



The Global Cost Of Refugee Inclusion in Host Countries' Health Systems

November 2024

A joint World Bank-UNHCR report

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South Sudan. Manamanyi Ojulu, one of the lab technicians at Gorom Primary Health Care Center (PHCC) attending to a malaria patient. © UNHCR/Reason Moses Runyanga

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Foreword

The global refugee population has been growing at an alarming rate, reaching over 43.4 million people by the end of 2023 – a historic peak. Refugees are among the world’s most vulnerable populations. Meeting their health needs is essential for humanitarian reasons but also for global health security and human capital development. Integrating refugee health in national health systems enhances social cohesion and boosts economic productivity, leading to a more stable environment for both refugees and host communities.

Most refugees are hosted in low- and middle-income countries, often in areas with limited health resources or in camps or settlements with restricted access to national health systems, posing a significant humanitarian challenge. Global conflicts and climate change will further intensify the pressure on host countries, while donor financing remains limited. This situation underscores the urgent need for more equitable burden-sharing and cost-effective sustainable responses.

This report is a joint effort by the World Bank and UNHCR to provide a reliable estimate of the costs required to meet the health needs of all refugees in low and middle-income countries. While considerations on how to finance refugee inclusion at country level are outside the scope of this work, the report emphasizes the importance of sustainable, inclusive approaches that strengthen health systems, ensure long-term access to health care and improve public health outcomes for both refugees and host communities. Long-term inclusive solutions, responsibility-sharing, supportive policies and frameworks led by strong country leadership are also highlighted in the report.

The report estimates that \$11 billion are needed annually to meet the health needs of refugees. No single country or organization can bear the full responsibility of addressing the health needs of refugees. It will require collective efforts by the international community along with sustainable financing mechanisms to meet the health needs of refugees.

We are committed to supporting countries’ priorities on the path to universal health coverage, ensuring that refugees are not left behind. By committing to supporting access to quality services without financial barriers, we stand ready to support refugee populations and host countries and communities that have generously welcomed them. Together, we can create a world where everyone, regardless of their status, has access to the healthcare they need.



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Acknowledgments

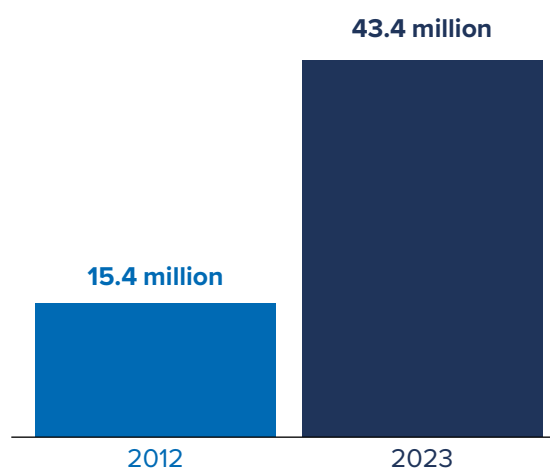
This paper represents a joint effort by the World Bank Health, Nutrition, and Population (HNP) Global Practice, Fragility, Conflict and Violence (FCV) Group and UNHCR. The core team was composed of Mohammad Mahdi Frough (Health Economist, World Bank) and Zina Jarrah (Consultant, World Bank), under the guidance of Christoph Kurowski (Global Lead for Health Financing, HNP Global Practice, World Bank). The team benefitted from the leadership of Juan Pablo Uribe (Global Director, HNP Global Practice, World Bank), Monique Vledder (Practice Manager, Global Unit, HNP Global Practice, World Bank), Agnes Couffinhall (Global Program Lead, Health Financing, HNP Global Practice, World Bank), Sajjad Malik (Director Division of Resilience and Solutions, UNHCR) and support from the UNHCR Public Health and Economics Team including Allen G.K. Maina, Michael Woodman, Betsy Lipmann, Theresa Beltramo and Craig Loschmann. The team is grateful for inputs from host country governments represented at the Fifth and Sixth Technical Workshops on Measuring the Impact of Hosting, Protecting and Assisting Refugees held in December 2023 and May 2024, respectively. Additionally, the team extends its gratitude to the WHO Health System Governance and Financing Department team, particularly Karin Stenberg and Tessa Tan-Torres Edejer, and UNHCR's Marian Schilperoord for their valuable input.

The team greatly benefitted from comments from Marc Francois Smitz, Marelize Gorgens, Johannes G. Hoogeveen, Xavier Devictor, and Karishma Talitha Silva. Support from various members of World Bank FCV Group, Caroline Sergeant, Ola Hisou and Jade Ndiaye is gratefully acknowledged. The World Bank team appreciates support from the Prospects Partnership program, funded through the Multi-Donor Trust Fund for Forced Displacement (FDTF) administered by the World Bank and made possible by the generous support of the Ministry of Foreign Affairs of the Netherlands.

Executive Summary

As of end of 2023, the global count of forcibly displaced individuals has surpassed **117 million**, marking a historic peak.

The escalation in global conflicts and wars has driven a significant rise in refugee numbers, soaring from 15.4 million in 2012 to 43.4 million by end of 2023.



The concentration of refugees in specific areas can strain local health services, affecting both refugees' and host communities' access to quality healthcare. While initial humanitarian responses are essential, including refugees in national health systems over the medium to long term is crucial for sustained support. However, this inclusion often faces challenges, as medium to long-term programs for refugees typically depend on limited humanitarian budgets rather than being fully incorporated into broader development initiatives.

In the long term, sustainable solutions are necessary to address the enduring nature of refugee situations. Shared responsibility between host countries and international bodies is essential. This approach emphasizes refugee inclusion into national health systems in a manner similar to the host population. It aligns with global calls for greater inclusivity of refugees in national health policies and services.

UNHCR defines inclusion in health as including all refugees in a non-discriminatory way into national health policies, strategies, and plans as well as equitable access to national health systems for refugees and other forcibly displaced people as well as their host communities.

This report estimates the global cost of refugee inclusion in host countries' health systems. The methodology applies current health spending in host countries to the number of refugees in each country and models capital costs to support additional resource needs, such as building new health facilities or upgrading health infrastructure. Furthermore, the report aims to compare the base costing scenario with alternative scenarios to contextualize the findings. It should be emphasized that this report presents global costing estimates only, helping to inform a meaningful policy discussion for equitable responsibility and burden-sharing. A deeper reflection on how to finance refugee inclusion is outside the scope of this work. Nonetheless, the consideration of financing for refugees is essential to planning for adequate support and should be conducted on a country-specific basis in addition to increased international responsibility sharing.



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With over 29 million refugees living in low and middle-income countries¹, the global recurrent cost of inclusion is estimated at US\$ 10.6 billion² based on countries' reported health expenditures in the WHO Global Health Expenditure Database (GHED)³. The estimated annualized capital costs to support the scale-up of infrastructure and equipment are US\$ 361.1 million (US\$ 4.7 billion over 13 years), modeled based on the country's income status and refugee-to-population ratio. Together, the total annual expenditure is estimated at US\$ 11.0 billion.

Despite this high price tag on the global cost estimate of refugee inclusion, the cost estimate is the lowest in low income countries, both in absolute (US\$ 249.0 million) and relative terms compared to middle-income countries. Low-income countries account for only 2.3 percent of the overall estimated cost of refugee inclusion, even though they host over 21 percent of all refugees in low and middle-income countries. Prioritizing support to refugees in low income countries could address a significant part of the global refugee inclusion agenda, and any additional health systems capacity built as a result would benefit host communities in addition to refugees.

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- 1 This costing exercise covers all LICs and MICs with a refugee-to-population ratio of 0.01% or greater (a total of 89 countries in total) as of mid-2023, as defined by the number of refugees under the UNHCR mandate in each host country. See Annex A1 for the full list of countries included in the analysis.
 - 2 All costs presented in this report are in constant 2023 US dollars, unless specifically noted otherwise.
 - 3 WHO Global Health Expenditure Database is available at: <https://apps.who.int/nha/database>

Introduction

As of end of 2023, the global count of forcibly displaced individuals has surpassed 117 million⁴, marking a historic peak. The escalation of global conflicts and wars has driven a significant rise in refugee numbers, soaring from 15.4 million in 2012 to 43.4 million by end of 2023.⁵ Consequently, the pressure on host nations has intensified, underscoring the urgent need to establish more equitable and efficient mechanisms for responsibility and burden-sharing. The absence of durable solutions and the prolonged nature of conflicts contribute to the protracted nature of refugee situations.⁶ Prior to the war in Ukraine, the median refugee had already endured 13 years in exile, with no clear solution in sight.⁷ In such contexts, short-term responses and crisis-response programs are unlikely to be effective. Instead, for hosting governments and their external partners it is prudent to develop responses that can be sustained over time, both financially and socially.

