Independent Evaluation of the Access to Medicine Foundation

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Table of Contents

1. ABOUT THIS EVALUATION 9
   - 1.1. Evaluation objectives 9
   - 1.2. Evaluation scope 12
   - 1.3. Methodology 13
   - 1.4. How this report is organised 14
2. INFLUENCE OF THE FOUNDATION 15
   - 2.1. Overall influence of the Foundation 15
   - 2.2. Influence in specific programmatic areas 16
3. OUTCOME CONTRIBUTIONS 23
4. IMPACT ON THE GROUND 28
5. MECHANISMS OF INFLUENCE 30
   - 5.1. How the Foundation influenced corporate access approaches 30
   - 5.2. Empowerment of key stakeholders and enabling environment 36
6. VALUE FOR MONEY ASSESSMENT 37
7. CONCLUSIONS AND RECOMMENDATIONS 41
8. REFERENCES 45

Table of Figures

Figure 1. The Foundation's mechanisms of influence 10
Figure 2. Key informant interviews 14
Figure 3. Relevance of the Foundation in the global health ecosystem 16
Figure 4. Number of Index companies with measurable goals and targets for improving access 26
Figure 5. Number of Index companies with a board member or a board-level committee responsible and accountable for access to medicine 26
Figure 6. Number of compounds covered by voluntary licences 27
Figure 7. Perception of key informants of the Foundation's impact on access to medicines in LMICs 29
Figure 8. Breakdown of the Foundation's expenditure in 2023 38

Table of Tables

Table 1. Evaluation questions 9
Table 2. Trends in Foundation expenditure and outputs over time 39
Table 3. Summary of key results 42

Abbreviations

4Es	Economy, Efficiency, Effectiveness, and Equity
Africa CDC	Africa Centres for Disease Control and Prevention
AMR	Antimicrobial Resistance
ATOM	Access to Oncology Medicines
BCR	Benefit-Cost Ratio
CKD	Chronic Kidney Disease
DALY	Disability-Adjusted Life Year
DNDi	Drugs for Neglected Diseases initiative
ERC	Expert Review Committee
ESG	Environmental, Social, and Governance
Foundation	The Access to Medicine Foundation
GO2AL	Global Oxygen Alliance
HHA	Health Heart Africa
IAAMR	Investor Action on Antimicrobial Resistance
Index	The Access to Medicine Index
IUD	Intrauterine Device
LMIC	Low- and Middle-Income Country
MPP	Medicines Patent Pool
NGO	Non-governmental Organisation
NTD	Neglected Tropical Disease
PMPA	Pharmaceutical Manufacturing Plan for Africa
R&D	Research and Development
SRHR	Sexual and Reproductive Health and Rights
ToC	Theory of Change
UK	United Kingdom
WHO	World Health Organisation
YLD	Years Lost to Disability
YLL	Years of Life Lost

Executive Summary

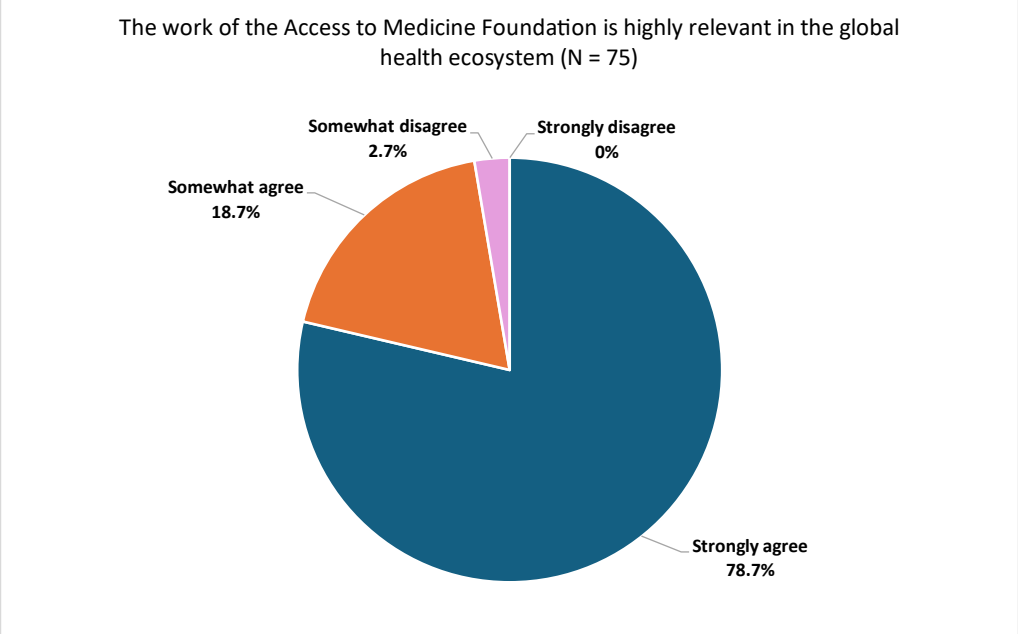
The Access to Medicine Foundation (the "Foundation") has commissioned Open Consultants to conduct an independent evaluation of the Foundation and its influence and impact on guiding and incentivising pharmaceutical companies to improve access to medicine in low- and middle-income countries (LMICs) and limit drug-resistant infections globally.

This evaluation is the first that analysed the entire spectrum of the Foundation's work. The evaluation assessed the Access to Medicine Index (the "Index"), which ranks 20 of the largest research-based pharmaceutical companies' efforts to expand access to medicine in LMICs and aims to contribute to consensus building and learning across the global health ecosystem. The evaluation also analysed the Foundation's work and influence on two cross-sector programmes: antimicrobial resistance (AMR) and diabetes. It also reviewed the Foundation's work on generic and biosimilar manufacturers and medical oxygen companies, and its overall impact on change in these different sectors. The evaluation is based on insights and data from key informant interviews with over 80 stakeholders of the Foundation worldwide, a document review, and a value for money assessment, which applied the "4E" framework (Economy, Efficiency, Effectiveness and Equity) and used benefit-cost modelling and benchmarking. Main findings from the evaluation are presented below.

Relevance of the Foundation

The work of the Foundation is highly relevant and unique in the global health ecosystem. There is strong consensus across key informants that the Foundation's work on access is very relevant in the global health ecosystem (97% agreement; N = 75; Figure ES1). According to key informants, the Foundation has a unique role in the ecosystem because it guides companies on their access approaches and incentivises them to do better. There is no other mechanism in the ecosystem that fulfils this important function. As one stakeholder put it – "if the Foundation did not exist, there would be a strong rationale to create it".

Figure ES1. Relevance of the Foundation in the global health ecosystem



At the same time, the Foundation is seen as a respected, evidence-driven, and impartial broker on access issues that works with industry and a range of other key organisations to improve access. Key informants also argued that the Foundation has undergone an important programmatic expansion. It has established multiple new workstreams that are relevant and in line with its mission and approach, including its work on generic and biosimilar manufacturers and on diabetes care.

Influence

The Foundation has a strong influence on corporate approaches to access. There is widespread agreement that the Foundation has driven a sense of urgency among companies and catalysed improved access across the sector. First released in 2008, the Index remains a key point of reference for corporate access approaches. Public and philanthropic stakeholders, institutional investors, and company representatives recognise the Foundation's instructive role in driving corporate change. By generating and sharing evidence, the Foundation empowers these actors to drive change. The Foundation's work with investors is also seen as influential and unique in the global ecosystem. Overall, there is also no other independent organisation in the global ecosystem that works on access for such a wide range of products.

Index: The Index serves a unique function in the global ecosystem. Many key informants agreed that the Index sets a standard of best practice and guides the industry on access approaches. Most industry representatives view the Index as a key point of reference and use it to drive corporate change on access issues. Leadership across companies is very aware of the Index. The Foundation's leadership is in contact with leaders and decision-makers of all Index companies to discuss opportunities to improve access to medicine in LMICs.

AMR: The AMR Benchmark has contributed to sustained company commitment in the antibiotics space. In addition, public and philanthropic stakeholders, institutional investors and companies strongly value the Foundation's analysis and advice on AMR. Industry representatives reported that the Foundation helped them to advocate internally for sustaining access to antibiotics and other products (e.g., tuberculosis treatment). Global health stakeholders argued that the benchmark exerts background pressure on industry. Public and philanthropic stakeholders consistently rated the Foundation's research and advice on AMR as high quality. Interviewed stakeholders, for example, emphasised that three recent thematic studies on appropriate access to antibiotics (2022), responsible manufacturing (2023), and research and development (2024) were timely, foundational, and influential. Stakeholders strongly leverage the evidence and advice of the Foundation to inform their engagement with companies and to prepare for intergovernmental negotiations. Investors also reported that they rely on the Foundation's research to engage with industry on AMR-related topics, priorities, such as innovation, and clean manufacturing. Together with the FAIRR initiative and the UK Government's Department of Health and Social Care, the Foundation also launched the Investor Action on Antimicrobial Resistance initiative to galvanise investor efforts to address global AMR.

Diabetes: The Foundation has significantly contributed to a stronger global ecosystem for diabetes. In December 2021, the Foundation launched its cross-sector programme on diabetes care. It conducted analyses on access to insulin and organised three Amsterdam Sessions between 2022 and 2024. Key informants highlighted that the 2022 meeting brought together all relevant stakeholders, including glucose monitoring device companies, for the first time, and that the

meetings successfully shifted the approach to access "from individual responsibility to collective action." The Foundation has played a critical role in building collaborative relationships, which was also valued by LMIC representatives, who reported that new partnerships on access to insulin with pharmaceutical companies emerged from these meetings. Insulin producers have begun to adapt their approaches, including changes to the types of insulin provided to LMICs.

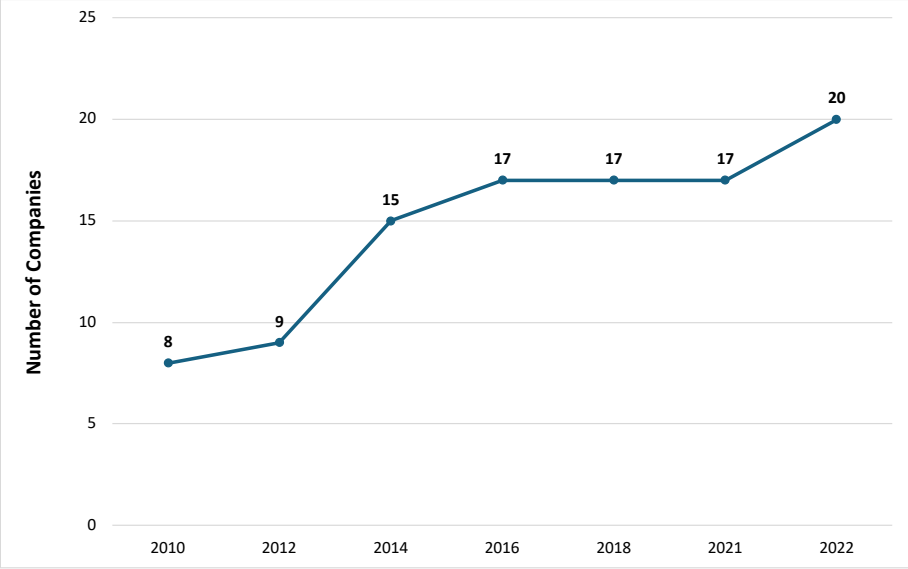
Medical gas: **During the COVID-19 pandemic, the Foundation helped to fill a critical gap in the global health ecosystem by bringing gas companies and other actors around the table for the first time.** The Foundation's engagement significantly contributed to access to medical oxygen in LMICs. It laid the groundwork for two Memoranda of Understanding to be signed between companies and other global health initiatives that have led to concrete progress in LMICs.

Generic and biosimilar manufacturers: The Foundation's work on generic manufacturers is widely valued across key informants. In the short time since the launch of this workstream (the analytical framework and report were released in 2023), concrete progress has already been made. For instance, the Foundation provided advice and data to support the creation of product priority lists for the Access to Oncology Medicines Coalition and the Pharmaceutical Manufacturing Plan for Africa (PMPA). The Foundation's contribution to the PMPA underscores its role as a key player in enhancing local manufacturing and improving access to essential medicines in African countries.

Outcomes

Our findings show that the Foundation has contributed to the access approaches of multiple companies. During the interviews, several companies provided examples of how the Foundation contributed to action-oriented initiatives to improve access. Examples include access plans, the development of new organisational units, and voluntary licensing. In addition, the Foundation's own data indicates that the Index has supported access. Longitudinal changes in the industry are well documented by the Foundation's own reports and supplemented by company and investor reports. For example, the number of Index companies with measurable goals, objectives, and targets for improving access increased from 8 in 2010 to 20 in 2022.

Figure ES2. Number of Index companies with measurable goals and targets for improving access



Impact

Triangulation of evidence from the document analysis, key informant interviews, and quantitative modelling indicates that the Foundation has made significant access contributions. Most key informants believe that the Foundation has significantly contributed to improving access to medicines in LMICs. Across key informants, 90% agreed that the Foundation has made a significant contribution. Our quantitative analysis of the public health benefits (see section on value for money below) confirms that the Foundation has substantially contributed to access in LMICs.

Value for money

Our results show that investment in the Foundation generates substantial public health and economic benefits. Our findings provide a strong rationale for donors to fund the work of the Foundation. There is no doubt in our minds that the Foundation plays a unique role in the global health ecosystem and makes a significant contribution to improving access. It is a prime example of an organisation that contributes to the creation of global public goods, be it through knowledge generation and dissemination, convening, guidance on access, or advising on product development partnerships and pooled procurement mechanisms. Donors should enable the Foundation to make its work even more impactful**.** We conducted a value for money assessment along four dimensions:

Economy: This dimension assesses whether programmes receive inputs at the best possible value. We found that the quality of research produced by the Foundation is high, while its expenditure is low compared to similar organisations working in global health.

Efficiency: This dimension assesses how changes to the inputs of a programme affect its outputs. Since 2021, the Foundation has broadened its base of long-term and core funders, enabling it to expand its work into new sectors in line with its 'Strategic Direction 2022-2026'. The Foundation has also significantly increased the number of events and publications since 2021.

Effectiveness: We modelled the health and economic benefits of expanded access to five product types by six companies, which were selected based on the representation of the Foundation's product scope and the availability of data from a new Foundation report on patients reached. The health benefits of improved access to these five product types were found to be substantial: If the companies meet their access targets for the five product types in LMICs, a total of 808 million patients will be reached, which could avert 2.6 million deaths by 2030. Our model shows that investing in the Foundation pays off – every US$1 dollar invested would return US$57. Our model underestimates the returns as it only includes five product types.

Equity: The Foundation's mission is to stimulate healthcare companies to increase access to medicines for billions of individuals living in LMICs. Its research covers 113 LMICs, and the scope of the 2024 Index includes 81 diseases, conditions and pathogens with the highest burden in LMICs. It also makes a concerted effort to address access issues impacting vulnerable populations, including women and girls, in the methodology consultations, Index key findings, and special reports.



1. About this evaluation

1.1. Evaluation objectives

The independent evaluation of the Access to Medicine Foundation (the "Foundation") reviews the Foundation's influence and impact in guiding and incentivising pharmaceutical companies to improve access to medicine in low- and middle-income countries (LMICs) and to limit drug-resistant infections globally (Panel 1 on page 11 provides an overview of the Foundation). The evaluation is structured around seven questions, which have been grouped into three primary areas: the Foundation's influence, outcomes, and impact, its mechanisms of influence, and its 'value for money' proposition (Table 1).

Table 1. Evaluation questions

Evaluation area	Evaluation questions
Influence – outcome – impact	• *Influence*. Has the Foundation influenced decisions, long-term strategies, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance? • *Outcome/progress*. Have healthcare companies taken progressive steps towards improving access to medicine and limiting drug-resistant infections? • *Impact*. Has the progress made by healthcare companies resulted in positive health impacts on the ground?
Mechanisms of influence	• How has the Foundation influenced decisions, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance? • How has the Foundation used its research outputs to empower other stakeholders (i.e. investors and policymakers) to promote better informed change-making engagement with companies? • Has the Foundation influenced policies that create an enabling environment for engagement with healthcare companies?
Value for money	• What is the Foundation's value for money for current and prospective funders?

