials of recombinant tissue plasminogen activator (rTPA) for free to a prioritised population through selected government hospitals[128]. However, the program had to be halted due to a lack of equipment, such as computed tomography (CT) scanners, and a lack of sufficient workforce to administer the drug.

While impactful for individual patients, these approaches are inherently limited in scale and sustainability and cannot meet the needs of all patients who could benefit from these treatments. Reliance on free provision is neither feasible nor desirable as a long-term strategy for addressing the burden of rare diseases, underscoring the need for more sustained, system-based financing and access solutions as shown in the two examples provided.

This is particularly relevant for rare disease drugs, many of which are palliative rather than curative and therefore require long-term, sustained financing. In addition, treatment regimens are often complex to switch once initiated, making continuity and predictability of funding critical. These characteristics underscore why funding mechanisms and access solutions must be tailored to local delivery capacity and long-term budget realities, rather than relying on price reductions alone. As a result, affordability should be reframed not solely as a cost-containment challenge, but as an investment decision.

**Box 5. Economic Impact of Medicines in LMIC Example**

**Economic impact of treating childhood cancers in LMICs:** A study looking at the impact of childhood cancers in LMICs found that, between 2020 and 2050, the global lifetime productivity gains from treating these patients would be US$2580 billion, which is four times greater than the cumulative treatment costs of $594 billion, producing a net return of $3 for every $1 invested[129]. The study concluded that the burden had been grossly underestimated and massive health and economic benefits could be realised, as well as averting millions of needless deaths[129].

Diagnosing and appropriately treating people living with rare diseases can generate value across multiple dimensions, including improved health outcomes, reduced caregiver burden, and more efficient use of health system resources. Investment in rare disease care can also strengthen system readiness by improving diagnostic capacity, building clinical expertise, and creating the conditions needed for future therapies. Shifting the affordability discussion toward value and long-term system benefits may enable more constructive engagement with policymakers and support a more enabling policy environment for sustainable access.

A range of access-enabling approaches has been applied across different settings, often in combination, to improve access to medicines while supporting system sustainability. These approaches can be broadly grouped into several categories:

- **In the short term, innovative access models,** such as managed entry agreements (MEAs), including financial-based arrangements (e.g., discounts, expenditure caps), outcome-based agreements, and subscription payment models, allow payers to manage uncertainty while enabling access to new therapies.
- **Sustainable financing with blended financing mechanisms** (public, private, philanthropic) could broaden equitable access.
- **Price differentiation and market-shaping strategies,** including tiered pricing and value-based pricing, which seek to align prices with ability to pay across and within countries.
- **Procurement and purchasing approaches,** ranging from regional or pooled procurement and collective demand mechanisms (including advance market commitments and improved forecasting) to global and multilateral platforms such as Gavi and the Global Fund, can pool demand and resources to negotiate lower prices and ensure quality-assured, secure supply.
- **Supply chain and distribution measures,** including mark-up regulation and controls, aim to reduce price inflation between manufacturers and patients.
- **Voluntary mechanisms, such as distribution or manufacturing arrangements and voluntary licensing (including bilateral licenses and agreements with the Medicines Patent Pool),** may support availability of some treatments in LMICs; however, their impact is strongest when combined with robust needs assessments (to quantify the patient population), demand

generation through improved diagnosis and referral, and reliable forecasting to provide suppliers with predictable volume expectations and ensure sustainable supply.

- **Priority-setting tools,** such as inclusion on the WHO Model Lists of Essential Medicines, which can support reimbursement decisions, regulatory acceleration, and system planning by signalling high-value interventions.

More details and examples of affordability solutions across these categories of solutions are outlined in Appendix 1.

**Table 6. Initiatives Targeting Affordability**

| | |
|---|---|
| *Global Platform for Access to Childhood Cancer Medicines*[112,113] | This platform brings together St. Jude, WHO, UNICEF, the PAHO Strategic Fund, governments, the pharmaceutical industry, hospitals, NGOs, and other non-profit decision makers. In the pilot phase, the platform will initially purchase and distribute medicines at no cost to the recipient countries. As more countries are onboarded and the volume of patients increases, the platform may work through a hybrid financial model in which some countries may be responsible for purchasing these medicines at a discount. Purchasing the medicines centrally will help address the market fragmentation that can impact prices and supply. |
| *Supranational procurement agreements through GAV/Global Fund*[130,131] | Global financing leverages economies of scale by pooling demand across countries to lower the cost per unit, improving affordability for LMICs. It also helps mitigate supply chain weaknesses and other logistical barriers to securing sufficient supply, reducing commercial risks for companies. |

In practice, no single affordability mechanism is sufficient on its own. Sustainable access to orphan medicines requires affordability strategies to be implemented alongside investments in diagnosis, care delivery, regulatory systems, and supply chain infrastructure. When aligned with these foundational elements, affordability mechanisms can help translate technical access into real, scalable, and durable access for patients.