The “*Measuring Impact initiative*” is in response to the UN’s omnibus resolution of December 2017 (A/RES/72/150) which requests UNHCR to “*coordinate an effort to measure the impact arising from hosting, protecting and assisting refugees, with a view to assessing gaps in international cooperation and promoting burden-and responsibility-sharing that is more equitable, predictable and sustainable, and to begin reporting on the results to Member States in 2018*”. Following this resolution, UNHCR, with assistance from the World Bank, led a participatory process to arrive at global cost estimates for refugee inclusion. Thus, the Global Cost of Inclusive Refugee Education was published in 2021 (UNHCR and WB 2021) and updated in 2023.

This report is a companion to the Education study⁸. It estimates the Global Cost of Refugee inclusion in the host countries’ health systems. Simultaneously, another report detailing the Global Cost of Meeting Refugee Subsistence Needs is being prepared. Together the global costs for health, education and subsistence needs reflect most of the recurrent costs hosting countries face when hosting refugees.⁹

The cost of refugee health largely depends on the health services refugees are entitled to when they arrive in the host country. This discussion encompasses two key aspects. Firstly, refugees

4 Source: UNHCR, <https://www.unrefugees.org/refugee-facts/statistics/>. Refer to the Glossary for detailed definitions of each category of forcibly displaced individuals.

5 This includes 5.2 million people in need of international protection, mainly from Venezuela. There are an additional 5.4 million asylum-seekers worldwide (people whose request for refugee status is being examined), a significant increase from 940,000 in 2012. Source: UNHCR, <https://www.unrefugees.org/refugee-facts/statistics/>.

6 World Development Report 2023, World Bank. <https://openknowledge.worldbank.org/server/api/core/bitstreams/8999f6e3-bc56-42ac-9dd9-32a747243d08/content>

7 Devictor, X., & Do, Q. T. (2017). How many years have refugees been in exile? Population and Development Review, 355-369.

8 World Bank and UNHCR. 2021. The Global Cost of Inclusive Refugee Education. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO

9 Recurrent costs make up the bulk of costs assumed by host governments and humanitarian partners and differ from investments in infrastructure, or the economic costs associated with solutions.

coming from communities affected by persecution, conflict, or violence have a heightened need for certain services, such as mental health and psychosocial support, gender-based violence (GBV) services, prevention of communicable diseases, nutrition, and maternal health needs. This need is most pressing during the acute phase, typically the first few months of the refugee influx in the host countries. During this initial phase, a surge response is necessary, wherein humanitarian organizations and international NGOs typically provide support to the local authorities.

Secondly, in the long term, refugees' entitlement and access to health services depend on the capacity and willingness of host countries to support them. While refugee situations often begin with an acute phase, they require sustainable solutions that involve burden and responsibility sharing among governments, donors, and humanitarian and development actors. This global costing is therefore based on the inclusion of refugees in national health systems, similar to the host population, and aims to inform meaningful policy discussions on equitable responsibility and burden-sharing.^{10,11,12}

UNHCR defines inclusion in health as including all refugees in a non-discriminatory way into national health policies, strategies, and plans as well as equitable access to national health systems for forcibly displaced and stateless persons as well as their host communities.¹³ There is a range of degrees of inclusion in health:

- **No inclusion at all:** no specific reference to refugees in relevant policy documents or these documents are explicit on excluding refugees and therefore, requiring separate health facilities and no commodities provided including for TB, HIV, and contraceptive supplies and vaccines supported by the national system; or refugees are charged the same rates as foreign nationals (usually unaffordable) to access services or access to emergency services only.
- **Partial inclusion:** inclusion in some national policies, strategies, and services such as TB, HIV, malaria, EPI, and some access to national services such as children under five and/or pregnant women.
- **Full inclusion:** explicit mention of refugees in national policies and full access to national services provided through the Ministry of Health, including primary, secondary, and tertiary care and all associated costs, on par with host nationals, and these services can meet the needs of both refugees and host communities with or without additional support.

The primary objective of this report is to estimate the global cost of *full* refugee inclusion in the host countries' health systems. Secondly, the report aims to compare this global cost with alternative scenarios to contextualize the findings. It should be emphasized that this report presents global costing estimates only, aiming to inform a meaningful policy discussion for refugee inclusion and equitable responsibility and burden-sharing among the donors, partners, and host governments. A reflection on how to finance refugee inclusion is outside the scope of this work. Nonetheless, the consideration of financing for refugees is essential to planning for adequate support and should be conducted on a country-specific basis.

10 IASC and UN Working Group on Transitions. (2016). Background paper on Humanitarian-Development-Peace Nexus.

11 United Nations. (2018). Global Compact on Refugees.

12 UNHCR (nd) Access to Healthcare - <https://www.unhcr.org/uk/what-we-do/safeguard-human-rights/public-health/access-healthcare>

13 UNHCR global PH strategy 2021-2025 [UNHCR Global Public Health Strategy 2021-2025 | UNHCR](#)

Data and Methods

Framing the costing study

Undertaking a global costing study of this nature first requires an initial framing to determine its scope and parameters. This process took place at a participatory workshop¹⁴ convened by UNHCR and the World Bank, in which host member countries discussed the wide array of relevant parameters and assumptions. These discussions were distilled into five key considerations: 1) which countries to include, 2) which refugees, 3) which entitlements/benefits to provide, 4) what level of subsidization to apply, and 5) which costs to include.

Which countries to include

As of 2023, 69.6 percent of refugees are hosted by low- and middle-income countries (LMICs) and 14.4 percent by low-income countries (LICs) only, with refugees largely fleeing conflict in neighboring countries and regions. High-income countries are both more economically capable and have the capacity to provide refugees with access to healthcare; typically, they also have policies in place to register and include refugees in the national health system upon their arrival. Lower-income countries bear a considerable burden in hosting refugees as they struggle to deliver adequate healthcare to their own populations. It is an even bigger challenge for countries with high refugee-to-population ratios as the increased numbers can easily overwhelm the national system.

This costing study includes all LICs and middle-income countries (MICs)¹⁵ which host refugees at a ratio of 0.01 percent of the host country population or greater.¹⁶ Of the 135 countries in total that make up all LICs and MICs, there were 109 countries with registered refugees in 2023, according to the UNHCR database; 89 of these countries meet the criteria and collectively account for over 99 percent of all refugees in LICs and MICs. This equates to a total of 29.2 million refugees. The full list of countries, including key descriptive statistics, is included in Annex 1: Refugee statistics and unit costs by host country.

14 The workshop was held in Geneva from November 30 to December 1, 2023. Its purpose was to present the proposed costing methodology and gather feedback from member states.

15 Income groups from the World Bank world development indicators and based on GNI per capita in US\$ using Atlas Methodology. Available at: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

16 The definitions for these groups can be found in the Glossary section of this report. Note that internally displaced persons (IDPs) are not included in this costing study.

Which refugees

Refugees are defined in this report as those categorized by UNHCR as refugees, people in refugee-like situations, asylum-seekers, or other people in need of international protection¹⁷. Refugees initially arrive in host countries with immediate acute needs, requiring support for housing, basic needs, and healthcare. In this phase, refugees may be housed in short-term facilities such as transit centers, temporary accommodation or be confined in refugee settlements/camps, with uncertainty about their decision to stay in the host country and attended to by humanitarian agencies in addition to existing national services. In the protracted phase, refugees begin to assimilate into the host country with less uncertainty about their stay, seeking longer-term housing and access to national systems (including health, education, and social protection).

This costing considers all refugees without making a distinction between those in the acute phase versus those in the protracted phase. This is largely to cost for the inclusion of refugees into host health systems as early as feasibly possible (with the understanding that there will be some initial needs that are likely met by humanitarian agencies and consideration of the Global Compact on Refugees (GCR) principle of burden and responsibility sharing).

While the demographic composition of refugees is an important consideration – for example, a higher proportion of women amongst the refugee population would translate to increased demand for reproductive and maternal health services – this costing study assumes an overall similar demographic pattern to the host country. For countries making plans to include refugees in their health systems, this topic necessitates more careful consideration of the specific context of the refugee situation and could possibly be accounted for at the country level costing.