As such, the evaluation has three main objectives. The **first objective** of the evaluation is to review the extent to which the Foundation has achieved its own objectives, as specified in its Theory of Change (ToC). The ToC includes three dimensions:

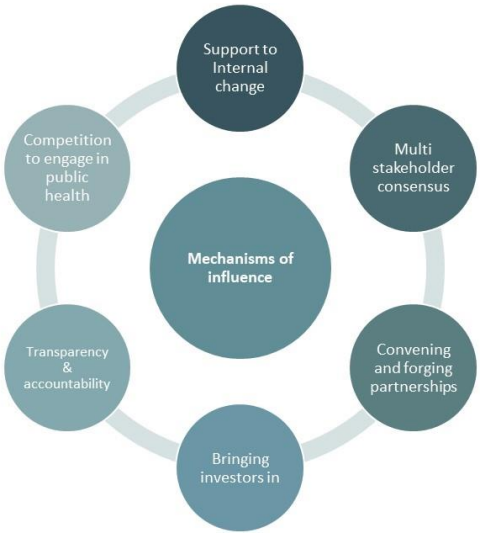
- **Influence:** The Foundation influences the decisions, activities, long-term strategies, initiatives, and culture of healthcare companies with respect to access to medicine and antimicrobial resistance.
- **Outcome/progress:** The Foundation's influence results in progressive steps by healthcare companies towards improving access to medicine and limiting drug-resistant infections.

- **Impact**: Progressive steps by healthcare companies result in positive health impacts on the ground.

The evaluation focuses on the first two dimensions of the ToC, i.e. on influence and outcome/progress. The second dimension ("outcome/progress") has proved more difficult to assess, mainly due to the challenge of "attributing" progress in corporate behaviour to the Foundation alone. However, based on the literature review and key examples shared throughout the interviews, we provide plausible evidence of the Foundation's contribution to outcomes. The third dimension ("impact") is the most difficult to assess due to the difficulty of directly attributing health impacts to the Foundation alone (i.e., it is not possible to isolate the positive effects of the Foundation). From our interviews with LMIC stakeholders, we were also able to identify examples of impact on the ground. The quantitative assessment also provides evidence on the magnitude of the Foundation's impact contributions.

The **second objective** is to assess the mechanisms that drive the Foundation's influence and impact (Figure 1). We assessed which of these mechanisms have been most effective in helping to achieve the Foundation's objectives. We also analysed which mechanisms are underused and how their potential could be more strongly leveraged in the future.

Figure 1. The Foundation's mechanisms of influence



The **third key objective** was to assess the value for money of investing in the Foundation. To make this assessment, we used the 4E framework, which is the standard approach used by the United Kingdom's Foreign, Commonwealth and Development Office to measure and manage value for money. The framework comprises four dimensions: economy, efficiency, effectiveness, and equity.

Panel 1. About the Access to Medicine Foundation

The Access to Medicine Foundation is an independent non-profit organisation based in the Netherlands that aims to transform the healthcare ecosystem to provide better and wider access to medicines globally. Its mission is to "stimulate and guide essential healthcare companies to bring their products to people in low- and middle-income countries".[1]

Since its founding in 2003, the Access to Medicine Foundation has evolved from a pioneering research group into a robust organisation with a reputation for impactful research and effective change-making.[2] While its flagship product, the Access to Medicine Index, first released in 2008, remains a core component of its change-making outputs, the Foundation has expanded its influence through strategic roundtables, special reports, and participation in multilateral initiatives. In its most recent strategic direction document, which applies the tried and tested model of change beyond Big Pharma to include more healthcare companies, the Foundation set out its **key strategic outcomes for 2022 – 2026:**

- **A critical mass of companies is brought to the table:** A diverse range of essential healthcare companies, in addition to Big Pharma, address access as a core priority, including suppliers of generic and branded medicines, vaccines, diagnostics, devices and medical oxygen. Access-related objectives that include vulnerable populations are increasingly embedded in commercial strategies and company actions are being tracked by the Foundation.
- **Access to medicine is expanding along the continuum of care:** Gaps in care provision start to close rapidly as best-practice access strategies accelerate across low- and middle-income countries, and there is a portfolio of new products in the pipeline. Increasing numbers of people can rely on a steady, sufficient, timely and equitable supply of essential healthcare products.
- **Access is driven at scale to help achieve universal health coverage:** Healthcare companies improve local availability of products and relieve pressure on health services through supply chain, product licensing and technology transfer programmes. Companies also improve affordability by matching prices to local economies and people's ability to pay.
- **The public, investors and policymakers are empowered to drive change:** Investors and policymakers stimulate companies to step up action on access through conditional funding and regulatory measures, leveraging the Foundation's tracking mechanisms to drive behavioural and strategic change in boardrooms.

The roadmap to 2026 outlines the following six-part approach for the Foundation to extend its reach into areas which it considers to have the greatest untapped potential:

- Bring on board a critical mass of companies
- Build networks in new sectors and increase activities with existing companies
- Clarify roles and societal expectations with companies
- Develop appropriate tools to tackle each sector and theme
- Track progress and validate best practice
- Enable policy shifts, effective collaboration, and increased investment from different sectors.

To advance its mission, the Foundation focuses on **five key stakeholder groups:** major research-based pharmaceutical companies, generic and biosimilar manufacturers, vaccine manufacturers, diagnostics companies, and medical gas companies.

1.2. Evaluation scope

Building on the success of the Index and in line with the ambitions set out in its 2022-2026 strategy (Panel 1), the Foundation has expanded its change-making activities to a wider range of companies and sectors to elicit systematic improvements in access to medicines. This includes, for example, new workstreams on generic and biosimilar manufacturers, which account for 60-80% of the volume of medicines sold worldwide, and medical gas producers. As at the second half of 2024, the Foundation is active in many key parts of the healthcare spectrum, which is also reflected in the scope of this evaluation:

The Access to Medicine Index: Every two years, the Access to Medicine Index evaluates and compares 20 of the world's leading research-based pharmaceutical companies according to their efforts to improve access to medicine in LMICs. The Foundation has released Indexes in 2008, 2010, 2012, 2014, 2016, 2018, 2021, and 2022. The 20 companies assessed account for over half of global pharmaceutical revenue, with pipelines, portfolios, resources, and global reach that give them the unique capacity to develop and market the innovative health products that people in LMICs need most. The Index analyses company behaviour using an analytical framework of 32 indicators in the forthcoming 2024 Index (one more than in 2022) organised across three areas: governance of access, research and development, and product delivery. The Index ranks companies on their performance on access, and it also identifies best practice examples, and highlights areas where progress has been made and areas where critical action is required. Methodology reports set out the framework and metrics for evaluating the 20 companies.[3,4] This process involves extensive stakeholder consultations. For example, for the 2024 Index, over 100 stakeholders were consulted in 2023, including multilateral organisations, governments, research institutions, NGOs, patient organisations, investors, and the pharmaceutical industry.

Antimicrobial resistance: The evaluation included the Foundation's work on antimicrobial resistance (AMR), one of its two cross-sector programmes. The AMR Benchmark evaluates how some of the world's largest pharmaceutical companies, innovative and generic companies, and small- and medium-sized enterprises are performing in the fight against AMR, and highlights opportunities for research and development (R&D), responsible manufacturing, access, and stewardship.[5] The evaluation also considered the tracking of the progress achieved by the companies covered by the 2021 AMR Benchmark, as well as major industry actor testimonials.[6] It further covered other key research outputs of the AMR programme, including three thematic studies on appropriate access to antibiotics (2022), responsible manufacturing (2023), and research and development (2024),[7,8,9] and the advice provided by the Foundation to key organisations working on AMR (e.g., governments, philanthropists, and global health initiatives).

Diabetes care: The Foundation's second cross-sector programme focuses on diabetes care, including insulin and glucose monitoring devices. The Foundation released a report on access to insulin (October 2022) and organised three Amsterdam Sessions on diabetes (2022-2024).[10,11]

Generic and biosimilar manufacturers: The evaluation also reviewed the Foundation's work and influence on generic and biosimilar manufacturers. In 2023, the Foundation first released an analytical framework and then a report, which covered five major generic and biosimilar companies and assessed the access approaches of generic and biosimilar manufacturers.[12]

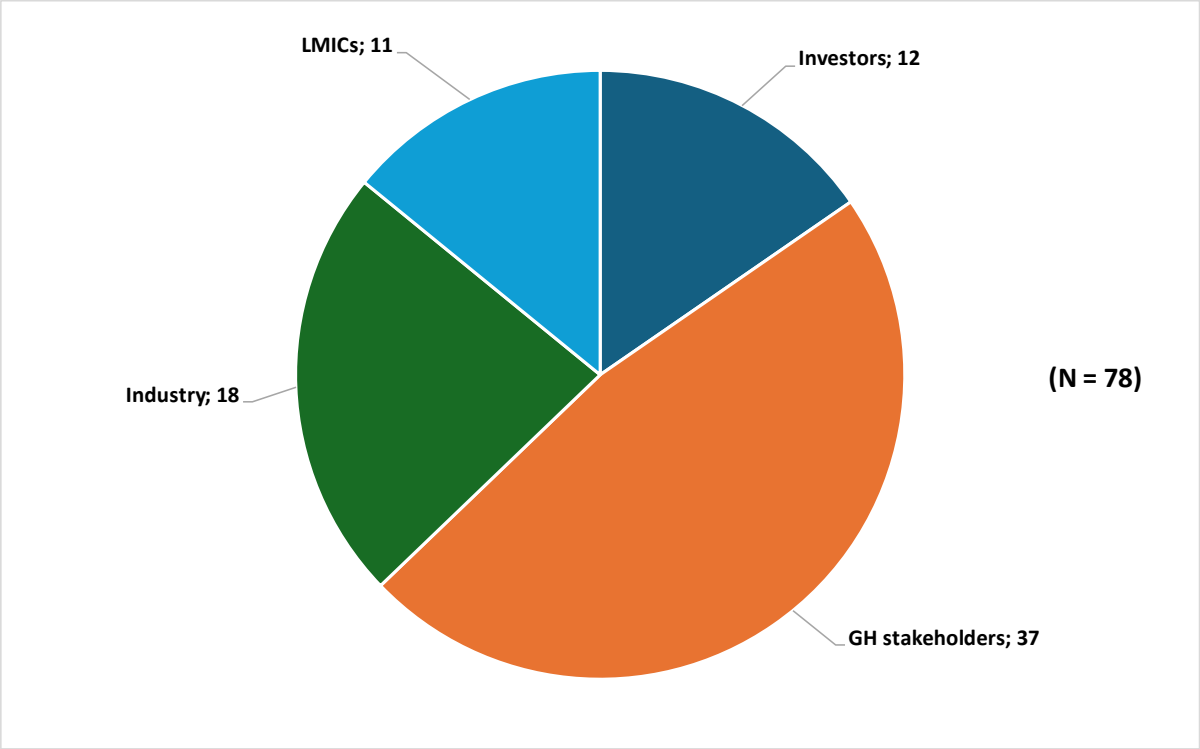
Medical oxygen: The Foundation began work on medical oxygen during the COVID-19 pandemic. It organised three virtual roundtables between 2020 and 2021. The Foundation continued this work with a report in April 2023, which analysed how six major gas companies that also produce medical liquid oxygen could expand access to medical oxygen in the long-term.[13]

1.3. Methodology

Document analysis: We conducted a document review of 685 sources, provided by the Foundation, and collected over eight years (2016–2024). There were various types of documents, including news articles, environmental, social and governance (ESG) reports, and videos. We assessed the documents based on a framework that differentiated between (i) influence, outcomes, and impact, and (ii) the mechanisms of influence. In addition, we reviewed key Foundation publications, such as the Index reports.[14] We also reviewed the findings from the Foundation's last evaluation. [15] We further included data from other sources to complement the Foundation's own data. For example, Impact Global Health (formerly known as Policy Cures Research) maintains databases on the R&D pipelines for neglected diseases, maternal health, and emerging infectious diseases, which we used to assess progress in product development for the diseases within the scope of the Foundation.

Key informant interviews: We conducted 78 interviews with 80 individuals, representing 75 different organisations across various stakeholder groups. Figure 2 clusters these stakeholders in four groups: global health stakeholders, pharmaceutical industry representatives[16], investors, and LMIC stakeholders. Key informants were selected based on their familiarity with the work of the Foundation, including on specific issues such as access to medical gas, antimicrobial resistance and generic manufacturing. For example, 13 key informants interviewed for this evaluation had a focus on AMR and eight on diabetes. The interviews also included experts on cancer and medical gas. In addition to these stakeholders, we also conducted interviews with seven Foundation staff members, bringing the total number of interviews to 85. We conducted these interviews using questionnaires, which are included in the inception report. The questionnaires included both open questions and two closed questions.

Figure 2. Key informant interviews



Value for money assessment: First, we conducted a comparative analysis of the Foundation's expenditure with that of other organisations working in global health. The purpose of this analysis was to assess whether the Foundation's expenditure is reasonable and comparable with that of similar organisations. Second, we assessed how the Foundation's expenditure and changemaking activities (i.e., the research and engagement outputs) have developed over time. This allowed us to understand whether there was a healthy relationship between expenditure and output. Third, to assess the Foundation's 'value for money' proposition, we conducted a quantitative analysis to estimate the public health and economic benefits that accrue from investing in the Foundation, and we developed a benefit-cost ratio. We modelled the health and economic benefits of expanded access to five product types by six companies– bedaquiline, dolutegravir, insulin, intrauterine devices, and sacubitril/valsartan – across LMICs. Details of the model are provided in Section 6 and Annex 1.

1.4. How this report is organised

First, we discuss the Foundation's influence, outcomes, and impact (Sections 2-4). We then present the findings on the mechanisms of influence (Section 5). Next, we assess the Foundation's 'value for money' proposition (Section 6). Finally, we summarise the key findings and make recommendations for the Foundation's future direction (Section 7). Additional methodological details and findings are provided in the Annex.

2. Influence of the Foundation

In this section, we first provide a broad overview of the Foundation's overall influence on access to medicines. Second, we assess in detail how the Foundation has influenced access in specific programmatic areas, with a focus on the extent to which the Foundation has influenced decisions, long-term strategies, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance.

2.1. Overall influence of the Foundation

Over nearly two decades, the Access to Medicine Foundation has established a strong position within the pharmaceutical ecosystem, exerting considerable influence on corporate practices and policy development. Through its research and advice, the Foundation also empowers policymakers, investors, and others to step up action on critical access issues.

This influence is also reflected in the integration of the Foundation's research outputs – including, but not limited to, the Indexes, the AMR Benchmark, the Generics and Biosimilar Medicine Report and the reports on insulin and medical gas producers – into key strategic and operational documents of industry stakeholders (see Section 2.2). These research outputs serve as critical frameworks to guide decision-making and align corporate initiatives with global health objectives. The Foundation's research outputs have been explicitly referenced by company representatives, institutional investors and others as drivers for shaping access strategies and operational priorities within major pharmaceutical companies. Due to this influence, there is widespread agreement across our key informants that the Foundation has driven a sense of urgency among companies and catalysed access considerations across the sector.

Public and philanthropic stakeholders in global health, and institutional investors recognise the Foundation's unique expertise. By generating and sharing evidence, the Foundation empowers these actors to drive corporate change. During the key informant interviews, many stakeholders highlighted the key role of the Foundation's research outputs. The Foundation's expertise is sought by international agencies, such as the World Health Organization (WHO), national authorities, such as the United Kingdom (UK) government, and global health initiatives. Key informants from across stakeholder groups also highly value the Foundation's work with investors as an additional mechanism to change and improve corporate access approaches. Interviewed investors highlighted that they make extensive use of the Foundation's research outputs to inform and guide their engagement with companies (see Section 5 for more details).