## Call to Action

Addressing access to orphan drugs requires holistic, ecosystem-based solutions that tackle barriers at the policy level, and along the patient and product pathways. This includes ensuring timely and accurate diagnosis, access to specialist and multidisciplinary care for people living with a rare disease, and the reliable delivery of treatments supported by appropriate infrastructure, regulation, and monitoring systems. To date, many access initiatives in LMICs have been implemented on a disease-by-disease basis, often led by patient advocacy groups (PAGS) and NGOs with the support of multinational pharmaceutical companies. While these efforts have delivered meaningful impact for individual patients, they remain fragmented and difficult to scale, raising important questions about long-term sustainability. There is a clear opportunity to learn from settings where elements of these disease-specific programmes, such as diagnostic pathways, Centres of Excellence, registries, or financing mechanisms, have been successfully integrated into national health systems, and to assess how such approaches can be adapted and scaled more broadly.

A sustainable path forward requires shifting from isolated interventions towards system-strengthening approaches that address the needs of all people living with a rare disease and their caregivers. This entails drawing on best practices from different countries and disease areas and embedding them within national strategies, regulatory frameworks, and financing arrangements to strengthen health system capacity over time. Critically, this transition should be co-designed with patients and caregivers, ensuring that service models reflect lived experience (e.g., travel burden, stigma, out-of-pocket costs, and continuity of care) and that success is measured against patient-relevant outcomes.

Progress will depend on coordinated, multi-stakeholder action. Governments, public and private payers, regulators, procurement agencies and wholesalers, PAGs, NGOs, international organisations, and the pharmaceutical industry each have a distinct but complementary role to play. Industry-led initiatives will continue to contribute to access in specific contexts, but equitable, sustainable access at scale requires stronger policy, financing, and delivery systems, alongside incentives to develop new diagnostics and therapies, particularly for patients with limited treatment options.

Ultimately, none of these ambitions can be realised without sustained political will and investment. Clear and predictable policy frameworks, supported by adequate funding and well-defined implementation processes, are essential to enable stakeholders to navigate the access ecosystem effectively. Building on growing global momentum, such as the WHO Rare Disease Resolution, there is a timely opportunity to translate commitment into action and to deliver durable improvements in access for people living with rare diseases in LMICs.

# Appendix. Affordability Solutions

### Types of Affordability Solutions

| Solution type | Description |
|---|---|
| *Advance market commitments* | Financial commitments made by governments or organisations to purchase a certain quantity of a product, often vaccines, at a set price if it is developed. This incentivises manufacturers to invest in the research and development of new products |
| *Cost-sharing* | An arrangement where the costs of a programme/ medicine are divided between different parties, such as governments, manufacturers, organisations, and individuals. This helps distribute financial responsibility and encourages joint investment |
| *Donation* | Provision of products free of charge, or for a low symbolic price, to those in need, often as part of humanitarian aid or corporate social responsibility initiatives |
| *Global financing* | Global financing (e.g., through the Global Fund or GAVI) consists of innovative procurement strategies and partnerships with manufacturers, governments, and other stakeholders to ensure that life-saving drugs and vaccines are available, affordable, and of high quality for the populations they serve. These schemes allow pooling demand from multiple countries to negotiate better prices with manufacturers, leveraging economies of scale to lower the cost per unit |
| *Inclusion in WHO's Essential Medicine List* | The WHO List of Essential Medicines helps countries to promote the appropriate selection of effective and safe medicines that deliver a high level of benefit to patients. Inclusion on the core list (minimum needs for a basic healthcare system) can help speed up regulatory processes in LMICs for new medicines and inclusion on the complementary list (essential medicines for priority diseases that require specialist capabilities) can highlight where specialist diagnostics, care facilities, or training are required to allow the medicine to be accessed by patients |
| *Managed entry agreements* | Managed entry agreements are arrangements between pharmaceutical companies and payers that manage financial risks and ensure access to new medicines through either financial terms (e.g., discounts, caps) or outcome-based terms (e.g., performance-related payments) or a combination of both. Additionally, a subscription payment model involves a prospectively determined fixed cost paid on a recurring basis in exchange for an unlimited medicine supply |
| *Mark-up control* | Regulatory initiatives aimed at limiting the amount by which the price of a drug can be increased at each stage of the supply chain, from manufacturer to patient |