Which entitlements (health benefits) to cost for refugees

What refugees are entitled to (the health benefits available to them in host countries) are a major driver of the costs. For this study, different entitlement scenarios with varied health benefits were considered (Table 1) and two scenarios were selected for costing. Scenario 1 uses the host country's actual expenditure on health for its population. Scenario 2 comprises a UN/WHO recommended health benefit package (HBP) that covers essential services for SDG3, based on a previous costing study published in 2017.¹⁸ Scenario 3 relies on guaranteed health benefit packages for each country. Scenario 4 considers a refugee-specific health benefits package. The scenarios are summarized in the table below in terms of their adequacy to meet the specific health needs of refugees, provide enough coverage for essential health services to meet Sustainable Development Goals (SDG) 3 targets, and whether the package matches, surpasses, or falls short of what the host population receives.

17 See UNHCR's definitions at Refugee Data Finder; <https://www.unhcr.org/refugee-statistics/methodology/definition/>

18 SDG 3— "Ensure healthy lives and promote well-being for all at all ages"—is a broad health goal and calls for achieving universal health coverage (UHC), which is defined as access for all people and communities to services that they need without financial hardship. UN. Transforming our world: the 2030 agenda for sustainable development. New York: United Nations, 2015.

Table 1. Summary of entitlement/benefit scenarios

Criteria	Scenario 1	Scenario 2	Scenario 3	Scenario 4
	Host population health services utilization	UN/WHO recommended HBP for SDG3	Host country guaranteed HBP	UNHCR recommended HBP for refugees
Alignment with host country population	Aligns	Exceeds	Exceeds	Exceeds
Responsiveness to additional refugee health needs	No	No	No	Yes
Adequacy to fully cover essential health services to reach SDG3 (most LICs & LMICs)	Inadequate	Adequate	Inadequate	Adequate
Country specific estimates	Yes	No	Maybe	No
Selection for costing exercise	Primary methodology	Comparison scenario	Not selected	Not selected

The four scenarios were considered, and Scenario 1 was selected as the basis for the global costing study, as it was deemed to be the most realistic and feasible scenario in the short-term, and also aligns with the inclusion objective of this study. In this scenario, refugees would receive the same health services and the same level of health expenditure as the average member of the host country's population.

Scenario 2 utilizes inputs from a previous cost modeling exercise conducted by WHO which assessed the costs of achieving SDG targets by 2030. The WHO exercise presented results by country income group, not individual country, so this scenario was selected as a global comparator for the main findings. While the long-term goal would be to increase expenditure towards attainment of the health SDGs, the refugee costing for this study is intended to reflect the current context and levels of expenditure in LICs and MICs. As the overall financing for health increases in these countries, spending on refugees should improve in conjunction with that of the host population.

Scenario 3 relies on guaranteed health benefit packages for each country. As costed health

benefit packages were not publicly available for all countries, and the content and costing methodology varied significantly, this scenario was used as a comparator for a sub-set of countries only to confirm the validity of the data and could not be compared to the global figure. Scenario 4 was not possible to cost as a refugee-specific health benefits package has not yet been developed.

In summary, the study uses Scenario 1 (host population health service utilization) as the basis for the costing, with Scenario 2 (UN/WHO recommended HBP for SDG3) serving as a comparator.

What level of subsidization to apply

The study estimates are based on a scenario of full subsidization for refugee healthcare, including out-of-pocket (OOP) expenditures. The decision to include all costs in this study was made at a workshop convened by UNHCR and the World Bank and attended by UN member states. While refugees are largely incapable of initially paying for healthcare costs out of pocket, it is important to consider the full costs at the start, so as not to underestimate the needs of refugees. Furthermore, the overarching goal of refugee inclusion into economic systems as well as health systems means that refugees may eventually be able to contribute to social health insurance schemes or pay for co-payments in a manner similar to the host population.

While the study provides cost estimates, further analysis will be required to determine the financing of refugee inclusion for individual countries. This study should not be considered a policy for how to finance refugees; rather, as a global estimate of the full cost of inclusion of refugees if they were given the same healthcare as an average inhabitant of the host country.



Which costs to include

The study includes an estimation of both capital and recurrent costs. While recurrent costs were based on actual expenditure, the capital costs were estimated using a simple modelling exercise (more detail are included in the following Methodology section).

The service delivery platform has a significant influence on capital costs in particular. If refugees are concentrated in camps or specific communities, there may be a need for substantial infrastructure investment, including building parallel temporary health facilities (first-level clinical services and hospitals) and conducting extensive outreach. In contrast, when refugees are dispersed across the host country and access the national health system, the input prices may vary significantly, requiring marginal investments.

Methodology

Global costing of refugee inclusion based on host population health service utilization and actual health expenditure (Scenario 1). The total cost of including refugees in the host country's health system depends on two expenditure categories: 1) the average annual recurrent expenditure required to facilitate refugee access to health services (hiring more health personnel, supplying more drugs and equipment, and health facility running costs to meet the final consumption); and 2) the capital investment needed for scale-up and additional infrastructure.

Recurrent costs

To calculate the recurrent expenditure, the study uses country-specific per capita current health expenditure (CHE)¹⁹ estimates from the WHO Global Health Expenditure Database (GHED). This represents an average unweighted CHE per capita for each country. These estimates are then multiplied by the refugee populations residing in LICs and MICs. The study includes all countries in LICs and MICs with UNHCR-registered refugees and asylum seekers that make up 0.01 percent or greater of the host country's population, using data from 2023.

The study uses expenditure data from 2021, as this was the latest available year of data from the GHED.²⁰ Findings reported by country income group (LICs, LMIC, and UMIC) are similarly based on the income status²¹ that countries held in 2021.

The authors considered the use of data from 2019 to avoid potential disruptions in health expenditure caused by the COVID-19 pandemic and subsequent economic shocks. On average (by income groups), the changes in CHE between 2019 and 2021 are in line with expected spending growth over two years. In 61 out of the 89 countries, CHE grew in real terms between

19 CHE is equal to the final consumption expenditure of resident units on health care goods and services, including the health care goods and services provided directly to individuals as well as collective health care services.

20 2021 is the latest data year representing an almost full dataset; of the 192 countries included in the GHED, only 20 had reported figures for CHE in 2022 as of this writing.

21 Based on GNI per capita in US\$ using Atlas Methodology. Available at: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

2019 and 2021. In 26 of the 62 countries, CHE grew along historic trends (without the pandemic) – below 5 percent annually. Among the countries with large refugee populations, the CHE growth is high in Russia, Uganda, and Bangladesh. In contrast, CHE fell in 28 countries between 2019 and 2021, with sharp deteriorations in Brazil, Sudan, and Lebanon. Hence, the study concludes that COVID-19 didn't cause major surges in spending in countries with large numbers of refugees that could distort the analysis (resulting in unsustainable financing estimates for refugees). The expenditure data from 2021 were adjusted to constant 2023 US dollars.

In this scenario, recurrent expenditure includes not only government transfers (both from domestic revenues and foreign sources), social health insurance (SHI) contributions, direct foreign transfers, other forms of domestic revenue, and voluntary prepayments but also household out-of-pocket (OOP) expenditure. Therefore, the study adopts the full subsidization scenario²², considering the comprehensive coverage of expenses.

Capital expenditure

To calculate the need for capital expenditure, the study acknowledges the limitations of relying on data from the GHED. Instead, it employs a more general approach to estimating capital expenditure. The GHED measures capital expenditure by the total value of the assets that providers of health services have acquired during the accounting period (less the value of disposals of assets of the same type) and that are used repeatedly or for more than one year in the provision of health services. However, while capital expenditure as a factor of production in the GHED captures the total asset value minus the depreciation acquired during the accounting period, it doesn't depend on the overall health service coverage and delivery capacity of the country. Conversely, the requirement for capital investment in host countries to include refugees in the host country's health system directly correlates with two factors: the proportion of the refugee population to the host country's total population (refugee-to-population ratio) and the host country coverage and delivery capacity of the health system.

Therefore, the study uses the refugee-to-population ratio and the country income group as determining factors to estimate the need for capital investment. Countries with higher refugee-to-population ratios and lower income have a much greater need for capital investment compared to those with higher income and lower refugee-to-population ratios. This is because higher-income countries are typically better equipped to accommodate an increase in demand for health services.