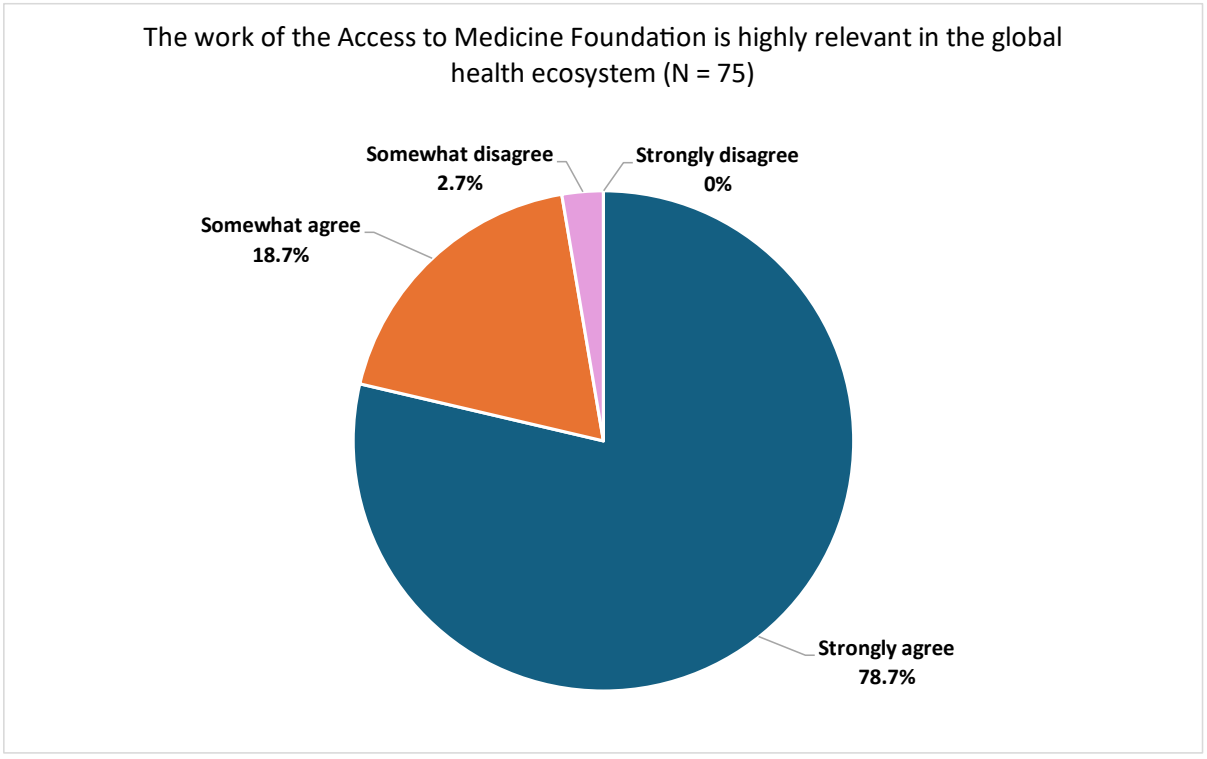
In addition, the Foundation exerts significant influence on access to medicines through its representation on many boards and committees of key global health initiatives. For example, the Foundation's CEO, Dr. Jayasree K. Iyer, is a member of the Executive Committee of the Access to Oncology Medicines (ATOM) Coalition, of the Access Committee of the Drugs for Neglected Diseases initiative (DNDi), and of the Advisory Board of Axmed.[17] Senior stakeholders from these initiatives have highlighted that Dr. Iyer has played an important role in providing advice on key strategic access questions and on how to engage the industry in a responsible and impactful way. The three examples also show the breadth of the Foundation's expertise, covering a range of disease areas and health system needs. Overall, there is also no other organisation in the global ecosystem that works on access for such a wide range of products, covering a large range of diseases, conditions, and

pathogens. As one stakeholder put it – "if the Foundation did not exist, there would be a strong rationale to create it".

Senior staff members of the Foundation also frequently participate in more time-limited ad-hoc committees and in high-level meetings and events as speakers and panellists. A recent example is the 2024 UN General Assembly.[18] The Foundation's frequent presence in high-level events shows that it represents a recognised and credible organisation. Some stakeholders suggested that there are opportunities for the Foundation to strengthen its voice on the stage of key meetings, such as Goalkeepers events and Grand Challenges meetings.[19,20]

In line with these positive findings on the Foundation's overall influence, our key informants also reported that the work of the Foundation is highly relevant and essentially unique in the global health ecosystem. Key informants also shared their views on the relevance of the Foundation's work in the global health ecosystem. The responses to the questions indicate a strong overall agreement on relevance: 97.3% agreed that the Foundation is highly relevant, with 78.7% strongly agreeing. This high level of agreement underlines the significant role that the Foundation plays in global health. Only 2.7% somewhat disagreed, and there were no respondents who strongly disagreed (Figure 3).

Figure 3. Relevance of the Foundation in the global health ecosystem



2.2. Influence in specific programmatic areas

In this section, we discuss the influence of the Foundation in specific programmatic areas, including the Access to Medicine Index. However, the Foundation has significantly expanded its scope beyond the Index in recent years. The two cross-sector programmes on AMR and diabetes care have positioned the Foundation as a key player in these spaces. Moreover, the Foundation's engagement

extends to other sectors, including medical oxygen and generics and biosimilars. These sectors provide further evidence of the Foundation's influence and impact in addressing critical global health challenges and were therefore included in this evaluation.

The Access to Medicine Index

The Index serves a unique function in the global ecosystem. Many key informants agreed that the Index sets a standard of best practice and guides the industry on access approaches.

Key industry players have made public statements about how the Index is driving change in their corporate access approaches (available on the Foundation's website):

- *Novo Nordisk*: "The insights gained through the Access to Medicine Index really serve as a bit of a North Star in terms of best practice and what could be done to expand our work in access to medicines and in global health equity."[21]
- *Roche Holding AG:* "Very concretely for Roche, what the Access to Medicine Index helped is raising the awareness for the need to improve access in low- and middle-income countries and the challenges that they are facing."[22]
- *Boehringer Ingelheim:* "The Access to Medicine Index is a very comprehensive assessment and it shows that many different elements are necessary and contribute to access to medicines. This is very helpful in our internal discussions when we talk to the different teams, (…) because it helps to create an understanding [of] what everyone's specific contribution to access to medicines is (…). It is a benchmark, it clearly shows us what the best practices are and also what the opportunities to improve are for us as companies. We use these insights when we plan and implement new programmes and initiatives and, simply, to continuously improve what we do."[23]
- *Bayer AG:* "The Access to Medicine Foundation has had a huge impact, and has really driven change in the company." (…) It is an important index for us (…) and we pride ourselves that by improving in many areas we've improved our ranking, from 16th to number 9 in two iterations, but we know we can't rest, and the Foundation will continue to give us good advice on examples on how and where to improve."[24]

Company reports also refer to the crucial role of the Index. The important role of the Index has been highlighted by Merck KGaA, whose 2023 Sustainability Report mentions that the company used the Index to inform its strategy.[25] Other Index companies, such as Johnson & Johnson, refer more generally to the influence and change-making power of the Index, acknowledging its role as a key industry benchmark.[26]

In addition, there are companies that are not in the scope of the Index but still benefit from it. In its 2020 Year in Review, Biogen noted that early-onset spinal muscular atrophy is a priority disease as defined by the Index to raise the profile of its Spinraza (nusinersen) programme and give it a just cause. In 2020, the company completed a one-year pilot programme in India to help expand access to Spinraza (nusinersen) for individuals in need of treatment.[27] Biogen has also announced on its website that it takes the Index criteria into account, including when making grant decisions.[28]

There are also several public statements about the Foundation's key guiding role by high-profile global health experts (non-industry stakeholders) on the Foundation's website. For example, the

Union for International Cancer Control highlights that the Index not only measures but also guides companies on what they need to do,[29] while an expert from the Medicines Patent Pool stated that the Foundation has successfully supported "the industry in driving their access policies towards those that can have the greatest impact on health indicators."[30]

During the key informant interviews, many stakeholders also highlighted the key role of the Index. One key informant from a global health initiative described how the Index serves as an important entry point for discussions with industry: "The ranking is a great tool – we can sit down with companies and use it as a tool to engage. We ask companies abut challenges and applaud them for progress. The carrot and stick of the Index is really useful".

Cross-sector programme on antimicrobial resistance

In the field of AMR, the Foundation has positioned itself as a trusted and reliable source that serves as an important and unique input to the work of other stakeholders. The Foundation's highly valued expertise informs engagement with industry, investors, governments, and philanthropists, as well as other global health initiatives and policymakers.

AMR continues to be a leading cause of death globally.[31] The evolution and spread of AMR is driven by a large number of interdependent factors including the misuse and overuse of antibiotics in both humans and animals, lack of investment in research and development of innovative drugs to treat emerging antibiotic-resistant pathogens, knowledge gaps among healthcare workers regarding the appropriate use of antibiotics, and inadequate surveillance systems to monitor local and regional drug-resistant infections.[32] Reducing the global burden of AMR will require coordinated action across multiple sectors including healthcare, pharmacy, agriculture, finance, trade, and education at the national, regional, and global levels.

Since 2017, the Foundation has published three iterations of the AMR Benchmark, which highlights opportunities for the largest pharmaceutical companies in the areas of R&D, responsible manufacturing, appropriate access, and stewardship.[33] In addition to the AMR Benchmark, the Foundation's research on tracking the progress of companies covered by the 2021 AMR Benchmark,[34] and regularly producing and disseminating research on AMR, such as that on responsible manufacturing,[35] feeds into the work of other stakeholders and reinforces the Foundation's importance in this space.

The AMR Benchmark has had significant influence on the pharmaceutical industry. For example, as stated in the 2023 Teva Healthy Futures Report, Teva made progress on opportunities related to improving compliance with antibacterial discharge limits and publicly disclosing these results.[36] Teva's 2021 ESG Progress Report included the AMR benchmark in the ESG rating overview.[37] GSK also made progress on the environmental front by publicly disclosing the results of environmental risk management audits, specifically related to antibacterial contamination levels. This was in response to the 2021 AMR Benchmark recommendation that GSK increase transparency around its environmental risk practices, further aligning with the industry's push for accountability.[38] Pfizer responded to the 2021 AMR Benchmark opportunity by addressing concerns about its wastewater management practices. Its CDP Water Security report from the same year highlights investor and NGO pressure for greater transparency and recalls Pfizer's commitments in this area, reflecting

scrutiny from public health advocates and the AMR Benchmark itself.[39] Pfizer also recognised in its impact report that it made progress against Index opportunities.[40]

Key informants reported that the AMR Benchmark exerts "background pressure" on the industry, pushing companies to move forward on identified opportunities. One global health stakeholder argued that this pressure was a contributing factor in companies' openness to entering into licensing agreements. According to another AMR expert, "companies do listen" to pressure from the Foundation. This is confirmed by industry. One industry representative described how he used the AMR Benchmark in his discussions with board members and that it was "thanks to the Foundation" that the company considered access. Another industry representative argued that the AMR Benchmark significantly increases the visibility of good practice and therefore incentivises and rewards companies to intensify their efforts to improve access. He also argued that he uses the AMR Benchmark to internally advocate for access "in a robust manner." The AMR Benchmark helped generate commitment for tuberculosis drugs, including paediatric formulations. The Foundation has also helped improve access conditions, including availability and affordability, and environmental risk-management strategies to limit the negative impact of antibacterial manufacturing on drug resistance.[41] In another interview, a policymaker suggested a link between industry-wide initiatives such as the AMR Industry Alliance and the work of the Foundation, which "forces companies" to act.

The Foundation also supports industry engagement through its convening role. Its unique position helps the Foundation to bring different stakeholders to the table, as was the case in the June 2024 Antibiotic Access Industry Roundtable with SECURE.[42]

Building on the quality research it publishes, the Foundation has become a key source of evidence and advice for a wide range of government policymakers and philanthropic funders. Four different countries represented in the interviews conducted confirmed the role of the Foundation in their work on AMR. "Go to source," "authority," and "neutral broker" were among the words used by several policymakers to describe the Foundation and the research it provides. The Foundation's direct advice informs countries' positions and negotiations in multilateral fora such as the G7, G20, and the United Nations High-Level Meetings on AMR. Most recently, the Foundation supported its stakeholders in the negotiations of the Political Declaration on AMR, which global leaders adopted at the 79th United Nations General Assembly (September 2024) and which includes a set of targets and actions.[43] The Foundation is also an influential force that informs global initiatives. For instance, the Foundation provided input into the development of WHO guidance on "wastewater and solid waste management for the manufacturing of antibiotics".[44,45] The Foundation's AMR expertise is also sought by national authorities, with the Foundation informing the UK's AMR National Plan 2024-2029 and the US National Institutes of Health Intramural Research Program.[46]

The Foundation frequently provides briefings, both to high-income countries such as Canada, the Netherlands, and the UK, and to LMICs, including India, Honduras, and Rwanda, albeit less frequently. Notably, since 2022 the Foundation has initiated a dedicated LMIC programme to increase its engagement with LMIC-based stakeholders. A critical component of this project has been relationship building with decision-makers, which has been reflected in an increase in engagement opportunities with LMICs. This will continue to be a priority for the Foundation to further strengthen LMIC engagement in the coming years.

The Foundation's research is consistently seen as high quality, complementary, and unique**.** Throughout the interviews, the research produced by the Foundation was described as "unique" and a "foundational source" for data that cannot be found elsewhere. Since the Foundation's research is relied upon by global health stakeholders as a basis for engaging with companies and assessing potential industry partnerships, the Foundation makes an important contribution to transparency and accountability.

Engaging with investors on AMR is another aspect of the uniqueness of the Foundation's approach. The Foundation's role in mobilising investors has been crucial in motivating companies to change. Investors confirmed in interviews that they also rely on the Foundation's research to engage with industry on AMR-related priorities such as innovation and clean manufacturing. The Foundation was also instrumental in developing the Investor Action on Antimicrobial Resistance (IAAMR) Investor Statement and in creating investor buy-in ahead of the UN General Assembly High-Level Meeting on AMR. This shows that the Foundation plays an important role in encouraging investors to push for change (for more details, see Section 5).

Cross-sector programme on diabetes care

The Foundation's research and convening role have led to substantial progress in the field of diabetes.

Diabetes is a leading cause of morbidity and mortality worldwide.[47] New research conducted for the Lancet Commission on Investing in Health shows the significant increase in the global diabetes burden: While mortality rates for other priority non-communicable diseases (atherosclerotic cardiovascular disease, haemorrhagic stroke, infection-associated NCDs, road injuries, tobacco-associated NCDs, and suicide) have decreased since 2000, age-specific and cause-specific mortality rates for diabetes have increased.[48] By 2050, an estimated 1.3 billion people are projected to be living with diabetes (up from 529 million in 2021).

Supported by the Leona M. and Harry B. Helmsley Charitable Trust, the Foundation launched its cross-sector diabetes programme in December 2021 with a report (released in 2022) outlining opportunities for major insulin manufacturers to improve access in LMICs, including through donations and pricing strategies.[49] Several interviews conducted with industry representatives, LMIC stakeholders and other global health actors confirmed the value of the 2022 report, which provided "external validation" of the challenges companies face.

The diabetes programme shows how the Foundation connects its research outputs with its convening role. The Foundation uses the Index to measure and incentivise stronger access approaches of insulin manufacturers, and it then uses the Amsterdam Sessions and the resulting meeting reports to guide change across the entire spectrum of stakeholders in diabetes care. The Foundation has organised three consecutive Amsterdam Sessions. The first, in July 2022, focused on the gaps in access to diabetes care in LMICs.[50] As pointed out by some key informants, industry's willingness to engage with the broader diabetes community was limited at this initial stage, and a key aim of the programme was to encourage further and ongoing engagement from diabetes companies. However, the June 2023 session on ramping up access along the diabetes care continuum,[51] and the April 2024 session on securing worldwide access to diabetes care by 2030,[52] proved pivotal in significantly changing this relationship. By positioning itself in the diabetes

landscape, the Foundation helped reshape the ecosystem and shifted the approach from individual responsibility to an agreement on the need for collective action. “The Foundation has played a critical role” in building collaborative relationships, said one session participant in their interview. The Foundation’s convening role is credited with changing the industry’s approach to its relationship with other stakeholders, including in sharing data and adopting best practices. Stakeholders interviewed acknowledged the value of the Amsterdam Sessions throughout the interviews, describing them as “very useful” for sharing with peers and other actors and for getting a “holistic view.” Beyond its role in building collaborative dialogue between stakeholders, the Foundation has helped to shift what progress on access looks like.