| Solution type | Description |
|---|---|
| *Patent pool* | An agreement where multiple patent holders license their patents (e.g., to generic manufacturers) to facilitate the dissemination of innovative treatments |
| *Regional procurement* | Collaborative purchasing strategies by multiple countries or regions (e.g., the African Union) to negotiate better prices and ensure the supply of products, leveraging collective bargaining power |
| *Tendering* | Acquisition of pharmaceuticals based on a competitive bidding process, where the contract is granted to the pharmaceutical supplier who offered the best bid |
| *Tiered pricing* | Framework that allows to differentiate pricing of medicines across or within countries based on countries' or individuals' ability-to-pay, or private vs public channels, to improve patient access |
| *Voluntary licensing* | A situation where a patent holder permits another company to manufacture its product under mutually agreed terms typically aims to boost production and enhance availability in low- and middle-income countries |

**Examples of Affordability Solutions**

| Solution | Detail | Company | LMIC tier | Description |
|---|---|---|---|---|
| **Advance market commitments** | *Financial commitments agreed between governments, NGOs, and manufacturers* | **N/A** | **Low/ Lower Middle** | – Governments and organisations make legally binding financial commitments of a pre-agreed value to stimulate research and development and manufacturing of new treatments in LMICs<br>– The Pneumococcal Advanced Market Commitment and the GAVI-COVAX Advanced Market Commitment are notable examples, sponsored by high-income countries to enable access to donor-funded doses of safe and effective vaccines |
| **Cost-sharing** | *Cost-sharing among individuals, governments and manufacturer* | **Roche** | **Lower Middle** | – Roche proposed a partnership with the Federal Government in Pakistan and appointed an independent third party to assess financial need and provide free medication assistance for biologic medicines<br>– Roche offers free vials for every purchased vial and partners with local organizations to support patients who cannot afford any vials<br>– Roche Pakistan applies a public patient financial evaluation tool to categorize eligible patients to receive free medicines into one of three groups and then provides appropriate assistance, with the Pakistani government covering part of the treatment costs for those most in need |
| **Donation** | *Voluntary drug donation program* | **Novartis** | **Low/ Lower and Upper Middle** | – CMLPath to Care™ supports patients with CML and other rare cancers in lower-income countries<br>– The program offers treatment and support at no cost to individual patients, unlike traditional programs that provide bulk donations of medicine |
| **Global financing** | *Supranational procurement agreements through GAVI or the Global Fund* | **N/A** | **Low/ Lower Middle** | – Global financing leverages economies of scale by pooling demand across countries to lower the cost per unit, improving affordability for LMICs<br>– Helps mitigate supply chain weaknesses and other logistical barriers to securing sufficient supply, reducing commercial risks for companies |
| **Inclusion in WHO's** | *Inclusion in WHO's "Essential Medicines List"* | **N/A** | **Low/ Middle/** | – Orphan medicines for communicable and non-communicable diseases all feature on the Essential Medicines List |

| Solution | Detail | Company | LMIC tier | Description |
|---|---|---|---|---|
| **Essential Medicines List** | | | **Upper** | – Some examples of orphan drugs included in the Essential Medicines List are imatinib, indicated for CML and ALL, ifosfamide, indicated for testicular cancer, adalimumab, indicated for juvenile idiopathic arthritis, diazepam, indicated for refractory epilepsy, hydroxycarbamide, indicated for SCD |
| **Managed entry agreements (financial and/or outcome-based)** | *Cap (number of doses)* | **Eisai** | **Lower Middle** | – Eisai aimed to expand access to the breast cancer treatment Halaven in India through a tiered-pricing model, adjusting costs based on income levels to address the rising number of breast cancer cases<br>– The scheme also addresses adherence issues by providing a 1+2 cycle scheme and free lifetime vials after the 6th cycle (dose-cap agreement) |
| | *Cap (number of patients)* | **Novartis** | **Upper Middle** | – The Brazilian government has agreed to pay for Zolgensma for no more than 250 babies over two years (cap on the number of patients)<br>– If demand is higher than that, Novartis will provide 40 free treatments |
| | *Discount* | **Biogen** | **Upper Middle** | – Argentina entered into an agreement with Biogen stipulating reimbursement of Spinraza for those with certain types of SMA, with a cost reduction (discount) |
| | | **Sanofi Genzyme** | **Lower Middle** | – PharmAccess, CarePay, and Sanofi launched Ngao Ya Afya in Kenya to enhance access to affordable diabetes and hypertension care via M-TIBA, a mobile healthcare platform that connects patients, payers, and providers through a mobile health wallet<br>– Lower-income patients enrolled in the program receive financial support for tests, consultations, and medicines directly in their mobile health wallets<br>– The wallet allows saving and spending on healthcare, generating data for transparency and smart feedback to improve care, and offering discounted diabetes and hypertension consultations, medical tests and discounted medicines |
| | *Outcome-based/annuity* | **Novartis** | **Upper Middle** | – In Brazil, the government and Novartis agreed on an annuity payment model, with the cost of treatment divided into five equal instalments over four years, combined with an outcome-based component |