Based on the WHO scale-up paper used in the comparison scenario, the average investment in infrastructure and equipment over 15 years accounted for 40 percent of total costs²³. This 40 percent figure was applied to countries with the greatest need (those with low-income status and refugee-to-population ratios of 3 percent or higher); countries with a lower ratio received a proportion of the 40 percent.

22 Upon arrival in the host country, refugees typically have limited resources and lack livelihoods, making them unable to pay OOP expenses to access health services. Covering these expenses by the international community and transferring them to the host government to enhance and expand services will not only benefit refugees but also the host communities.

23 Appendix, Table S17 in Stenberg, K., Hanssen, O., Edejer, T. T. T., Bertram, M., Brindley, C., Meshreky, A., ... & Soucat, A. (2017). Financing transformative health systems towards achievement of the health Sustainable Development Goals: a model for projected resource needs in 67 low-income and middle-income countries. *The Lancet Global Health*, 5(9), e875-e887.

The total estimated capital investment for refugees is amortized over 13 years, reflecting the assumption that refugees tend to remain in exile for this duration²⁴. The scale-up and capital expenditure need not be the same over the years and depend on the number of refugees entering the country in a given year and whether the health system can accommodate them. For simplicity and to facilitate comparison with scenario 2, the study assumes an equal distribution of capital investment across years as refugees arrive in the country. It is also worth noting that the estimated capital expenditure for refugee inclusion needs careful consideration on a country-by-country basis.

Table 2. Specifying the additional need for capital cost based on refugee-to-population ratio and income group

Additional need for capital investment	Refugee-to-population ratio		
	>=3.0%	0.3 – 3%	0.01-0.3%
Income group	>=3.0%	0.3 – 3%	0.01-0.3%
LIC	40%	40%	40%
LMIC	40%	30%	30%
UMIC	40%	20%	0%

Summary

For country *c* with *R* number of refugees, the recurrent cost of refugee inclusion in the national health system is equivalent to multiplying *R* by the country's CHE per capita. The total cost of health inclusion adds to this recurrent cost an estimation of capital costs based on multiplying the CHE by the capital cost percentage by a composite score for country income group and refugee-to-population ratio.

- *c* is the country
- *R* is the number of refugees in the country, from the UNHCR database
- *CHE* is the current health expenditure per capita, from the GHED database
- *score* is a composite of the refugee-to-population ratio and the country income group, with 1 representing the LICs with the highest ratios
- *CAP* is the capital cost as a percentage of total health expenditure; the study uses a sliding scale (Table 2 above) beginning at 40 percent based on an average infrastructure cost across scale-up years modelled by WHO

²⁴ 13 years was determined to be the median time spent by refugees in host countries, based on: Devictor, X., & Do, Q. T. (2017). How many years have refugees been in exile? Population and Development Review, 355-369.

Comparison Scenario (scenario 2): UN/WHO recommended HBP for SDG3

The comparison scenario involves using estimates from a large-scale cost modeling study conducted by Stenberg et al. (2017²⁵) to determine the costs associated with achieving UHC and the SDG targets. The modelled total cost per person was extrapolated for LICs, Lower-Middle-Income Countries (LMICs), and Upper-Middle-Income Countries (UMICs). Then, these unit costs were multiplied by the number of refugees in each country's income group. The cost modeling by Stenberg et al. is for Total Health Expenditure (THE) and includes annualized capital investment needed for expansion to achieve SDG targets by 2030.

To standardize results and allow comparisons across scenarios, all figures in Scenario 2, which was originally reported in 2014 USD, were inflated to 2023 USD using the IMF GDP deflator for US Dollars²⁶. Additional details on the methodology used by the original study are included in Annex 3.

Limitations

The scope of the refugee population considered in this costing study is limited to refugees registered with UNHCR. Since not all refugees in host countries are registered with UNHCR there is a potential underestimation of the total number of refugees present in the host country. Often, unregistered refugees face significant obstacles accessing the host country's health system. Hence, basing this cost solely on registered refugees provides an accurate estimate of the cost ultimately incurred by the host government as unregistered refugees face significant obstacles to access health services. Nonetheless, to ensure refugees access health services and to account for the full financial burden, refugees must be registered either with UNHCR and/or with the host government.

The costing study largely relies on mean annual CHE figures from the WHO GHED. While these figures may represent a higher level of spending than the median CHE, only the mean CHE is available from the GHED, and it was not deemed feasible to collect median CHE by country to conduct a comparison. The premise of this study is to cost refugee inclusion at an equal level of the average expenditure per person in host countries, so using the mean CHE was determined to be an appropriate unit cost to use. Also, the study uses a linear cost function (CHE multiplied by refugee population); as such, it does not account for price effects, supply curves, economies of scale, or other economic phenomena.

In some countries, spending on refugee health may be included within the CHE, but there is no way to determine the amount from the GHED database. If financial resources expended on refugee assistance are embedded within broader health expenditure accounting, there is a risk of double counting in this costing exercise. However, since the UNDP population figures used in this study include refugees as part of the country's total population, the risk of double

25 Stenberg, K., Hanssen, O., Edejer, T. T. T., Bertram, M., Brindley, C., Meshreky, A., ... & Soucat, A. (2017). Financing transformative health systems towards achievement of the health Sustainable Development Goals: a model for projected resource needs in 67 low-income and middle-income countries. *The Lancet Global Health*, 5(9), e875-e887.

26 Accessed at: <https://www.imf.org/external/datamapper/PCPIPCH@WEO/OEMDC/USA>

counting is reduced. The study would need to assess this on a country-by-country basis, which was not feasible for the scope of this analysis.

For Scenario 2, (the comparison scenario considering the package of services to achieve SDGs), it should be acknowledged that the costing framework did not explicitly include provisions for refugees. This implies that the financial requirements for achieving the SDGs may not fully account for the needs and contributions of refugee populations.

While the study presents a generic method for calculating capital costs and recommends adding them to recurrent costs to determine the total costs of refugee inclusion, there are situations where countries may not require capital investment if refugees return to their country of origin. This highlights the dynamic nature of refugee situations and the uncertainty regarding their length of stay in host countries. The decision to invest in capital infrastructure to accommodate refugees is often influenced by the possibility of their eventual return, emphasizing the need for discussions on the potential cost-effectiveness and sustainability of such investments. Neglecting these factors could lead to inefficient resource allocation and missed opportunities to optimize refugee assistance programs.

In modeling the capital costs, the study amortizes the total capital investment over thirteen years. This approach does not account for the varying waves of refugee inflow in host countries. The study assumes an equal distribution of capital investment over thirteen years, but in reality, the need for capital investment could be significantly higher or lower in host countries due to the waves of refugee inflow. Addressing these fluctuations was beyond the scope of this study and should instead be considered in country-level costing and financing efforts.

The study reliance on GHED means that any limitations of the GHED database will likely be present in this costing study. For example, when data is not accessible either directly through country focal points, or from national websites and reports, some aggregates are estimated by WHO. Estimates are derived using historical values, trends, and extrapolations using macroeconomic data series. For certain countries, there are multiple consecutive years of missing data, which could not be filled in or estimated by WHO. In these limited cases²⁷, this study used proxy figures from neighboring countries with similar profiles. Further details on expenditure data are included in Annex 2: Data.

Finally, it should be noted that this paper does not cover the financing of refugee healthcare, which could constitute an independent study on its own. Rather, this paper presents the global cost estimation for refugee inclusion in host country health systems, providing a breakdown at the income group level. It should serve as a guide for country-level costing and global advocacy. However, the results of this costing may not be entirely accurate for country-level analysis, which may require more detailed and context-specific costing work. This study should not be considered as a policy document on how to finance refugee inclusion in health systems. In any consideration of financing, there should be an emphasis on the sharing of responsibilities across all actors involved – governments, donors, and local and international organizations working in the health and humanitarian space.