Two different LMIC stakeholders who attended the Amsterdam Sessions have expressed strong support for the Foundation’s work as a bridge builder on the issue of insulin access. The Amsterdam Sessions led to further discussions between one insulin supplier and national authorities in a West African country. Similarly, following an Amsterdam Session, an insulin manufacturer reached out to a civil society organisation regarding a project on patient care and parallel imports of insulin. The Sessions also brought the issue of affordability to the attention of a global health stakeholder who, informed by the Foundation’s work, renegotiated the prices paid for insulin.

Taken together, the various activities put in place under the diabetes care programme have led to concrete outcomes. Biocon, a leading biopharmaceutical company, publicly acknowledged that the 2022 Diabetes Report revealed gaps and directly prompted the company to increase awareness of its medicines in sub-Saharan Africa and to collaborate with non-profits in the region.[53] Another example of the report's influence can be found in the Foundation’s 2023 Annual Report, which notes that the Africa Diabetes Alliance used the Foundation’s research to inform its organisational strategy.[54]

Medical oxygen

In the field of medical oxygen, the Foundation positioned itself as a key actor by bringing together global health stakeholders and industry for the first time and by developing a key publication on what companies are doing to improve access to medical oxygen in LMICs. The convening role of the Foundation led to concrete impact on the ground.

The COVID-19 pandemic highlighted the long-standing inequity in access to medical oxygen faced by low- and middle-income countries worldwide. An analysis of ten countries across Africa estimated that in 2020, 50% of COVID-19 patients admitted to intensive care units did not receive supplemental medical oxygen.[55] By the end of 2021, the estimated need for medical oxygen across all LMICs for COVID-19 patients alone was at least one million cylinders per day.

The Foundation has been instrumental in driving engagement from stakeholders who were previously disconnected from the medical oxygen industry. The organisation of three virtual roundtables in 2020 and 2021 gave global health stakeholders access to medical gas companies in the urgent context of COVID-19.[56] As an established player in this space, the Foundation continues to play a role beyond COVID-19, as evidenced by an April 2023 report that analyses how six major gas companies that also produce medical liquid oxygen can expand access to medical oxygen in the long term.[57]

This essential convening role enabled concrete progress in the form of Memoranda of Understanding that medical gas companies Air Liquide and Linde entered into with Unitaid and the Clinton Health Access Initiative to address gaps in access to liquid medical oxygen.[58] This outcome, linked to the Foundation-led roundtable, led to concrete projects at the local level in Africa – an achievement for which the Foundation is to be credited, according to stakeholders involved in the meetings. Liquid oxygen companies also committed to working with ACT-A global health partners to facilitate equitable access to oxygen in a number of LMICs where access to medical oxygen is currently poor.

Building on this success, the Foundation further positioned itself as a leading actor in the space with its April 2023 report on companies' actions to scale up access to liquid medical oxygen. By highlighting priority areas for action to increase access to liquid medical oxygen and engaging with industry, the Foundation showed it was able to extend the scope of its expertise beyond the Index and AMR Benchmark and drive progress on access in other areas. "They moved very quickly into a vacuum," said a global health stakeholder in an interview focused on the medical oxygen roundtables. All four key informant interviews conducted with medical oxygen specialists confirmed the valuable role played by the Foundation.

From an LMIC perspective, the progress enabled by the Foundation on the issue of access to liquid oxygen is particularly important. As one stakeholder from an East African government explained, the Foundation elevated the issue of local manufacturing as part of the discussions on medical oxygen, which underpinned progress on the issue at the regional level.

Further illustrating the importance of the Foundation's role in engaging with medical gas companies is its presence at various events. Since moving into the space with the roundtables, the Foundation has continued to engage with global health stakeholders as a key voice, for instance at the 2023 Asia-Pacific Industrial Gases Conference,[59] at the 2nd Global Forum on Childhood Pneumonia,[60] and on a panel at the World Health Assembly in Geneva,[61] where it highlighted findings from the medical oxygen report and emphasised the need for sustained industry action to address oxygen shortages in LMICs. The Foundation is also involved in various oxygen-related initiatives to ensure strategic guidance especially on engaging the industry. For example, the Foundation's CEO Dr. Jayasree K. Iyer is a member of the Lancet Global Health Commission on medical oxygen security and the Global Oxygen Alliance (GO2AL).[62,63]

Generics and biosimilars medicines

The Foundation also applies its model of change to mobilise companies in the generic and biosimilar sector. The February 2023 Analytical Framework, which evaluates companies' efforts to expand access,[64] and the subsequent September 2023 report on five market-leading companies, form the basis of the Foundation's work in this sector.[65] The Foundation developed the framework based upon a strong consultation process. From December 2021 to February 2022, the Foundation conducted a review of relevant academic, peer-reviewed literature and policy reports to determine key areas where action by generic medicine manufactures could best facilitate access to medicine. The Foundation subsequently held a workshop with generic and biosimilar manufacturers and industry associates in April 2022 to discuss the responsibilities of manufacturers in improving access to medicine within LMICs and to identify current and future opportunities for these companies to

further leverage their expertise and capabilities to increase access to medicine. From April 2022 to July 2022, the Foundation held consultations with additional stakeholders (industry experts, clinicians, pharmacists, academic institutions, NGOs, global health organisations, private organisations, procurement agencies, governments, and regulators) to refine the scope of the framework and establish key parameters on which to assess action by generic and biosimilar manufacturers. Lastly, a committee composed of experts from industry, the private sector, research and academic institutions, international organisations, and NGOs reviewed framework proposals for robustness, relevance, and representation of areas most conducive to change-making within the access-to-medicine ecosystem.[58]

Industry actors, investors, and other global health stakeholders have expressed how generic and biosimilar manufacturers play a critical role in expanding access to essential medicines in LMICs. They appreciate the Foundation's reports, which provide valuable information on where and how companies can continue to improve. As one key informant noted, the Foundation's work helps them identify where "to focus their engagement."

In the short time since the launch of this workstream, concrete progress has already been made. For instance, the Foundation's work on generic and biosimilar manufacturers is credited with guiding consensus on the priority list of generic and biosimilar medicines of the ATOM Coalition.[66]

The Foundation also supported an initiative under the Pharmaceutical Manufacturing Plan for Africa (PMPA). AUDA-NEPAD is driving the implementation of the PMPA to reduce reliance on imported medicines by promoting local production. The Foundation has supported one initiative under the PMPA, which aims to boost local production of 24 priority medicines to enhance access to high-quality, affordable medicines on the African continent. Drawing on the results from the Index and the Generics and Biosimilar Medicines Report, the Foundation contributed to identifying the 24 priority products. In addition, the Foundation has contributed to the development of the Compendium of Good Pharmaceutical Policies, Practices, and Guidelines, which will serve as a comprehensive guide for African nations to develop and implement effective pharmaceutical policies tailored to their specific contexts.

Stakeholders see the recent work on generics and biosimilars as an important step and call for it to be expanded. A representative of a generic manufacturer explained that the Foundation "gives an idea of what can be done to improve access" and should therefore expand its work with the generic and biosimilar industry. Hikma also publicly acknowledged the value of the Foundation's work: "We recognise that access to medicine is a critical issue in all our geographies, but in particular in low- and middle-income countries, where healthcare resources are limited. In 2022 we engaged with the Access to Medicine Foundation in its development of a first-of-its-kind 'Generic Medicine Manufacturers Analytical Framework', which aims to highlight and evaluate the important role of generics companies in advancing access to medicine in LMICs."[67]

3. Outcome contributions

Key informants indicated that the Foundation has significantly shaped industry behaviour. Several company representatives confirmed that the Foundation is a contributing factor or even a strong driver of industry approaches to access. Other company representatives argued that the Foundation has been a strong driver of the access agenda globally and has helped to move the

pharmaceutical ecosystem towards access. This aspect is also supported by the evidence gathered by the Foundation itself.

The Index continues to be a key driver of change, with multiple pharmaceutical companies publicly citing the Index as a catalyst for improving their global access strategies:

The 2021 Index identified an opportunity for Sanofi in the area of Governance of Access. Following the 2021 Index, Sanofi decided to create a Global Health Unit to provide access to essential medicines.[68] In July 2022, the Sanofi Global Health Unit launched a non-profit Impact brand for 30 medicines in 40 countries with the highest unmet need.[69] The products cover therapeutic areas such as diabetes, cardiovascular disease, tuberculosis, malaria and cancer. Not only did the 2022 initiative reflect the opportunity highlighted for Sanofi, but Thibaud Lefort, Head of Operations at Sanofi Global Health, directly credited the Foundation for this intervention. Lefort has publicly stated that "because of the feedback and benchmark, the Access to Medicine Index highlighted the fact that we were less successful with increasing access in LICs compared to other countries. As we were redesigning our overall affordable access strategy, this helped us adjust the focus of our efforts. The recent launch of the new Sanofi Global Health Unit, with a scope of 40 low and lower-middle income countries, is a key element of Sanofi's commitment towards patients in these geographies. The ATM Index continues to help us mobilise our leadership and colleagues."[70]

For Bayer, the effect on the company's approach to access has been multi-faceted. Bayer changed access policies, took steps to improve its Index ranking, and formed a Global Health Unit inspired by the Access to Medicine social models approach. Bayer launched its Global Health Unit in 2024 to improve access to its products in more than 50 countries in Africa and Asia.[71] Inspired by the Foundation's best practices, Bayer also revised its policies on post-clinical trial access and developed new guiding principles to ensure consistent global access.[72] Bayer's improved practices resulted in a significant improvement in its Index ranking from 16th to 9th place in two iterations, showing how the Index is a key driver of progress.

In addition to the Index, the Foundation has shared best practices and established strategic partnerships that have facilitated progress, data sharing, and the refinement of corporate strategies. In an interview that is available on the Foundation's website, a Biocon representative stated that the Foundation's 2022 report[73] on affordable insulin revealed gaps in registration and prequalification processes, which prompted the company to act and consider how it could use its knowledge to improve awareness and access to its medicines.[74] Biocon worked to increase awareness of its medicines in sub-Saharan Africa, partnering with non-profits to do so, and said it has been "very successful thanks to the report." A key outcome that the company credits to the report is the identification of opportunities to collaborate with non-profits, which it has capitalised on by partnering with Action for Diabetes and Reach 52 to develop holistic approaches to manage diabetes from an integrated care perspective.

A significant milestone for the ATOM Coalition was the partnership with Novartis, which licensed its blood cancer drug, nilotinib, to the United Nations' Medicines Patent Pool (MPP). "This is a first for cancer treatment anywhere and demonstrates that the combined efforts of the private and public sectors can pave the way to help save millions of lives" said Anil D'Cruz, Co-Chair of the ATOM Coalition Executive Committee and the Immediate Past President of UICC.[75] This licensing agreement

allows generic manufacturers to produce nilotinib at scale, making it more affordable and accessible to lower-income populations.[76] As reported by different interviewed stakeholders, the Foundation's role was pivotal in this process – the 2021 Index report had already identified opportunities for Novartis to expand access to oncology products in LMICs, and there were also discussions about voluntary licensing.[77,78] Key informants shared other examples. For example, in response to the significant gaps in cancer care across LMICs**,** a global biopharma company launched a 10-year initiative aimed at improving access to essential oncology treatments, which they designed in collaboration with the Foundation.

There are many other examples of strong alignment between the actions taken by companies and the recommendations of the Index reports. For example, Sanofi signed a Memorandum of Understanding on access to diabetes care with the Ghanaian Ministry of Health in April 2023 and with the Nigerian Delta State in September 2023. This collaboration provides access to affordable insulin analogues for patients in need.[79] The 2022 Index included opportunities for Sanofi to expand the registration of analogue insulins and improve access to insulin and diabetes products.[80]

In 2023, Novo Nordisk contracted Aspen Pharmacare to produce insulin on its behalf in South Africa for export to African countries through a low-cost government tender system as part of Novo Nordisk's integrated sustainable business model, iCARE.[81] The 2022 Index included opportunities for Novo Nordisk to expand access to innovative products and to measure and share outcomes of iCARE. Novo Nordisk's leadership frequently refers to the Index as a crucial tool in its decision-making processes.[82]

In 2024, AstraZeneca took a significant step by expanding its Healthy Heart Africa (HHA) programme to include chronic kidney disease (CKD) management, in collaboration with the Ghana Health Service and PATH.[83] This expansion follows a key recommendation of the 2022 Access to Medicine Index, which encouraged AstraZeneca to broaden the scope of HHA both geographically and in terms of disease coverage.[84]

Evidence of longitudinal change

The Index reports provide substantial evidence of progress in three key areas that are critical to improving access to medicines. These are governance, product delivery, and R&D. These reports show that the Foundation has been instrumental in driving key changes in governance, product delivery, and R&D in the pharmaceutical industry. There is clear evidence that the industry has improved in these areas. Selected examples are provided below.

Governance

The number of Index companies with measurable goals, objectives, and targets for improving access increased from 8 in 2010 to 20 in 2022.[85] The number of Index companies with a board member or a board-level committee responsible and accountable for access to medicine activities also increased from 11 to 16 between 2018 and 2022 (Figures 4 and 5).[86] The number of companies that have decoupled incentives for sales agents from sales targets has increased the most, from 2 in 2014 to 18 in 2022. These data points show a steady increase, indicating strong and consistent progress in the importance of access to medicines at the governance level.

Figure 4. Number of Index companies with measurable goals and targets for improving access