| Solution | Detail | Company | LMIC tier | Description |
|---|---|---|---|---|
| | | | | – Based on certain outcomes (a patient passes away, requires permanent ventilation, or cannot maintain certain motor functions within two years of receiving Zolgensma), the government will be exempt from making the remaining payments |
| **Patent pool** | *Voluntary licensing through the Medicines Patent Pool* | **Multiple** | **Low/ Lower Middle** | – Patent pooling is an agreement where multiple patent holders license their patents to facilitate the dissemination of innovative treatments at an affordable price and enable the development of novel formulations and combinations<br>– The Medicines Patent Pool, established in 2010 by UNITAID, negotiates licenses with patent holders and licenses them out to generic manufacturers in LMICs |
| **Regional Procurement** | *Procurement led by supranational organisations* | **N/A** | **Low/ Lower Middle** | – Collaborative purchasing strategies by multiple countries or regions (e.g., the African Union) to negotiate better prices and ensure the supply of products, leveraging collective bargaining power |
| **Tendering** | *Procurement strategy involving competitive bidding* | **Many** | **Low/ Lower Middle** | – Tendering is the acquisition of pharmaceuticals based on a competitive bidding process, where the contract is granted to the pharmaceutical supplier who offered the best bid<br>– Tendering was the most frequently submitted access strategy to the 2023 Access to Medicine Index |
| **Tiered-pricing** | *Intra-country tiering* | **Eisai** | **Low/ Lower Middle** | – Eisai aimed to expand access to the breast cancer treatment Halaven in India through a tiered-pricing model, combined with a cap on the number of doses, adjusting costs based on income levels to address the rising number of breast cancer cases |

| Solution | Detail | Company | LMIC tier | Description |
|---|---|---|---|---|
| | | **Novartis** | **Several** | – Novartis' Potential Affordability by Decile Methodology is used to determine price segmentation and develop patient access programmes<br>– The methodology takes into account income levels by deciles of population and the impact of mark-ups and taxes on ability to pay out of pocket<br>– This granular approach to determine patients' ability to pay has facilitated the development of patient access solutions to decrease mark-up impact and patient support programmes to improve affordability |
| | | **Roche** | **Lower Middle** | – Save-Her Ghana offers pricing and financing schemes to ensure access to breast cancer medicines for out-of-pocket patients and those covered by the national health insurance scheme |
| | | **Takeda** | **Upper Middle** | – Takeda has developed a tool for assessing a patient's financial eligibility (ability to pay)<br>– Takeda uses this tool to determine prices for expensive therapies in several countries, such as India, Philippines and Indonesia; the company has shown evidence of growth in patient reach<br>– This process facilitates prices that better meet individual affordability considerations for patients paying out of pocket for otherwise out-of-reach medicines |
| | | **Astra-Zeneca** | **Upper Middle** | – AstraZeneca Brazil applies the right discount to the right population groups, by identifying economic patient profiles through an innovative and customised approach called Mosaic Segmentation, using economic data supplied by data provider Experian to compile profiles across the population<br>– These profiles incorporate the income segment linked to patients' national ID numbers and when a patient registers on the programme they are automatically assigned a discount level based on their ability to pay |

| Solution | Detail | Company | LMIC tier | Description |
|---|---|---|---|---|
| | | **Pfizer** | **Low/ Lower Middle** | – In Mexico (an upper-middle income country), compared to the previous Index, Pfizer has increased patient access to Ibrance for breast cancer by continuing with strategies including tiered discounts in the private market, based on co-payment<br>– In India (a lower-middle income country), in 2021 Pfizer introduced a differential approach in a new patient assistance programme, using questionnaires and independent evaluation to assess affordability |
| | *Equity-based tiered price* | **GSK** | **Upper Middle** | – In Colombia (an upper-middle income country) and India (a lower-middle income country), ViiV Healthcare commits to applying a flexible pricing approach that factors in gross national income and public health need<br>– Prices are then refined based on local affordability, domestic healthcare system funding, purchasing patterns and volumes, and accessibility for those living with HIV/AIDS |
| **Value-based pricing** | *Determine value-based reimbursement prices HTA* | **N/A** | **Upper Middle** | – Upper-middle income countries are developing Health Technology Assessment agencies to facilitate reimbursement pricing products based on the perceived or actual value, rather than solely on production costs<br>– However, many of these HTA bodies do not have special pathways and specific considerations for orphan drugs |

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