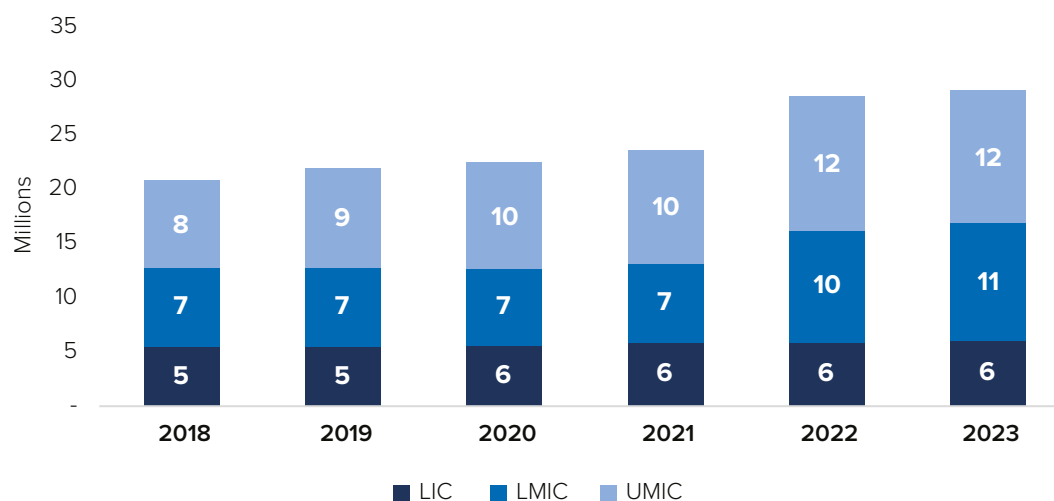
27 These countries comprise Libya, Somalia, and Syria in our country dataset.

Results

Refugee numbers and ratio to host populations

By mid-2023, there were 29,174,720 refugees registered under UNHCR’s mandate in low and middle-income countries – a number that has increased every year (Figure 1). Six million refugees live in LICs (accounting for 21 percent of the total population across LICs and MICs), 10.8 million in LMICs (37 percent of total), and 12.3 million in UMICs (42 percent of total).

Figure 1. Refugees, by Income Group, 2018-2023



70% of all refugees live in LICs and MICs; of the 109 of these countries that have registered refugees with UNHCR, 89 countries have a ratio of refugees to population of 0.01 percent or greater (Table 3).²⁸

This ratio is a critical element when considering refugee inclusion into host communities. Countries with very large populations and reasonably functional health systems will have greater capacity to absorb new arrivals, if the overall refugee proportion is not very large. Countries with smaller populations, however, and particularly those with weaker health systems, will likely be overwhelmed by a large influx of refugees.

²⁸ As noted in the methods section, this costing study considers countries with a refugee to host population ratio of 0.01 percent or greater.

Table 3. Matrix of Country Income Status and Refugee to Population Ratio

Refugee to Population Ratio	3% or greater	Between 3% and 0.3%	Between 0.3% and 0.01%	Total
LICs	2	10	11	23
LMICs	2	9	19	30
UMICs	8	16	12	36
Total	12	35	42	89

Estimated annual cost of refugee inclusion based on host population health service utilization

The current health expenditure, based on the WHO Global Health Expenditure Database, is presented in Table 4. The average CHE per capita for refugee-hosting countries in UMICs is 11.5 times that of LICs and 4.2 times that of LMICs. Additionally, the CHE per capita in LMICs is 2.7 times that of LICs. This indicates that providing a refugee with access to health services in UMICs costs almost 12 times more compared to LICs and four times more than in LMICs.

Table 4. Average CHE per capita for income groups²⁹

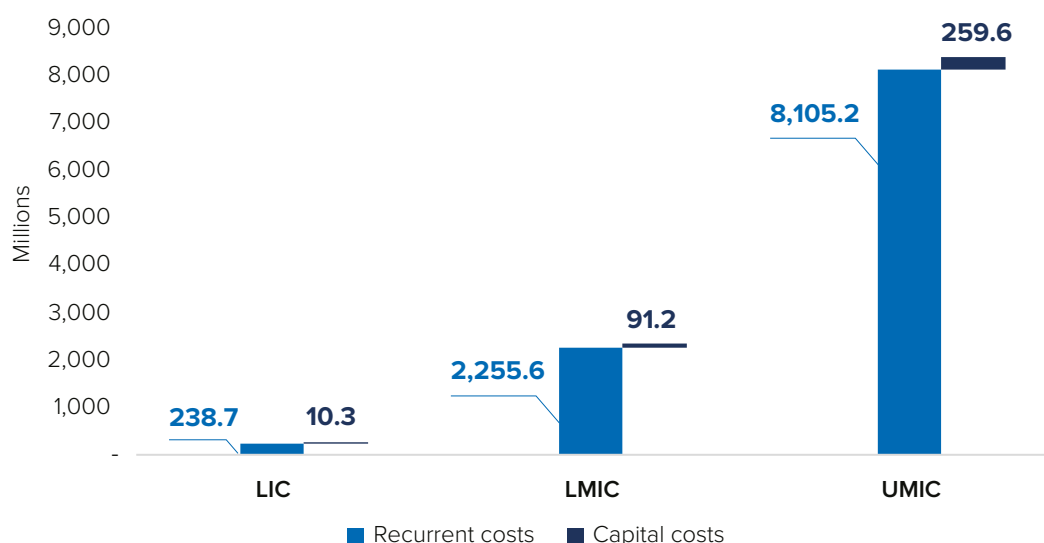
Income Group	CHE per capita
LICs	\$ 52.4
LMICs	\$ 142.2
UMICs	\$ 604.4

The annual cost of refugee inclusion in host country health systems, based on actual host country recurrent expenditures (CHE per capita), the number of refugees in host countries, and modeled capital costs, is estimated at US\$ 11.0 billion (361.1 million for annualized capital cost, 10.6 billion for recurrent expenditure) (in constant 2023 US\$)³⁰. UMICs, expectedly, account for 76.3 percent of the total costs mainly due to higher spending on health in these countries compared to LMICs and LICs (Figure 2). The total annual cost is split by country income group as follows: US\$ 248.9 million for LICs, US\$ 2.3 billion for LMICs, and US\$ 8.4 billion for UMICs.

29 Average unweighted CHE per capita is the mean CHE per capita in 2021 of all countries included in the study, grouped by country income status.

30 All results are reported in constant 2023 US dollars, unless noted otherwise.

Figure 2. Total annual estimated cost of refugee inclusion, by country income group (2023 US\$ million)



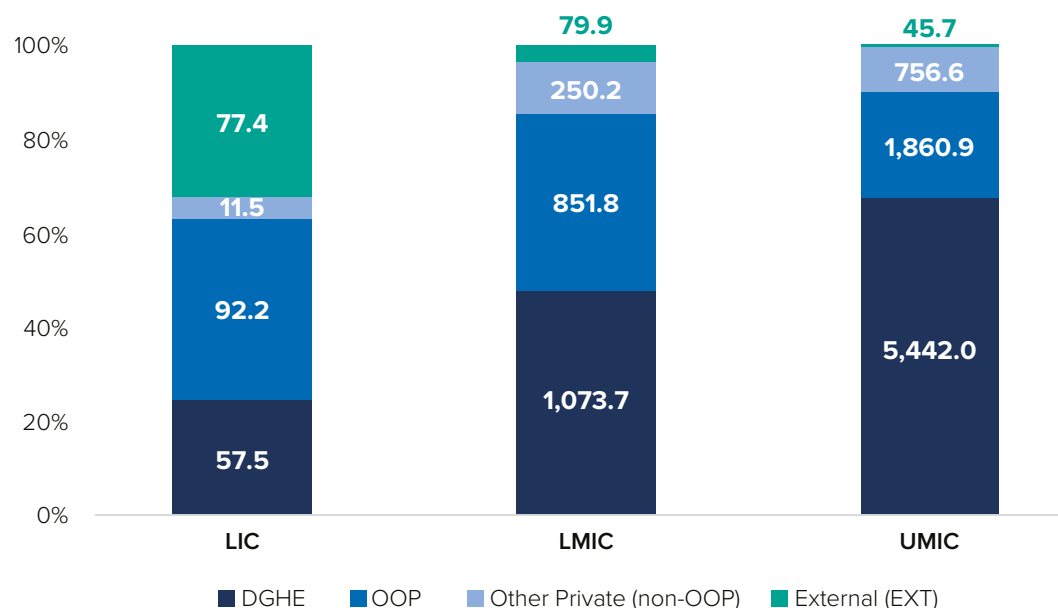
Whereas recurrent costs are based on the actual CHE of each country, as tabulated by the WHO Global Health Expenditure Database, capital costs were modelled using a simple approach related to the country’s income status and refugee to population ratio. Countries with weaker health systems and proportionally larger populations of refugees need significant additional resources and infrastructure. Even UMICs require support to their health systems (in 2021, the mean UMIC Service Coverage Index score was 68.9 percent, compared with 55.8 percent for LMICs and 42.2 percent for LICs).³¹ LICs generally had the weakest health systems and therefore require the highest proportion of capital costs compared to recurrent costs. As expected, while the capital costs for LICs were not large in absolute terms, these costs were larger as a proportion of respective overall costs than for the other country income groups. Estimated annual capital costs made up 4.1 percent of the overall costs of refugee inclusion for LICs, 3.9 percent for LMICs, and 3.1 percent for UMICs. On average given that refugees are in exile for over 13 years³², the total capital investment (US\$ 4.7 billion) is amortized in 13 years (annually US\$ 361.1 million) and added to the recurrent cost.