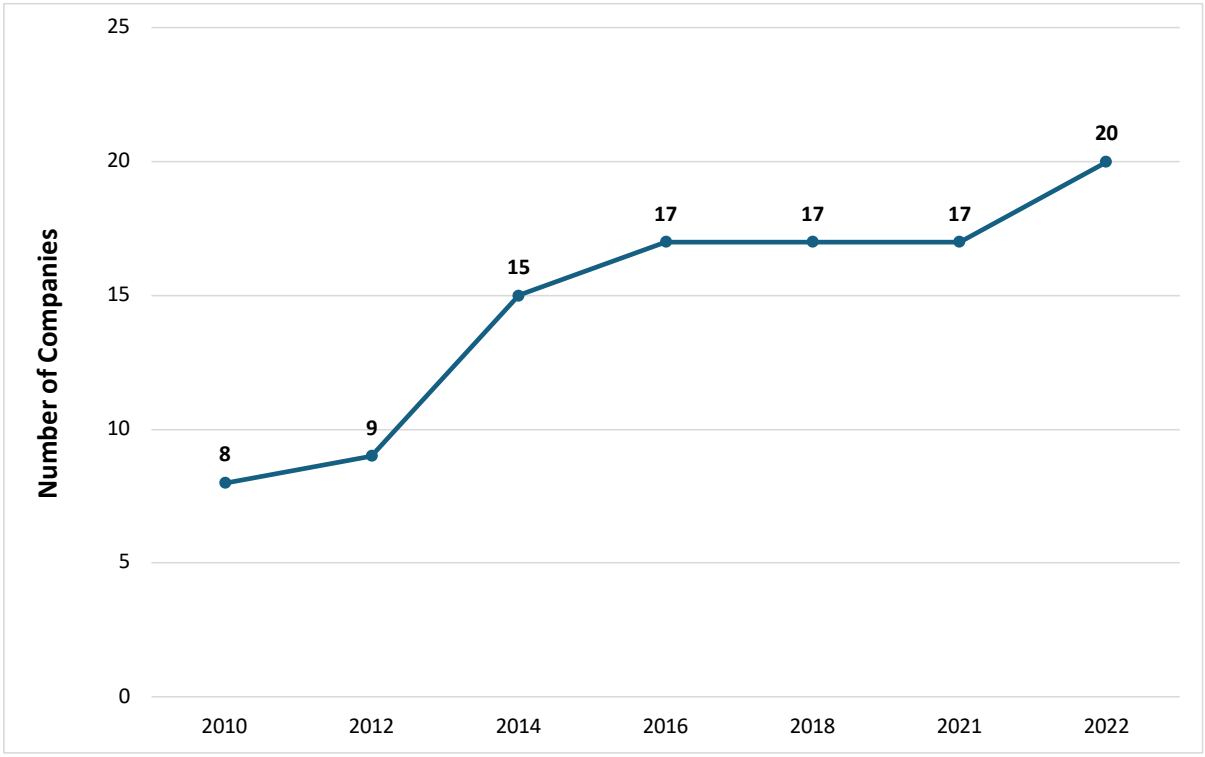
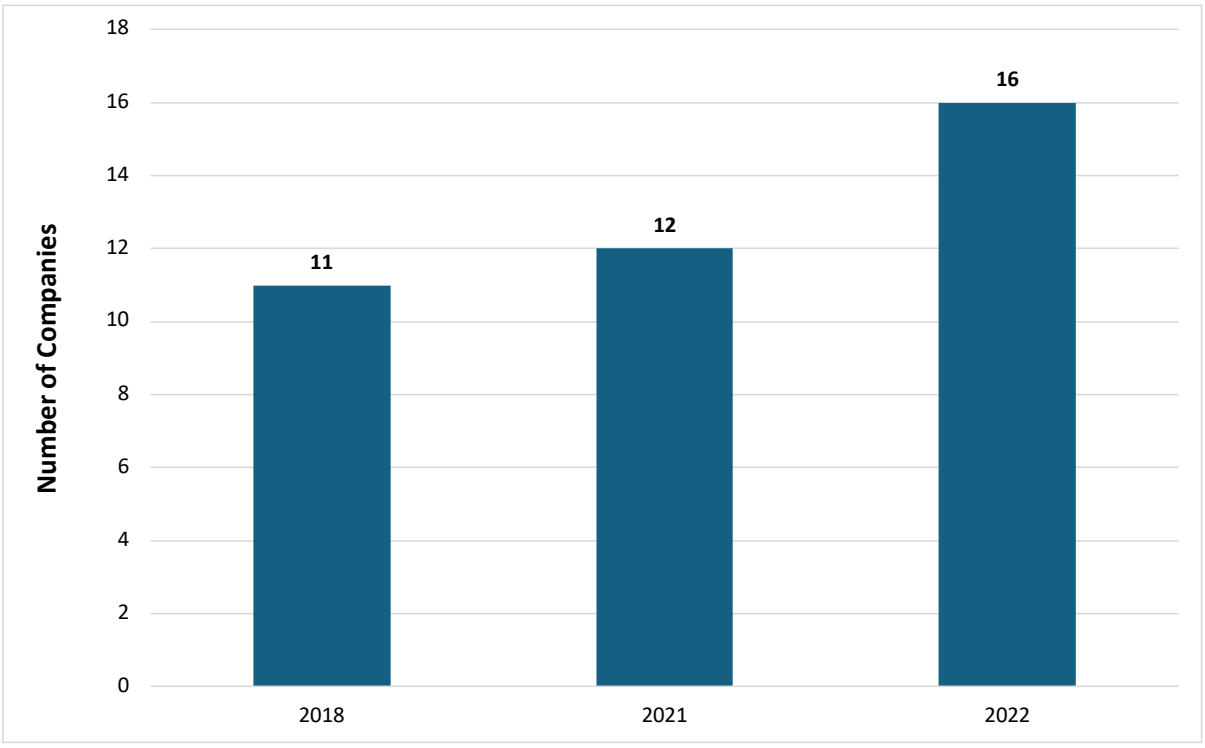


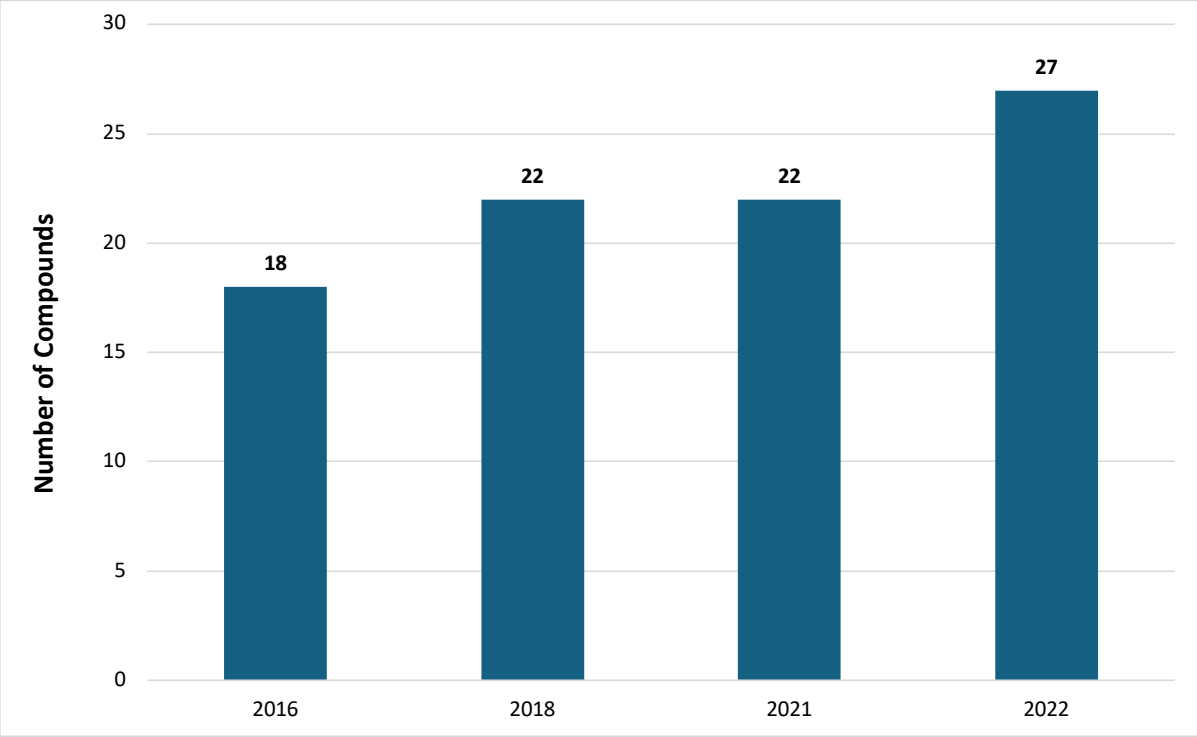
Figure 5. Number of Index companies with a board member or a board-level committee responsible and accountable for access to medicine



Product delivery

Many indicators under 'product delivery' showed similar trends. The number of compounds covered by voluntary licences increased from 18 to 27 between 2016 and 2022 (Figure 6).[87] The number of companies donating products for neglected tropical diseases (NTDs) also increased from 8 to 11.[88] The number of Index companies that disclose data about their products' patent status increased from 0 in 2010 and 2012 to 19 in 2022, showing a strong improvement in the way the industry shares information on patents.[89]

Figure 6. Number of compounds covered by voluntary licences



Research and development

According to Foundation data, the number of R&D projects targeting neglected tropical diseases increased from 38 in 2014 to 90 in 2018, but fell more recently to 89 in 2021 and 69 in 2022.[90] However, complementary evidence from Impact Global Health (formerly Policy Cures Research), which tracks global health R&D funding (specifically on neglected diseases, maternal health and emerging infectious diseases), shows that the neglected disease pipeline is healthier than ever. According to Policy Cures Research's definition of neglected diseases (which is broader than the NTD definition used by the Foundation[91]), the innovation pipeline to tackle neglected diseases has grown by 27%, from 593 active product candidates in 2019 to 752 active product candidates in 2023.[8] Malaria vaccine candidates experienced the largest growth during this period (a net increase of 23 candidates), followed by helminth diagnostic candidates (19), hepatitis B biologic candidates (16), dengue diagnostic candidates (15), dengue drug candidates (13), and diarrhoeal disease vaccine candidates (12).[8] As of 2023, 20% of product candidates in the pipeline are for malaria, 15% for tuberculosis, 15% for HIV/AIDS, 6% for dengue, 5% for hepatitis B, 4% for *S. pneumoniae*, 3% for leishmaniasis, 3% for hepatitis C, and 29% for other neglected diseases.

Three TB vaccine candidates have now entered late-stage trials: (i) M72, a fusion protein of two M tuberculosis antigens administered with a potent adjuvant (originally designed and clinically evaluated by the Index company GlaxoSmithKline), (ii) VPM 1002, a next-generation, genetically modified BCG vaccine (developed by the Max Planck Institute for Infection Biology in Berlin), and (iii) MTBVAC, an M tuberculosis strain attenuated by two genetic mutations (Biofabri). In addition, important new health tools have been introduced in recent years. Two malaria vaccines were launched in 2021 (GSK's RTS,S/AS01) and 2023 (R21/Matrix-M, developed by Oxford University and manufactured by the Serum Institute of India). Other notable launches by Index companies include a new dengue vaccine licensed in 2022 (Takeda's TAK-003), a new chemical entity for the treatment of human African trypanosomiasis first approved in 2018 (fexinidazole, developed by DNDi in partnership with Sanofi), a new Ebola vaccine approved in 2020 (Johnson & Johnson's two dose regimen: Ad26.ZEBOV and MVA-BN-Filo), and a space-spray vector control product to combat mosquito-borne viruses including dengue, zika, and chikungunya that launched in 2020 (Bayer's Fludora Co-Max).[92,93,94,95] However, many key products are missing, and the pipeline is empty for others. For example, the pipeline lacks preclinical and clinical vaccine candidates for cryptosporidiosis, multiple helminth infections, sleeping sickness, and strongyloidiasis, as well as drug candidates for hookworm, lymphatic filariasis, multiple *Salmonella* infections, non-typhoidal *S. enterica*, scabies, strongyloidiasis, and tapeworm.

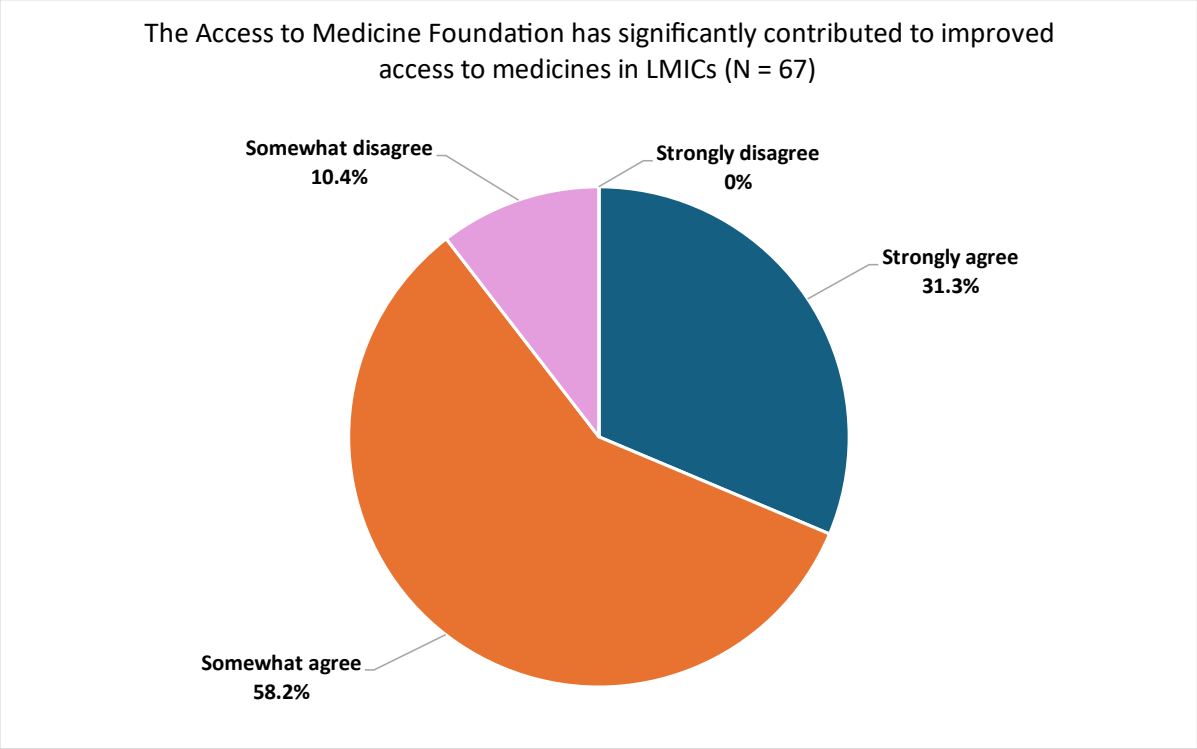
4. Impact on the ground

Nine out of ten key informants believe that the Foundation has made a significant contribution to access in LMICs.

Key informants for this evaluation were asked whether the Foundation has made a significant contribution to improving access to medicines in LMICs. Of the 67 key informants who responded to this question, 89.6% agreed that the Foundation has made a significant contribution (Figure 7). More specifically, 31.3% strongly agreed, and 58.2% somewhat agreed, highlighting a broadly positive view of the Foundation's impact. Only 10.4% somewhat disagreed, and no respondents strongly disagreed, indicating that while there is scope for further impact, the overall perception of the Foundation's contribution is very positive.

Many stakeholders praised the Foundation's role in improving access. Although some respondents mentioned challenges in directly observing the full impact of the Foundation's work, they nevertheless recognised its significant indirect contributions. Moreover, some stakeholders highlighted the need for continued engagement and data sharing to gather better evidence of the Foundation's impact in their specific contexts. These insights underline the Foundation's ongoing influence and the potential for even greater impact as the Foundation continues to strengthen its communication and evidence-sharing efforts.

Figure 7. Perception of key informants of the Foundation's impact on access to medicines in LMICs



The positive findings from our stakeholder interviews are in line with and complement our quantitative assessment on the Foundation's contributions to public health benefits. Using the patient reach data collected by the Foundation, our modelling shows that the Foundation has substantially contributed to public health impact in LMICs (see Section 6 for details).

From the key informant interviews conducted, we can conclude that the Foundation's work has had an impact on access from an LMIC perspective. Interviews conducted with LMIC counterparts highlighted the Foundation's role in bridging the gap between different stakeholders, including industry. LMIC stakeholders recognise the value of the Foundation, its expertise and its ability to connect global health actors. LMIC stakeholders also see opportunities for the Foundation to increase its impact on the ground for more concrete change at the local level.

A convening platform that leads to partnerships and concrete results. From the perspectives of the LMIC-based stakeholders interviewed, the role played by the Foundation in bringing together different stakeholders, in particular industry, cannot be overstated. This convening role leads to progress on access at the local level that can be attributed to the Foundation, as several interviewees acknowledged. One stakeholder described the Foundation as a "platform" that enabled direct discussions with the pharmaceutical industry and called for such meetings and events to be maintained and strengthened.

Capacitating and strengthening expertise: The Foundation provides valuable expertise that reinforces the capacity of LMIC stakeholders on access issues. The work of the Foundation has been described as "foundational" and "mind-blowing" among other positive characterisations. The research and analyses provided by the Foundation are highly regarded, as they provide unique insights not available elsewhere. LMIC stakeholders use the Index and other research outputs of the

Foundation to increase their knowledge of access challenges and to inform their engagement with industry and policy makers. Most LMIC stakeholders use the Foundation's research not only to inform their engagement with companies and policymakers, but also to deepen their understanding of access and its challenges in LMICs. One LMIC-based interviewee described how the Foundation's research on diabetes had served as the basis for their report on access to insulin and allowed them to gather information that they could then "repackage" for their partners.

Opportunities to increase impact at the local level: LMIC stakeholders value the Foundation's work, but often point out that more could be done to strengthen concrete impact at the local level. In 2022, the Foundation established an LMIC engagement programme to expand on this work. While some interviewees noted that the Foundation "understands the situation on the ground", they also called on the Foundation to scale up its efforts to translate high-level strategies into actionable outcomes at the local level. There is also a recommendation that the Foundation increase its visibility in these countries, particularly by participating in more regional events and ensuring that its reports and insights are more widely disseminated among LMIC policymakers and healthcare leaders. While the Foundation's impact is well recognised, there are calls for the Foundation to engage more deeply with regional actors and institutions. Two interviewees highlighted the opportunity for the Foundation to work more closely with regional actors, such as the Africa Centres for Disease Control and Prevention (Africa CDC) on the issue of local manufacturing.

5. Mechanisms of Influence

5.1. How the Foundation influenced corporate access approaches

In this section, we examine *how* the Foundation has influenced decisions, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance. We collected information across six different mechanisms of influence to understand the importance of these mechanisms. We found that all six mechanisms contributed to the influence and impact of the Foundation.

Multistakeholder consensus on the role of industry and corporate responsibilities

The Foundation has made substantial contributions to building stakeholder consensus. For many, the Index defines what "good" company behaviour looks like. In this sense, it fulfils a unique function in the global ecosystem and represents a "North Star" for guiding company behaviour on access issues. Other research outputs of the Foundation, such as the AMR Benchmark, also contribute to consensus on the role of corporate responsibilities.

The Index framework constitutes an important guiding framework from the perspective of the consulted members of the Expert Review Committee (ERC). This perspective was also shared by a wide range of other stakeholders consulted, who strongly acknowledged the relevance of the Index methodology. One interviewee described the Index as the "North Star". In addition, almost all investors use the Index findings in their interactions with companies. In this context, it is important to note that the Foundation's research findings are preceded by methodology documents that consider a wide range of perspectives. The Index methodology development process is intended to build consensus on the core themes and relevant areas of core company responsibilities. For example, for the 2024 Index, the Foundation consulted with over 100 key global health stakeholders,



including companies, to review and refine the methodology and to increase buy-in. In previous methodology reviews, the Foundation's consultations were as in-depth as in 2024.

As highlighted in Section 2 (page 15), industry representatives acknowledged that the Index guides companies on what they need to do and introduces a standard of best practice. It helps to define what "good" looks like and how to apply it. While acknowledging the general relevance and quality of the Index, a few industry representatives said that the Index did not substantially guide their own approaches. These industry representatives argued that their access practices were already much in line with the Index. Furthermore, the Foundation collects feedback on the methodology from companies and organises a specific meeting to finalise the methodology; however, some companies do not feel that their suggestions on the Index methodology are taken seriously enough.

Many other research outputs (e.g., the AMR Benchmark, the work on generic and biosimilar manufacturers) and engagement activities (e.g., the Amsterdam Sessions) of the Foundation strongly contribute to the creation of multistakeholder consensus (see Section 3 for examples). Key informants reported that the strong consultation processes, such as the development of the framework for the generics and biosimilars assessment (described before), contributed to buy-in and trust.

Support for internal change-making

Several industry representatives confirmed that they use the Index and the AMR Benchmark to advocate for internal change. For them, the Index and the AMR Benchmark are important (or even the most important) tools to drive change. For example, one representative said that the Foundation is a "strong driver of change". Leadership across companies is very aware of the Index. CEOs and other senior managers are interested in the ranking and the identified access opportunities. Best practice examples are widely seen as useful.

Several industry representatives expressed their appreciation for the Foundation's support in the development of stronger access-oriented business models. The Foundation provides constructive advice to individual change-makers in companies on steps to improve access (for example, when companies refine their strategies or consider approaches for a specific product to ensure alignment with needs). These change-makers highlighted that they had made a strategic decision to engage with the Foundation team, and that they decided to do so for multiple reasons, including the Foundation's strong expertise in access issues, the Foundation's role as a neutral broker that acknowledges the importance of industry in global health, and the desire to improve their Index ranking. The Foundation was seen as an important thought partner or sparring partner. For example, the Foundation supported these companies in the development of LMIC access strategies, the external validation of access targets for a sustainability-linked bond, and the creation of new organisational units for access in LMICs. Companies need to make the strategic decision to engage with the Foundation, but multiple companies we interviewed did not take advantage of this potential support. Some companies highlighted that there is a tension between the Foundation's role as a provider of objective, data-driven advice and its role as an evaluator and benchmarking organisation. These companies felt that this tension needed to be resolved, at least to some extent, before they would engage more closely with the Foundation.



Competition to engage in public health

Our evidence strongly indicates that the Index incentivises companies to change their access approaches. The Index-induced "race to the top" remains a powerful mechanism, and this evaluation shows that it has driven corporate behaviour on access.

First, while the responses of industry representatives to this question varied, most company representatives agreed that they (a) wanted to score high or higher in the Index, and (b) took targeted action to score higher. This aspect was confirmed by both current and former company representatives (former company representatives were often more open about the influence of the Index). Company representatives, for example, reported that they pre-consulted with the Foundation before launching new initiatives. They also analysed the Index reports to understand their competitors' practices and progress, and they implemented them to improve their ranking. "We take it seriously and wholeheartedly engage with it". All companies participated in the 2024 Index data collection and verification process, confirming that companies take the Index seriously.

However, the extent of change varied between companies: Some company representatives reported that the "race to the top" worked, with the Index acting as a powerful incentive to change access approaches and strategies overall. They found the Index "very useful" and reported that "where we are today is a result of the Index", which "brought in a standard of best practice" and "helped as an element of influence – what good looks like and how to apply it across our business". Several companies reported that they wanted to be in the Top 5 or at least in the Top 10 and that they were taking the necessary action to improve their ranking (see also the section on influence for examples of change; page 15). Other companies said that the Index had driven specific changes, such as the creation of access plans and the design of bonus payments for sales agents or top leadership. A few companies said that the main changes driven by the Index were related to transparency and openness – for example, disclosure of IP standards and policies. These companies argued that they already had appropriate access policies and approaches in place and that there was little need to change, which was reflected in their high Index rankings. Two companies were rather reluctant to attribute influence of the Index on their approaches to access. They indicated that the Index did not influence their access approach. They see some value in the Index but mostly as a source of information about the access approaches of other companies.

Leveraging investors

Key informants from all stakeholder groups commended the Foundation's investor engagement, which is widely considered unique and highly influential.

The Foundation built a specific investor engagement programme as an additional change-making mechanism to drive corporate access approaches. The Foundation provides analysis and insights to investors, who can leverage their engagement with pharmaceutical companies in their portfolios (see also Panel 2).

During the interviews, investors highlighted multiple important benefits of the Foundation. The Index and the opportunities it identifies are key in guiding investors' engagement with companies. For the investors, the Index is "becoming a standard benchmark", and companies are fully aware of this. Investors trust the Index, with one saying, "I have confidence in their analysis, which may not

be the case with other data providers … Strong, robust, reliable team". Investors use the Index: "…use their research to see where a company sits in the Index, if there are any significant gaps and what the opportunities for improvements are".

Many investors reported that they have incorporated the scorecard and opportunities in their evaluation schemes. These investors also use the Index to analyse the access approaches of companies that are not currently included in the Index. Only one investor stated that they do not use the Index and that "the research does not go into investment decisions".

Multiple investors make direct reference to the Foundation in their investment reports, highlighting its relevance for the sector – examples include the Nomura 2023 Responsible Investing Report,[96] the Royal London Asset Management 2023 Stewardship and Responsible Investment Report,[97] Alecta IM 2023 Annual and Sustainability Report,[98] Greenbank's 2023-2024 Engagement Review,[99] and AXA IM's 2023 Stewardship Report.[100]

Furthermore, investors reference their role in engaging with pharmaceutical companies, showing that they actively play their part and do put pressure on pharmaceutical companies:

- **The Amundi 2023 Engagement Report** mentions engagement with Sanofi: "*From the start, Amundi was assigned as co-lead for the engagement with the French pharmaceutical company Sanofi. Our expectations for the company were informed by its standing in the ATMI.*[101]
- The **Castlefield 2023 Annual Stewardship Report** also points to its engagement with and the value of the Index: *"In a recent engagement with Sanofi, it was evident that the Access to Medicine Index is a well-respected tool that carries a lot of weight in the sector."* [102]
- The **Clearbridge 2024 ESG Outlook** publicly cites engagements with Novo Nordisk: *"In engagements with pharmaceutical company Novo Nordisk, which is part of the Access to Medicine Index, we have discussed how the company allocates capital to R&D to fund innovation to expand the shelf life of insulin by four weeks, helping to overcome refrigeration challenges and save lives."* [103]

Investors indicated that companies adapt their policies and practices in line with the Index. Some investors believe that all companies are making progress in terms of access but that some are moving faster than others ("Everyone is going into the direction of progress, but some are slower"). However, these investors also emphasised that it is easier to engage with EU companies and that they also see "strong progress" in Europe. It is more difficult with the US. Some companies acknowledged that investors can exert (considerable) influence on them, however, this varies across companies. One investor also highlighted: "What is great is that we know that through the efforts of the Foundation, improvements are being made at the companies in our portfolio, irrespective of us engaging with them or not."

Panel 2. Investor Engagement

The basis of the Foundation's investor engagement is the Investor Statement signed by 147 investors as of September 2024.[104] The signatories, who together manage over $22 trillion in assets, commit to rely on the Index analysis and recognise the potential links between the issue of access and long-term shareholder value.

The Foundation identified an unexploited space that serves its mandate by incentivising change in pharmaceutical companies, while also benefiting investors that look for long-term sustainability in investee companies. Through regular dialogues and tailored support, the Foundation helps investors identify key areas for improvement in pharmaceutical companies. The Foundation's research outputs help investors manage risks and opportunities for healthcare companies. The importance of environmental, social, and governance factors in the pharmaceutical industry makes this investor engagement particularly relevant.

In addition to bringing investors together around a shared commitment to use the analysis and push companies to move on opportunities identified in the Index, the Foundation expanded its investor engagement to the field of AMR. In 2020, the Foundation, the FAIRR initiative, the Principles for Responsible Investment, and the UK Government's Department of Health and Social Care, launched the Investor Action on Antimicrobial Resistance (IAAMR) initiative.[105]

Ahead of the September 2024 United Nations High-Level Meeting on AMR, the IAAMR launched an Investor Statement calling on global leaders and policymakers to combat AMR. It includes seven critical requests, including on the establishment of a globally integrated surveillance system, on the need to promote R&D of new antimicrobials, and on addressing equitable access to novel and existing antimicrobials.[106]

Convening & Forging Partnerships

The Foundation plays a key role in bringing different stakeholders to the table. The Foundation's neutral brokering role and strong access expertise make it a powerful convener. Convenings are usually underpinned by the Foundation's strong research outputs, making them evidence-based and meaningful. Its unique positioning and "niche" – as described by one global health stakeholder – has enabled the Foundation to be a respected actor for diverse groups that want to come together under its umbrella to address access. This role in bridging the gap between different stakeholders, including industry, facilitates partnerships and leads to concrete impact. LMIC stakeholders are particularly keen to recognise the importance of this mechanism from their perspective.

Foundation events lead to concrete projects: Partnerships between global stakeholders and pharmaceutical companies have directly resulted from the Foundation's central role in bringing different actors to the table, which in turn has led to concrete access projects at the country level. The convening role allows partnerships to flourish that result in concrete impact and improved access, where the Foundation's role is recognised by local actors. This convening role and its impact was acknowledged in several interviews.

- Several LMIC stakeholders shared positive experiences of direct access to industry that resulted from Foundation-organised events. The engagement facilitated by the Foundation's convening role translates into concrete impact on the ground, including in the case of diabetes care, with LMIC stakeholders directly crediting the Foundation for this success.
- The Foundation provides valuable expertise that strengthens the capacity of LMIC stakeholders to engage with industry and policymakers. Both the Index and specific reports on generics or diabetes provide well-respected data to inform engagement and secure progress on access through the work of local actors.
- This success goes beyond LMIC voices, and other global health stakeholders have recognised the role of the Foundation, claiming that the Foundation can "take credit" for laying out the groundwork for what are now concrete access projects.

Forging partnerships through strengthened expertise: By equipping LMIC and other global health stakeholders with increased knowledge, the Foundation enables more effective engagement with industry and successful partnership building. Here again, LMIC stakeholders particularly value the Foundation's research as a basis for developing partnerships. Interviews showed that the "foundational" work and "solid basis" provided by the Foundation had proved essential in working with an industry at times described as "secretive". The Foundation's ability to provide specific advice to stakeholders and to navigate with companies and their respective programmes to best address access challenges in specific countries further enhances the value of this mechanism.

Laying the groundwork for partnerships on key access challenges: Another aspect identified in this causal mechanism is the Foundation's ability to act as a convener through its centrality and effectiveness in assessing specific access challenges and related solutions. The case of medical oxygen and the success in forging partnerships despite the challenging and urgent context of the COVID-19 pandemic illustrates this element. Interviews have confirmed the success of this mechanism, and in particular the speed with which the Foundation was able to bring different actors to the table and the concrete impact that resulted from partnerships. The interviews conducted show that LMIC stakeholders recognise the Foundation's impact in raising the specific issue of local manufacturing on the agenda of other stakeholders. The Foundation's "innovative ideas", its "eye-opening work" and its role in "shining a light" on local manufacturing as a cornerstone of access were all mentioned in the interviews. Similarly, the Foundation's work on this specific access issue serves as a basis for conversations that global health stakeholders in LMICs are having with pharmaceutical companies.

Research and findings themselves reinforce the forging of partnerships: Global health stakeholders have explained how they use the findings and look to the Foundation as a facilitator for engagement. For instance, in one case of identifying opportunities for voluntary licensing, the Foundation played its role as a central global health stakeholder, acting as a catalyst for partnerships between different stakeholders and pharmaceutical companies.

As the convening and partnership-building mechanism is valued by LMIC stakeholders, they also see several opportunities for the Foundation to further increase its effectiveness.

- **Strengthen local perspectives in the convening role:** A trend that emerged throughout the interviews with LMIC stakeholders is the need for the Foundation to feature regional and local

perspectives more strongly. This includes a recommendation to include national and regional voices in convening initiatives to better represent the perspective of LMICs.

- **Feature community voices:** Several interviewees called for patient and community voices to be included in efforts to bring all stakeholders to the table. Again, LMIC stakeholders want to see the influence of the Foundation further strengthened and all perspectives reflected.

Several industry representatives emphasised that the roundtables organised by the Foundation were very useful. Stakeholders liked the tone, the fact that participants were listening to each other, and the transparency. They reported having learned a lot about the access approaches of other companies. For example, along the sidelines of the 77th World Health Assembly (2024), the Foundation and the World Economic Forum organised a high-level roundtable to discuss the strategies aimed at enhancing equitable access to essential medicines and medical countermeasures globally.[107] Several interviewees reported that this roundtable was immensely useful.

Transparency and accountability

The Foundation has made a significant contribution to transparency and accountability. There is clear positive feedback from all stakeholders on this aspect. Industry representatives reported that the Index contributed to transparency and openness by encouraging companies to make information about access publicly available (e.g., on access targets; patent status; pricing). However, some stakeholders argue that the two-year Index cycle is too long. To increase accountability, the Foundation should track company behaviour on a more continuous basis. These stakeholders suggested that the Foundation could comment on the industry's activities on a quarterly basis. This more frequent output would contribute to greater accountability in the ecosystem and increase the visibility of the Foundation.

5.2. Empowerment of key stakeholders and enabling environment

Public and philanthropic stakeholders in global health, as well as institutional investors have also recognised the Foundation's unique and instructive role in driving corporate change. **By generating and sharing evidence, the Foundation empowers these actors to drive change.** Governments, foundations and other partner organisations strongly value the research and advice provided by the Foundation, as do many investors. These actors use the evidence generated and the advice provided by the Foundation to inform their conversations with industry. This is another important pathway to change corporate access policies.

The Foundation has also been instrumental in guiding government policy. In 2020, its AMR Benchmark informed the UK government's criteria for its first Antibiotic Subscription Model. In 2021, the Norwegian government used the 2021 Access to Medicine Index to develop principles for urgent pharmaceutical action against COVID-19.[108] Richard Neci Cizungu, Executive Director of the Kenya-based Ecumenical Pharmaceutical Network, emphasised in a public 2024 interview how the Foundation's benchmarking and insights have shaped the network's strategies.[109]

Through research and advice to governments, foundations, and other global health stakeholders, the Foundation also contributes to a stronger enabling environment for healthcare companies to improve access, including on strategic investments, policy shaping and ways to engage the industry to enable access and solve local challenges.