31 SDG 3.8.1, the Universal Health Coverage (UHC) Service Coverage Index, is measured on a scale from 0 (worst) to 100 (best) based on the average coverage of essential services including reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access. Available at: <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/uhc-index-of-service-coverage>

32 Authors’ calculation based on the methodology developed in “How many years have refugees been in exile,” Devictor and Do. <https://www.jstor.org/stable/26622897>

Figure 3 shows a further breakdown of the recurrent costs for refugee health inclusion, splitting out the CHE by source: domestic general government health expenditure (GGHE-D)³³, external (donors and other external funding)³⁴, domestic private³⁵, and out-of-pocket (OOP)³⁶. The total recurrent costs are a function of country CHE and refugee population; therefore, the countries with the largest refugee populations carry a larger share of the total costs.

Figure 3. Breakdown of recurrent costs for refugee health inclusion, by source, for each country income group (2023 US\$ million)



As discussed in the previous section, this costing study considers the costs of refugee inclusion based on actual health expenditures, irrespective of the source³⁷, to arrive at a global cost. OOP expenditure is particularly significant in LICs, where it accounts for 38.6 percent of overall CHE for refugee-hosting countries. On the other hand, domestic government health expenditure (DGHE) as a share of CHE is more prominent in UMICs at 67.1 percent, followed by LMICs at 47.6 percent, and then LICs at 24.1 percent. External financing as a share of CHE (32.4 percent) is the second-highest source of financing in LICs, following OOP.

Overall, the cost of refugee inclusion is lowest in LICs, both in absolute and relative terms, and is disproportionate to the share of refugees hosted in these countries. LICs account for only 2.3 percent of the total annual estimated cost of refugee inclusion, even though LICs

33 Indicator Definitions from GHED: Transfers from government domestic revenue (allocated to health purposes) (FS.1) + Social insurance contributions (FS.3)

34 Transfers distributed by government from foreign origin (FS.2) + Direct foreign transfers (FS.7)

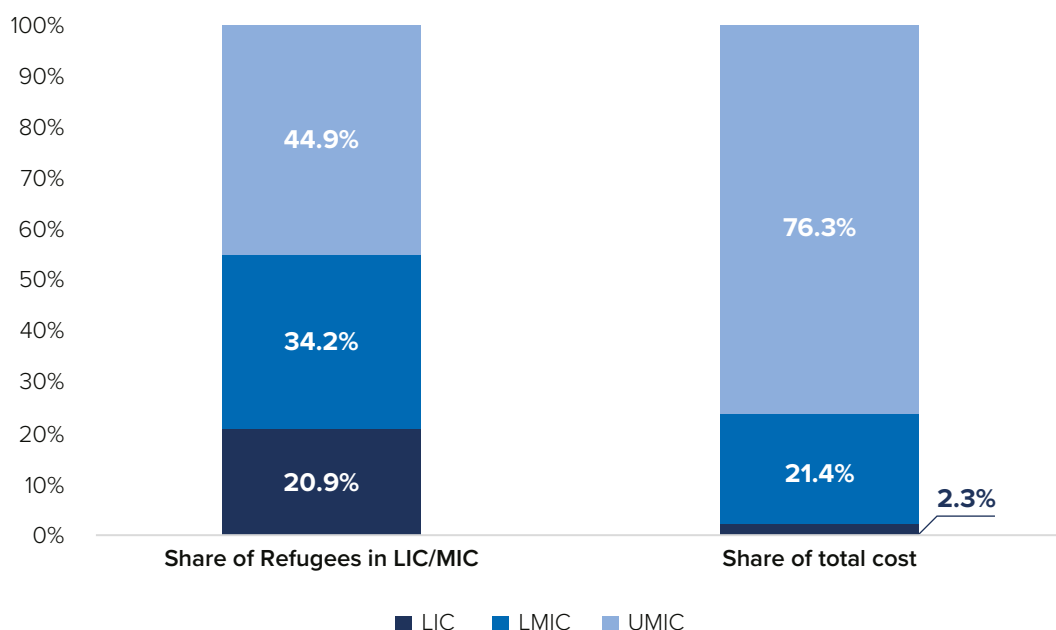
35 Compulsory & voluntary prepayment (Other, and unspecified, than social insurance contributions) (FS.4) + Voluntary prepayment (FS.5) + Other domestic revenues n.e.c. (FS.6) + Unspecified revenues of health care financing schemes n.e.c. (FS.nec)

36 Other revenues from households n.e.c. (FS.6.1)

37 The study assumes full subsidization for refugees (accounts for 100 percent of OOP).

host about 21 percent of all refugees in the LICs and MICs (Figure 4). Prioritizing support to refugees in LICs could address a significant part of the global refugee inclusion agenda; and any additional health systems capacity that is built as a result would benefit host communities in addition to refugees.

Figure 4. Share of refugees compared to share of total refugee health inclusion costs, by country income group

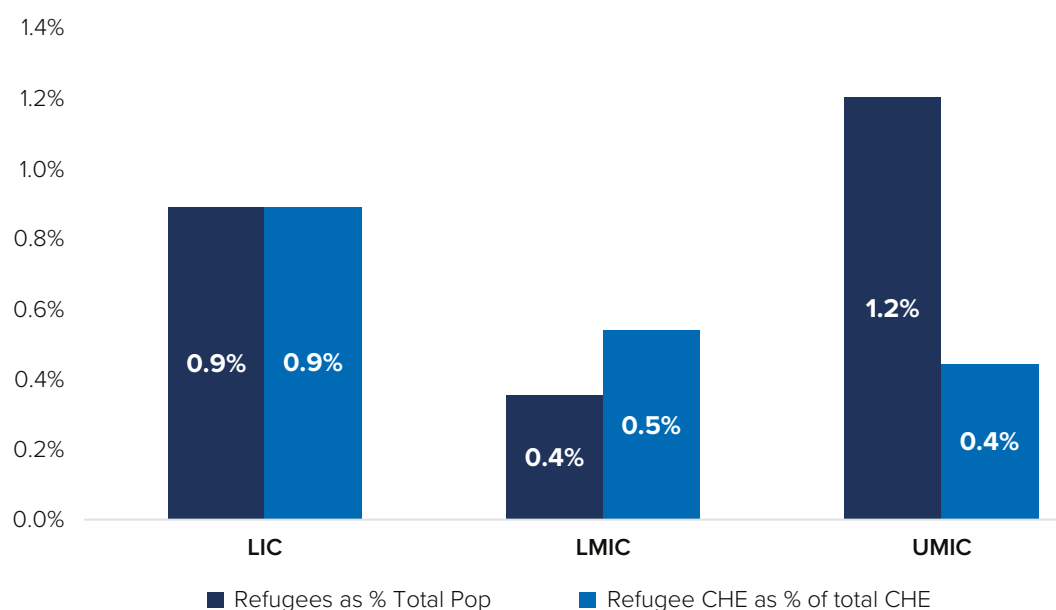


The total refugees in LICs and MICs accounted for approximately 0.6 percent of the total population in these countries (Figure 5). To include refugees in national health systems, the global increase in recurrent costs would amount to 0.5 percent on top of the current global CHE, or 0.9 percent for LICs, 0.5 percent for LMICs, and 0.4 percent for UMICs.

The costs are driven by several countries hosting large refugee populations. For instance, in the case of LMICs, the higher cost is largely attributed to Lebanon and Iran, which collectively host almost 43 percent of the total refugees in LMICs.³⁸ These countries also have the highest CHE per capita among the 33 LMICs hosting refugees. Consequently, the averages are driven by a few countries with large refugee populations at the higher end of the income range and CHE per capita expenditure.