Stakeholders also argued that the Foundation set the "incentive environment for companies to improve", which was perceived as a major contribution of the Foundation. Other stakeholders argued that it is important that the "community has a mechanism to incentivise companies and hold them accountable." On pandemic preparedness and response (PPR), stakeholders reported using the Foundation's research to inform their work on the pandemic treaty. Other stakeholders reported that the Foundation advised their governments on access to COVID-19 vaccines during the peak of the pandemic.

6. Value for money assessment

We conducted a value for money assessment using the 4E framework. The framework comprises four dimensions: economy, efficiency, effectiveness, and equity (Box 1). We assessed the Foundation across all four dimensions.

Box 1: The 4Es[110,111]

1. Economy: assess the extent to which inputs are being purchased in the right quantity and at the right price.
2. Efficiency: assess how efficiently the project delivers its outputs, considering the rate at which intervention inputs are converted into outputs, and its cost-efficiency.
3. Effectiveness: assess the quality of the intervention's work by evaluating the rate at which outputs are converted into outcomes and impacts, and the cost-effectiveness of this conversion.
4. Equity: assess the extent to which the results of the intervention are equitably distributed.

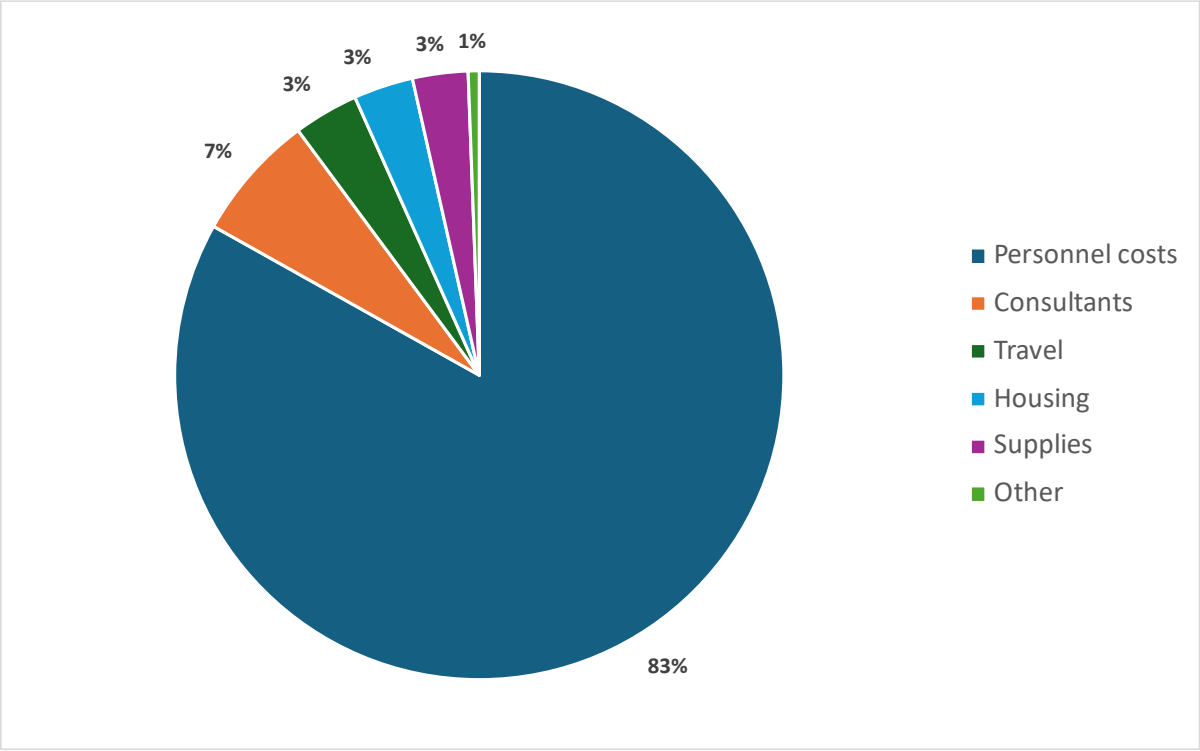
Economy

In the 4E framework, the economy dimension assesses whether programmes receive the necessary inputs (i.e., staffing, materials, and other resources) at the best possible value (i.e. the lowest cost given a specified level of quality). To assess the economy dimension, we compared the Foundation's largest expenditure—personnel—with that of other organisations.

As shown in the Foundation's 2023 annual report, salaries and wages (including social security and pension contributions) accounted for 83% (€3.1 million) of the Foundation's total expenditure (€3.8 million) (Figure 8).[112] The annual report also shows that the Foundation employed 41 staff members at the end of 2023. Using this data, we calculated the Foundation's average annual personnel costs per staff member and compared them with two other non-governmental organisations (NGOs) in the Netherlands (Aidsfonds and Health Action International).[113,114] We found that, on average, the Foundation's staff costs are similar to those of the other two NGOs. Salaries are therefore competitive, and while the Foundation's salaries are slightly lower than those of the other NGOs, this suggests that it works more efficiently. The Foundation's average annual personnel costs are also comparable to the salary scales published by the Dutch central government for senior policy positions, including at the Ministry of Foreign Affairs (available evidence indicates that the upper bound of government salaries for this position is about 5-10% higher).[115]

However, as shown earlier in this report, the quality of the research produced by the Foundation is high, suggesting that the lower personnel expenditure per staff member compared to similar organisations is not a limitation. Overall, the Foundation produces high quality and high impact research with personnel expenditure comparable to similar organisations.

Figure 8. Breakdown of the Foundation's expenditure in 2023



Efficiency

The efficiency dimension of the 4E framework seeks to answer the question "How well do we (or our agents) convert inputs into outputs?" The efficiency dimension therefore assesses how changes to the inputs of a programme affect its outputs (i.e., the tangible results produced by programme interventions). To assess the efficiency dimension, we compared trends in the Foundation's expenditure over time with trends in its outputs (including events, publications, workstreams, and media).

Between 2021 and 2023, the Foundation's total annual expenditure increased by 62%, from €2.3 million to €3.8 million (Table 2). This increase was due to the acquisition of new long-term and core funders with higher annual contributions and therefore a larger budget for expanded research activities and the implementation of the 2022-2026 strategic plan. Between 2020 and 2023, the Foundation also added new workstreams to its portfolio, including generics, diabetes, medical gas, and COVID/PPR. This is fully in line with its first strategic outcome for the 2022-2026 period ("a critical mass of companies is brought to the table").

Between 2021 and 2023, the total number of events hosted by the Foundation (including webinars, panel discussions, conferences, expert meetings, workshops, and launches) increased by 145%, from 22 in 2021 to 54 in 2023, while the total number of publications produced by the Foundation

(including meeting reports, research reports, viewpoints, best practices, findings, and articles) decreased by 27%, from 33 in 2021 to 24 in 2023 (Table 2). The high number of publications in 2021 can be largely attributed to the increased need for the Foundation to develop research outputs to support global COVID-19 initiatives. This was also the only year in which the Foundation published both the Index and the AMR Benchmark in the same year, along with an increased number of op-eds.

The Foundation has also significantly improved its media presence, achieving more website traffic (100,000 users between January 2024 and July 2024 vs. 65,000 users between January 2023 and December 2023), a substantial number of website downloads (15,844 between August 2023 and August 2024), and more LinkedIn followers (15,000 in 2024 vs. 6,000 in 2022).

Table 2. Trends in Foundation expenditure and outputs over time

	2020	2021	2022	2023
Total expenses	€2,031,662	€2,332,140	€3,622,286	€3,773,427
Events	17	22	36	54
Publications	19	33	46	24

Note: Excludes specific meetings and bilateral change making actions.

Overall, trends in activities show that as annual expenditure has increased, so have outputs including events, media following, and workstreams. These outputs help to amplify and disseminate key insights from the Foundation's research, thereby raising awareness, enhancing credibility, influencing key stakeholders, fostering engagement with industry and investors, and ultimately driving real-world impact. While the total number of publications has not followed the same upward trend, there are major publications in the pipeline, including an Index report to be released in November 2024, an AMR Benchmark Methodology to be released in Q1/2025, and a recently released report on patient reach.

Effectiveness: Our results show that investing in the Foundation has substantial public health and economic benefits.

The effectiveness dimension of the 4E framework assesses the extent to which programme outputs are translated into intended programme outcomes. In this section, we first describe our methodological approach. We then present the findings.

Methodological approach

We performed a quantitative analysis to estimate the public health and economic benefits that accrue from investing in the Foundation, and we developed a benefit-cost ratio. We modelled the health and economic benefits of expanded access to five product types by six companies – bedaquiline, dolutegravir, insulin, intrauterine devices, and sacubitril/valsartan – across LMICs. These five product types were selected based on the availability of data in the Foundation's 2024 report on patient reach[116,117] and their representation of the Foundation's product scope (i.e., neglected diseases, NCDs, and maternal and neonatal health conditions). Our findings from the

interviews and the document analysis indicate that the Foundation has contributed to expanded access for each of these product types. Expanded access was defined as the number of patients reached with each product. Patient reach data for each product was provided by multiple companies and included data on patients reached to date as well as data on patient reach targets for the future. We therefore conducted two analyses: (1) a retrospective analysis estimating the health and economic benefits accrued among patients reached as of 2023, and (2) a prospective analysis estimating the health and economic benefits accrued among patients expected to be reached by 2030.

For each product type, we modelled the health benefits accrued among patients reached in terms of deaths and disability-adjusted life years (DALYs) averted. Deaths and DALYs averted were estimated using disease-specific parameters collected through reviews of academic literature published in peer-reviewed journals. These parameters included product effectiveness, case fatality rates, disability weights, disease duration, and, in the case of measuring benefits of intrauterine devices, birth rates. All equations and parameters used to estimate the health benefits accrued to patients reached for each product are provided in the Annex.

We also assessed the case for investing in the Foundation from an economic perspective. Specifically, we calculated a benefit-cost ratio (BCR), defined as the monetary value of health benefits divided by the Foundation budget. The BCR therefore represents the monetary return to society for each US$1 invested by the Foundation towards increasing access to the five product types modelled. The monetary value of health benefits was calculated using an income-based approach that values DALYs averted among the working population at the average annual minimum wage in LMICs. All equations and parameters used to calculate the monetary value of health benefits are provided in the Annex. All monetary benefits were discounted at an annual rate of 3.0%. Annex 1 provides further technical details on the model.

Findings

We present the findings from the prospective analysis estimating the health and economic benefits accrued among patients expected to be reached by 2030 (see Annex 1 for the results of the retrospective analysis estimating the health and economic benefits accrued among patients reached as of 2023).

Assuming that the six companies meet their access targets, a total of 808 million patients would be reached. Our model suggests that this in turn could avert 2.6 million deaths and 141.7 million DALYs in LMICs by 2030. In addition, the economic benefits would be US$170 billion.

To estimate the benefit-cost ratio (BCR), we calculated the ratio of the costs incurred to the sum of the economic benefits. We made two assumptions: First, we assumed that 1% of the total economic benefits can be attributed to the work of the Foundation. We believe that it is reasonable to attribute only 1% of the total economic benefits to Foundation activities, given that many other global health actors – first and foremost the companies that develop and manufacture the medicines – play a role in the development, procurement, and delivery of medicines. However, we believe that using 1% is a conservative assumption, given that 90% of respondents to our survey believe that the Foundation has significantly contributed to improving access to medicines in LMICs. By using a more conservative assumption, we provide a lower bound estimate of the Foundation's

impact. Allocating a larger percentage of economic benefits to the work of the Foundation and/or accounting for all products in the Foundation's portfolio would result in an even higher BCR than that identified in this report. Second, on the cost side, we assumed that 10 years of work by the Foundation would be necessary to contribute to multiple products. We thus assumed a cost of US$30 million (~US$3 million p.a.) for the prospective model.

Our calculations show that investing in the Foundation pays off– every US$1 dollar invested would return US$57 (a BCR of 57 is high compared to other investments in global health[118,119]). As described above, our calculations are likely to underestimate returns because we included only five product types and used a conservative estimate for attributing economic benefits to the Foundation.

Equity

The equity dimension of the 4E framework seeks to answer the questions "How equitably are the benefits distributed?" and "To what extent will we reach marginalised groups?" The Foundation's mission is to encourage healthcare companies to improve access to medicines for billions of people living in LMICs. The benefits of the Foundation's activities are therefore, by definition, concentrated among the world's most marginalised and vulnerable populations. The Foundation's research covers 113 LMICs, and the disease scope of the 2024 Index includes 81 diseases, conditions and pathogens with the highest burden in LMICs. The Foundation also makes a concerted effort to address access issues impacting vulnerable populations, including women and girls and paediatric populations, in the methodology consultations, key findings of the Index, and special reports. For example, a special report in the 2022 Access to Medicine Index highlights critical areas where companies can do more to address access issues for diseases related to sexual and reproductive health and rights (SRHR) and health needs impacting women and girls.[120]

Index reports also assess how companies address access to medicines for vulnerable populations. For example, the Foundation's research encourages companies to engage with inclusive business models to reach underserved populations. Inclusive business models promote mutual benefit between businesses and vulnerable communities through the inclusion of individuals from these communities as clients, customers, employees, producers, and/or owners along a business's value chain. The 2022 Access to Medicine Index identifies and assesses inclusive business models used by companies, highlighting vulnerable populations with whom companies can increase their engagement (i.e., people living in poverty, women, rural communities, people living with HIV, people living with physical disabilities, the elderly, and indigenous populations) and geographical regions where companies can scale up existing and/or pilot new inclusive business models that address access barriers.

7. Conclusions and recommendations

With the Access to Medicines Index continuing to serve as an influential tool, the Foundation's relevance and influence has substantially expanded in recent years. In areas such as AMR, diabetes, generic and biosimilar manufacturers, and medical oxygen, the Foundation has built new programmes and workstreams based on the success of the Index.

The AMR Benchmark, for example, has driven sustained company commitment to antibiotics, while the Foundation's work in diabetes has been instrumental in shifting access strategies from a focus

on individual responsibility to collective action. These workstreams reflect on the Foundation's strategic evolution, from an organisation with one focus (the Index) to a global actor with influence across multiple areas and sectors. This evolution is also marked by a stronger focus on convening stakeholders and fostering multi-sectoral partnerships. The Foundation's neutral and evidence-driven approach allows it to serve as an impartial broker, facilitating partnerships that lead to concrete outcomes. Achieving much stronger access to medicines in LMICs requires embedding practical solutions into businesses and partnerships. Across all workstreams, the Foundation has demonstrated a capacity to influence corporate behaviours and policies, with companies integrating access considerations into their operations. The Foundation's research outputs have been recognised for guiding best practices, further reinforcing its role as a key influencer within the global health ecosystem. Table 3 summarises the main overall conclusions emerging from the evaluation.

Table 3. Summary of key results

Evaluation questions	**Key results**
Influence. Has the Foundation influenced decisions, long-term strategies, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance? *Outcome/progress*. Have healthcare companies taken progressive steps towards improving access to medicine and limiting drug-resistant infections? *Impact*. Has progress by healthcare companies resulted in positive health impacts on the ground?	*Strong influence on corporate access approaches. Unique industry standard and strong expertise in the global ecosystem.* *Companies have stronger access policies, and the Foundation has contributed to these.* *Triangulation of evidence from desk research, key informant interviews, and the model indicate that the Foundation has made significant contributions to impact.*
How has the Foundation influenced decisions, activities and initiatives of healthcare companies with respect to access to medicine and antimicrobial resistance? How has the Foundation empowered other stakeholders with its findings to promote better informed change-making engagement with companies? Has the Foundation influenced policies that create an enabling environment for engaging healthcare companies?	*All six mechanisms have contributed to improved corporate behaviour on access.* *The Index remains a powerful tool. Convening as a "newer" mechanism and the work with investors is highly valued by stakeholders.* *Foundations and governments have been greatly empowered by the Foundation's research and advice. This has supported a stronger environment.*
What is the value for money of the Foundation for current and prospective funders?	*High value for money: substantial public health benefits and economic returns.*

Recommendations on the future role of the Foundation

Building on the input from the key informant interviews and the document analysis, we developed six areas of advice on the Foundation's future roles and directions:

Further leverage the investor work to improve access: The Foundation's work with investors is unique in the global health ecosystem and highly influential. At the same time, there is potential to further strengthen this workstream in the future. First, investors asked for more structured engagement opportunities, saying that they would benefit from the Foundation organising one or two more investor events per year, especially roundtables bringing in pharmaceutical companies. In this context, the creation of an investor committee was suggested to help prepare meetings and to facilitate the work with investors more broadly. Second, investors would like to have more support from the Foundation – more in-depth meeting preparation and ongoing advice – for their company engagements. Fully leveraging this future potential will require stronger in-house capacity.