³⁸ Note that Iran and Lebanon, previously UMICs, were reclassified as LMICs in 2020 and 2021, respectively.

Figure 5. Refugee to population ratio and refugee inclusion cost as a percentage of CHE



With the full subsidization scenario proposed in this study, the funding for refugee inclusion would represent a sizable share on top of existing government health expenditure (1.9 percent). This share is even more prominent for domestic government health expenditure; DGHE topped US\$ 552 million in 2021; the cost of refugee inclusion proposed in this paper represents approximately 2.0 percent of that expenditure (Table 5). While this average figure may not represent a significant increase to most countries, the range varies considerably based on individual country refugee population size, from a high of 50 percent in the LMIC group (Lebanon), to 26 percent in the LIC group (Chad), to 19 percent in the UMIC group (Jordan).

Table 5. Recurrent Cost of Refugee Inclusion as a % of Domestic General Government Health Expenditure (2023 US\$)

	DGHE (millions)	Recurrent cost of refugee health inclusion (millions)	Recurrent cost of refugee health inclusion as % of DGHE
LIC	5,952.82	238.67	4.0%
LMIC	106,149.49	2,255.55	2.1%
UMIC	439,760.37	8,105.17	1.8%
Total	551,862.68	10,599.39	1.9%

Comparison Scenario: UN/WHO recommended HBP for SDG3 (Scenario 2)

A 2017 WHO SDG modelling exercise was used to estimate cost of offering refugees the SDG recommended HBP as a comparison scenario for the global costing of refugee inclusion based on host population health service utilization. The WHO study assessed two scenarios towards the achievement of SDGs by 2030: a progress scenario (in which countries are limited by their health system’s assumed absorptive capacity) and an ambitious scenario (in which countries largely attain global SDG targets).

The study reported a modelled total cost per person, in 2030, of US\$271 for the “*ambitious scenario*” and US\$249 for the “*progress scenario*”. These results, expressed in 2014 US dollars, were inflated to 2023 US dollars for comparability³⁹ – US\$352 and US\$323 for the two scenarios, respectively. The Progress scenario is utilized for Scenario 2, as it represented more achievable targets and is therefore a better comparator for the refugee inclusion scenario. These figures were further broken down by country income group; this cost was multiplied to the total number of refugees by country income group to arrive at a global figure (for a more detailed methodology undertaken for the WHO study, see Annex 3). The WHO costing includes the cost of scale-up for both recurrent and capital health expenditure.

Figure 6. THE per capita comparison, Scenarios 1 and 2 (2023 US\$)

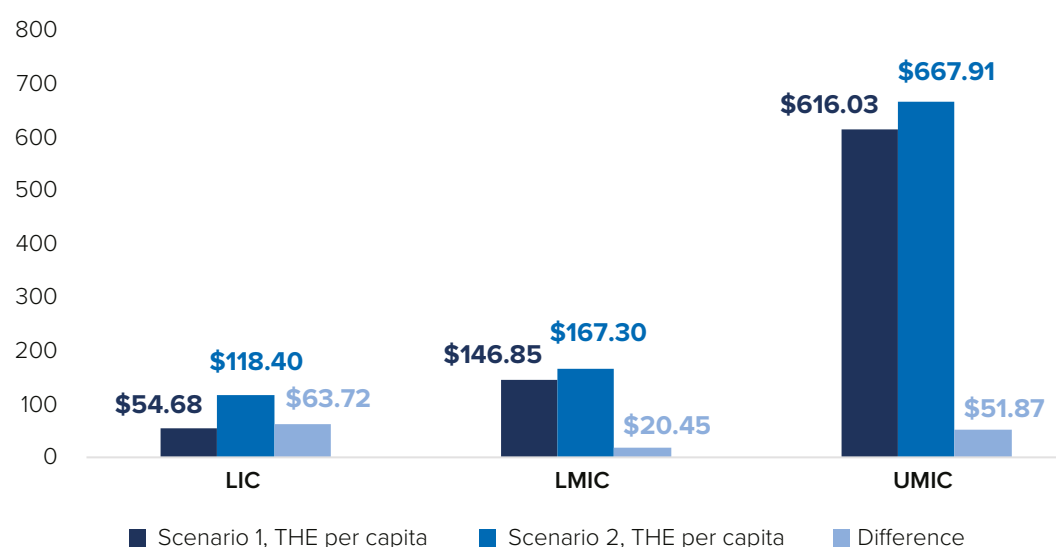


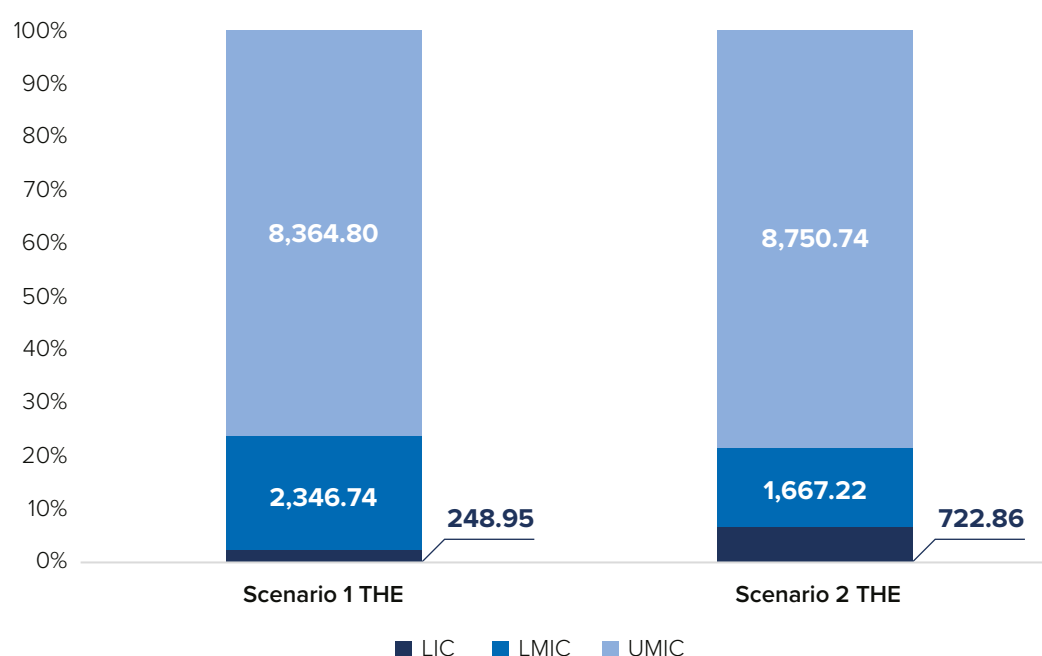
Figure 6 shows a comparison of per capita costs used in Scenarios 1 and 2, broken down by country income group. The cost per capita is higher in the WHO SDG study across all income groups, as expected – unlike the actual expenditure of Scenario 1, this cost represents a scale-up effort that would allow countries to achieve SDG targets. The most significant difference between the two scenarios is seen in LICs, where the SDG achievement cost would average to US\$ 118.40, more than double the actual expenditure (and small share of annualized capital costs) of US\$ 54.68 from the primary scenario. LMICs and UMICs have closer per capita costs across the two scenarios.

39 Using the IMF GDP Deflator for US Dollars, available at: <https://www.imf.org/external/datamapper/PCPIPCH@WEO/OEMDC/USA>

To use the WHO SDG study as a comparator and arrive at a total refugee cost, the study multiplies the WHO modelled total cost per person by the total number of refugees in each income grouping. This calculation yields a total cost of US\$ 722.9 million for LICs, US\$ 1.67 billion for LMICs, and US\$ 8.75 billion for UMICs, for a total of US\$ 11.1 billion, or just 2 percent more than scenario 1 (Figure 7).

The Scenario 2 costs are higher than the Scenario 1 global THE estimate of US\$ 11.0 billion using the actual GHED data for CHE and a simple modelling for capital costs. As expected, the largest relative gap is in LICs (US\$ 248.5 million vs US\$ 722.86 million) which speaks to the weaker health systems and limited health benefit packages in LICs. Significantly more investment is required to ensure both the host population and refugee access a health benefit package comparable to SDG3 HBP without undergoing undue financial hardship.