Amplify the Foundation's convening power to build consensus and forge partnerships: The Foundation has increasingly leveraged its strong reputation as a neutral, evidence-based broker to convene meetings on key topics, such as the Amsterdam Sessions on diabetes care, which were seen as very impactful by many participants. Our findings encourage the Foundation to continue to evolve further in this direction.

Develop the LMIC engagement into a full workstream, contributing to partnerships between industry and LMICs: LMIC-based stakeholders value the Foundation's work but also reported during the interviews that more consistent support was needed to forge strong partnerships and achieve sustainable impact on patient access to medicines at the local level. The Foundation's current work with LMIC-based stakeholders should be developed into a full workstream to enable more consistent engagement with LMIC-based stakeholders and to catalyse further action for patients in LMICs.

Take a stronger voice at key meetings: There are opportunities for the Foundation to strengthen its voice on the stage of important meetings, such as Goalkeeper and Grand Challenges. While the Foundation produces high-value research, provides strategic advice and guidance to various key actors, and successfully leverages its work to influence companies, it should strengthen its presence at such meetings.

Consider a significant reflection of the Index methodology: The Index has been a powerful tool for changing company behaviour on access. Most of the stakeholders interviewed considered the Index methodology to be sound and did not see a need to change it. However, although several companies referred to leveraging the ranking to improve their access approaches, a recurring theme in the interviews with Index companies and some investors was the ranking, with two main points raised: First, the role of the companies' product portfolios, which these stakeholders felt were given too much weight in the ranking; and second, the small differences in scores between high performing companies and the suggestion that an overall rating be added to the ordinal ranking. The Foundation may wish to reflect on these points during the next round of consultation on its methodology. The Sustainable Development Goal (SDG) 3 ("Ensure healthy lives and promote well-being for all at all ages"), which includes access to safe, effective, quality and affordable essential medicines and

vaccines for all (SDG target 3.8), is far from being met. Redesigning the Index methodology with strategic creativity may help accelerating progress towards SDG3 and specifically its target 3.8.

Consider more frequent monitoring of company action and behaviour to enable greater contributions to accountability: The Index process is based on a two-year cycle, which is considered useful. However, several stakeholders suggested that the Foundation could comment on the industry's activities more frequently, for example on a quarterly basis, due to the dynamic nature of the pharmaceutical ecosystem. This more frequent output would also contribute to greater accountability in the ecosystem and increase the visibility of the Foundation.

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Annex 1. Value for money modelling

Measuring the health impact of intrauterine devices (IUDs)

Equation for pregnancies without IUDs

$$N = \sum_{x=1}^{n} [(P_x * R)]$$

Where N is pregnancies, x is year, P is patients reached, R is birth rate per female of reproductive age.

Equation for pregnancies with IUDs

$$N = \sum_{x=1}^{n} [(P_x * R) * (1 - E)]$$

Where N is pregnancies averted, x is year, P is patients reached, R is birth rate per female of reproductive age, and E is IUD effectiveness.

Equation for pregnancies averted

$$N = \sum_{x=1}^{n} [(O_x - Ot_x)]$$

Where N is pregnancies averted, x is year, O is pregnancies without IUDs, and Ot is pregnancies with IUDs.

Equation for deaths averted

$$N = \sum_{x=1}^{n} [(O_x * MMR) - (Ot_x * MMR)]$$

Where N is deaths averted, x is year, O is pregnancies without IUDs, Ot is pregnancies with IUDs, and MMR is maternal mortality ratio per live birth.

Equation for years of life lost to disability (YLDs) averted

$$N = \sum_{x=1}^{n} [((O_x - D_x) * C * DW * T) - (Ot_x - Dt_x) * C * DW * T)]$$

Where N is YLDs averted, x is year, O is pregnancies without IUDs, D is deaths without IUDs Ot is pregnancies with IUDs, and Dt is deaths with IUDs, C is percent of pregnancies that are complicated, DW is disability weight, and T is duration of complication.

Equation for years of life lost to death (YLLs) averted

$$N = \sum_{x=1}^{n} [(D_x * LE) - (Dt_x * LE)]$$

Where N is YLLs averted, x is year, D is deaths without IUDs, Dt is deaths with IUDs, and LE is life expectancy at the average age of death.

Equation for disability-adjusted life years (DALYs) averted

$$N = \sum_{x=1}^{n} [YLD_x + YLL_x]$$

Where N is DALYs averted, x is year, YLD is years of life lost to disability averted, and YLL is years of life lost to death averted.

Model inputs

Input	Value	Source
Birth rate per 1,000 population	18	https://data.worldbank.org/indicator/SP.DYN.CBRT.IN?locations=XO
LMIC population of females of reproductive age	1,710,120,420	https://population.un.org/wpp/
LMIC total population	6,867,330,091	https://population.un.org/wpp/
Birth rate per female of reproductive age	0.07	Calculated from first three rows
IUD effectiveness	99%	https://www.ncbi.nlm.nih.gov/books/NBK557403/
LMIC maternal mortality ratio	234	https://data.worldbank.org/indicator/SH.STA.MMRT?locations=XO
Percent of pregnancies that are complicated	40%	https://www.ncbi.nlm.nih.gov/books/NBK222105
Average YLD per case	0.07	Calculated (see table below)
Life expectancy at average age of pregnancy	46.80	https://population.un.org/wpp/

Average YLD per case calculation

Disorder	Duration	Disability weight	YLD per case	Duration source	Disability weight source	Disability weight sequela
Fetal distress	0.674	0.061	0.041114	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3777570/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Moderate motor impairment due to neonatal preterm birth complications
Intrauterine growth restriction	0.674	0.061	0.041114	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3777570/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Moderate motor impairment due to neonatal preterm birth complications
Maternal enteric microbiome	0.674	0.052	0.035048	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3777570/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Vitamin A deficiency with moderate anaemia
Maternal iron deficiency	0.674	0.052	0.035048	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3777570/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Moderate iron-deficiency anaemia
Preeclampsia/eclampsia	0.3075	0.602	0.185115	https://www.ncbi.nlm.nih.gov/books/NBK554392/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Eclampsia
Preterm labour/birth	1.5	0.061	0.0915	https://www.ncbi.nlm.nih.gov/books/NBK536939/	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights	Moderate motor impairment due to neonatal preterm birth complications
Average			**0.071489833**			

Measuring the health impact of bedaquiline

Equation for deaths averted

$$N = \sum_{x=1}^{n} [(P_x * CFR) - (P_x * CFRt)]$$

N is deaths averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, CFRt is case-fatality rate with treatment.

Equation for years of life lost to disability (YLDs) averted

$$N = \sum_{x=1}^{n} [(P_x * (1 - CFR) * DW * T) - ((P_x * (1 - CFRt) * E * DWt * Tt) + (P_x * (1 - CFRt) * (1 - E) * DW * T))]$$

N is YLDs averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, DW is disability weight without treatment, T is disease duration without treatment, CFRt is case-fatality rate with treatment, E if effectiveness of treatment, DWt is disability weight with treatment, and Tt is disease duration with treatment.

Equation for years of life lost to death (YLLs) averted

$$N = \sum_{x=1}^{n} [(D_x * LE) - (Dt_x * LE)]$$

Where N is YLLs averted, x is year, D is deaths without treatment, Dt is deaths with treatment, and LE is life expectancy at the average age of death.

Equation for disability-adjusted life years (DALYs) averted

$$N = \sum_{x=1}^{n} [YLD_x + YLL_x]$$

Where N is DALYs averted, x is year, YLD is years of life lost to disability averted, and YLL is years of life lost to death averted.

Model inputs

Input	Value	Source
Bedaquiline efficacy	78.4%	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10750101
CFR without bedaquiline	15.0%	https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022
CFR with bedaquiline	3.6%	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10750101
Disability weight without bedaquiline	0.333	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Disability weight with bedaquiline	0.333	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Duration without bedaquiline	3.0	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3070694/
Duration with bedaquiline	0.5	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10263131/
Life expectancy at average age of death	27.5	https://population.un.org/wpp/

Measuring the health impact of insulin

Equation for deaths averted

$$N = \sum_{x=1}^{n} [(P_x * CFR) - (P_x * CFRt)]$$

N is deaths averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, CFRt is case-fatality rate with treatment.

Equation for years of life lost to disability (YLDs) averted

$$N = \sum_{x=1}^{n} [(P_x * (1 - CFR) * DW * T) - (P_x * (1 - CFRt) * DWt * Tt)]$$

N is YLDs averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, DW is disability weight without treatment, T is disease duration without treatment, CFRt is case-fatality rate with treatment, DWt is disability weight with treatment, and Tt is disease duration with treatment.

Equation for years of life lost to death (YLLs) averted

$$N = \sum_{x=1}^{n} [(D_x * LE) - (Dt_x * LE)]$$

Where N is YLLs averted, x is year, D is deaths without treatment, Dt is deaths with treatment, and LE is life expectancy at the average age of death.

Equation for disability-adjusted life years (DALYs) averted

$$N = \sum_{x=1}^{n} [YLD_x + YLL_x]$$

Where N is DALYs averted, x is year, YLD is years of life lost to disability averted, and YLL is years of life lost to death averted.

Model inputs

Input	Value	Source
CFR without insulin	2.7%	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8934837/
CFR with insulin	1.9%	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6122181/
Disability weight without insulin	0.290	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Disability weight with insulin	0.049	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Duration without insulin	1.0	Assume access to medication is for one year
Duration with insulin	1.0	Assume access to medication is for one year
Life expectancy at average age of death	14.9	https://population.un.org/wpp/

Measuring the health impact of sacubitril/valsartan

Equation for deaths averted

$$N = \sum_{x=1}^{n} [(P_x * CFR) - (P_x * CFRt)]$$

N is deaths averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, CFRt is case-fatality rate with treatment.

Equation for years of life lost to disability (YLDs) averted

$$N = \sum_{x=1}^{n} [(P_x * (1 - CFR) * DW * T) - (P_x * (1 - CFRt) * DWt * Tt)]$$

N is YLDs averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, DW is disability weight without treatment, T is disease duration without treatment, CFRt is case-fatality rate with treatment, DWt is disability weight with treatment, and Tt is disease duration with treatment.

Equation for years of life lost to death (YLLs) averted

$$N = \sum_{x=1}^{n} [(D_x * LE) - (Dt_x * LE)]$$

Where N is YLLs averted, x is year, D is deaths without treatment, Dt is deaths with treatment, and LE is life expectancy at the average age of death.

Equation for disability-adjusted life years (DALYs) averted

$$N = \sum_{x=1}^{n} [YLD_x + YLL_x]$$

Where N is DALYs averted, x is year, YLD is years of life lost to disability averted, and YLL is years of life lost to death averted.

Model inputs

Input	Value	Source
CFR without sacubitril/valsartan	33.0%	https://pubmed.ncbi.nlm.nih.gov/35042750/
CFR with sacubitril/valsartan	16.2%	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7855850/
Disability weight without sacubitril/valsartan	0.126	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Disability weight with sacubitril/valsartan	0.049	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Duration without sacubitril/valsartan	1.0	Assume access to medication is for one year
Duration with sacubitril/valsartan	1.0	Assume access to medication is for one year
Life expectancy at average age of death	13.3	https://population.un.org/wpp/

Measuring the health impact of dolutegravir

Equation for deaths averted

$$N = \sum_{x=1}^{n} [(P_x * CFR) - (P_x * CFRt)]$$

N is deaths averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, CFRt is case-fatality rate with treatment.

Equation for years of life lost to disability (YLDs) averted

$$N = \sum_{x=1}^{n} [(P_x * (1 - CFR) * DW * T) - (P_x * (1 - CFRt) * DWt * Tt)]$$

N is YLDs averted, x is year, P is patients reached, CFR is case-fatality rate without treatment, DW is disability weight without treatment, T is disease duration without treatment, CFRt is case-fatality rate with treatment, DWt is disability weight with treatment, and Tt is disease duration with treatment.

Equation for years of life lost to death (YLLs) averted

$$N = \sum_{x=1}^{n} [(D_x * LE) - (Dt_x * LE)]$$

Where N is YLLs averted, x is year, D is deaths without treatment, Dt is deaths with treatment, and LE is life expectancy at the average age of death.

Equation for disability-adjusted life years (DALYs) averted

$$N = \sum_{x=1}^{n} [YLD_x + YLL_x]$$

Where N is DALYs averted, x is year, YLD is years of life lost to disability averted, and YLL is years of life lost to death averted.

Model inputs

Input	Value	Source
CFR without dolutegravir	1.6%	https://www.who.int/data/gho/data/themes/hiv-aids
CFR with dolutegravir	0.6%	https://www.ncbi.nlm.nih.gov/books/NBK513308/
Disability weight without dolutegravir	0.311	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Disability weight with dolutegravir	0.125	https://ghdx.healthdata.org/record/ihme-data/gbd-2019-disability-weights
Duration without dolutegravir	1.0	Assume access to medication is for one year
Duration with dolutegravir	1.0	Assume access to medication is for one year
Life expectancy at average age of death	41.2	https://population.un.org/wpp/

Measuring the economic impact of all products

Equation for monetary value of DALYs averted

$$N = \sum_{x=1}^{n} [(DALYs_x * X * E * W)]$$

Where N is the monetary value of DALYs averted, x is year, DALYs is DALYs averted, X is percent of DALYs occurring within working age population (15- to 69-year-olds), E is average employment rate, and W is average annual minimum wage.

Model inputs

Input	Value	Source
Percent of cases of working age (IUDs)	100%	https://vizhub.healthdata.org/gbd-results/
Percent of cases of working age (bedaquilin)	83%	https://vizhub.healthdata.org/gbd-results/
Percent of cases of working age (insulin)	50%	https://vizhub.healthdata.org/gbd-results/
Percent of cases of working age (sacubitril/valsartan)	50%	https://vizhub.healthdata.org/gbd-results/
Percent of cases of working age (dolutegravir)	93%	https://vizhub.healthdata.org/gbd-results/
LMIC employment rate	65%	https://www.ilo.org/shinyapps/bulkexplorer33/?lang=en&id=EAR_4MMN_CUR_NB_A
LMIC annual minimum wage	$2,249	https://www.ilo.org/shinyapps/bulkexplorer33/?lang=en&id=EAR_4MMN_CUR_NB_A

Results of retrospective analysis

Our retrospective analysis (presented in Table A1 below) of bedaquiline, dolutegravir, insulin, intrauterine devices, and sacubitril/valsartan estimates the health and economic benefits accrued among patients reached as of 2023. Similar to the prospective analysis, to estimate the benefit-cost ratio we assume that 1% of the total economic benefit can be attributed to the work of the Foundation and that the Foundation costs amount to US$20 million. As in the prospective analysis, we assumed that 10 years of work by the Foundation was necessary to contribute to the health and economic benefits attained through the five selected product types as of 2023. However, because the Foundation's annual budget was lower in the past, we assumed a lower cost of US$20 million over those 10 years (~US$2 million p.a.).

Table A1. Results of the retrospective analysis

Measure	Value
Patients reached	202.1 million
Deaths averted	1.1 million
DALYs averted	63.9 million
Economic benefits	US$76.8 billion
Foundation's benefit-cost ratio	38