Figure 7. Comparison of Scenario – the global cost of refugee inclusion using THE vs WHO SDG cost modelling (2023 US\$ million)



Notably, the cost of inclusion in LMICs is higher in Scenario 1 compared to the WHO modeling exercise. The total cost per person for LMICs, as proposed by WHO for the “Progress” SDG targets, is US\$169. This figure is slightly higher than the actual (unweighted) average CHE per capita across LMICs in the study sample, which was US\$142 in 2021, according to GHED data. The inclusion of several LMICs with higher CHEs than the average and with large refugee populations (notably Lebanon, US\$345.3 and Iran, US\$441.3) drives the overall LMIC cost to be higher than that in the WHO scenario. Both countries host 42.6 percent of refugees in LMICs, totaling 4.2 million out of the total 10.0 million in LMICs.

The global cost of refugee inclusion for UMICs under Scenario 1 closely aligns with WHO-modeled cost estimates. This suggests that these countries are already making substantial investments in their health systems and are offering a HBP to host population that is nearly comparable to the required investment to achieve SDG3 targets. However, in some UMICs, there remains a significant need for additional investment to offer SDG3 comparable HBPs.

Benefits of refugee inclusion in host country health systems

The refugee crisis persists as one of the most pressing global development challenges. As millions flee conflict and persecution, host countries face complex dilemmas in providing adequate healthcare for these populations. Costing the global price of refugee inclusion is only the first step towards achieving this inclusion. Beyond the considerable costs of refugee inclusion in host countries health systems, countries will need to implement key policy changes to provide refugees the opportunity to access other services, such as access to education and economic opportunities, so that refugees can eventually contribute to host countries and support their own needs.

In keeping with the principles of the Global Compact on Refugees, inclusion of refugees into national public health systems, combined with sufficient support to those systems, is a priority wherever local capacity allows. In instances where significant capital investments are taking place to build more health facilities, this could also benefit the host community. While direct health service provision and financing through parallel systems may be necessary to address immediate needs during the emergency humanitarian phase, this generally leads to inefficiencies and inequities^{40,41}. The creation of a 'two-tiered' health system is often more expensive and unsustainable^{42,43} and causes resentment where services to refugees are perceived to be of higher quality than those provided to the local community^{44,45,46}.

Inclusion of refugees into a host country's national health system can catalyze investment in infrastructure, personnel training, and service delivery, ultimately bolstering the capacity and resilience of healthcare systems.⁴⁷ By mainstreaming refugees, host countries not only meet an ethical obligation to provide adequate healthcare but also realize tangible benefits for their populations. Strengthened national health systems can better respond to the evolving healthcare needs of all citizens, fostering improved health outcomes and overall societal well-being.

40 Elizabeth A. Rowley, Gilbert M. Burnham, Rabbin M. Drabe, Protracted Refugee Situations: Parallel Health Systems and Planning for the Integration of Services, *Journal of Refugee Studies*, Volume 19, Issue 2, June 2006, Pages 158–186, <https://doi.org/10.1093/jrs/fej019>

41 Puchner K, Karamagioli E, Pikouli A, Tsiamis C, Kalogeropoulos A, Kakalou E et al. Time to rethink refugee and migrant health in Europe: moving from emergency response to integrated and individualized health care provision for migrants and refugees. *Int J Environ Res Public Health* 2018;15(6):1100. doi:10.3390/ijerph15061100

42 Puchner K, Karamagioli E, Pikouli A, Tsiamis C, Kalogeropoulos A, Kakalou E et al. Time to rethink refugee and migrant health in Europe: moving from emergency response to integrated and individualized health care provision for migrants and refugees. *Int J Environ Res Public Health* 2018;15(6):1100. doi:10.3390/ijerph15061100.

43 Spiegel P, Chanis R, Trujillo A. Innovative health financing for refugees. *BMC Med.* 2018; 16:90

44 Christopher Garimoi Orach^{1,2,3}, Dominique Dubourg² and Vincent De Brouwere
Costs and coverage of reproductive health interventions in three rural refugee-affected districts, Uganda

45 Elizabeth A. Rowley, Gilbert M. Burnham, Rabbin M. Drabe, Protracted Refugee Situations: Parallel Health Systems and Planning for the Integration of Services, *Journal of Refugee Studies*, Volume 19, Issue 2, June 2006, Pages 158–186, <https://doi.org/10.1093/jrs/fej019>

46 Orach CG, De Brouwere V. Postemergency health services for refugee and host populations in Uganda, 1999-2002. *Lancet.* 2004;364(9434):611–2.

47 Spiegel P, Chanis R, Trujillo A. Innovative health financing for refugees. *BMC Med.* 2018; 16:90



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From a public health perspective, refugee inclusion in host country health systems is paramount for communicable disease prevention and control. Ensuring access to healthcare services, including vaccinations, disease surveillance, and treatment, is essential for containing the spread of infectious diseases within refugee populations and hosting communities, as well as preventing outbreaks that could threaten broader public health.

Health is a fundamental determinant of human capital, directly influencing individuals' ability to participate in the workforce and contribute to economic productivity. By providing refugees with equitable access to healthcare, host countries invest in the well-being and potential of these individuals, unlocking their capacity to thrive and contribute meaningfully to society. A healthy refugee population not only improves labor market outcomes but also fosters economic growth and social cohesion.

Including refugees in contributory national health insurance schemes offers significant advantages for both refugees and host populations.⁴⁸ By pooling risk across a larger and more diverse population, these schemes become more sustainable and resilient, ensuring financial protection for all members. For refugees, access to health insurance provides essential coverage for medical expenses, reducing financial barriers to healthcare access and alleviating the burden of out-of-pocket payments.

Finally, the inclusion of refugees into national health systems aligns with broader global health objectives, including UHC and the achievement of SDGs. Adopting inclusive approaches that prioritize health for all is essential for achieving these ambitious targets and advancing health equity on a global scale. By embracing inclusive healthcare policies, countries can move closer towards UHC, ensuring everyone's access to essential healthcare services without facing financial hardship. This process can be supported by donors and governments sharing the responsibility to make funding for refugees more predictable and stable, as well as aligning national priorities with refugee-inclusive policies.

48 Spiegel P, Chanis R, Trujillo A. Innovative health financing for refugees. *BMC Med.* 2018; 16:90

Conclusion

The estimated total cost of the inclusion of LICs and MICs' 2023 refugee population in host countries' health systems is US\$ 11.0 billion annually. Despite this high price tag on the global cost estimate of refugee inclusion, the cost estimate is the lowest in LICs, both in absolute (US\$ 249.0 million) and relative terms compared to MICs. LICs account for only 2.3 percent of the overall estimated cost of refugee inclusion, even though LICs host over 21 percent of all refugees in the LICs and MICs (Figure 4). Prioritizing support to refugees in LICs could address a significant part of the global refugee inclusion agenda, and any additional health systems capacity built as a result would benefit host communities in addition to refugees.

Out of the total cost estimated at US\$ 11.0 billion, US\$ 361.1 million is for capital investment. The capital expenditure represents an annualized cost and was estimated based on the income group and refugee-to-host population ratio. The total capital cost over 13 years (estimated average years in exile for refugees) is estimated to be US\$ 4.7 billion, which equals to US\$ 361.1 million annually. The annual recurrent cost of refugee inclusion in host countries' national health systems is US\$ 10.6 billion.

The recurrent cost is largely driven by UMICs (US\$ 8.1 billion) and then LMICs (US\$ 2.3 billion), with estimates for LICs being the lowest (US\$ 238.7 million).

The estimated US\$ 11.0 billion for refugee inclusion represents a 0.5 percent increase in the refugee-population weighted total CHE of LICs and MICs hosting refugees. Broken down by country income group, this equals a 0.9 percent increase in refugee-population weighted total CHE for LICs, 0.5 percent for LMICs, and 0.4 percent for UMICs.

The recurrent cost estimate provided in this report also encompasses out-of-pocket expenditure. Upon arrival in the host country, refugees often lack the means to cover any out-of-pocket expenses, even though the host population may incur some out-of-pocket or co-payment costs to access health services. However, as refugees are permitted to engage in economic activities due to favorable socio-economic policies in the host country, they will gradually earn income and begin to cover a portion of the out-of-pocket expenses initially. Eventually, they should be able to afford premiums or pay user fees as required. Therefore, if host countries implement favorable socio-economic policies and adopt freedom of movement or easing encampment policies, the fiscal burden of recurrent health costs will diminish over time, and refugees will achieve self-sufficiency.



The capital investment and additional recurrent expenditure for refugees can be directed towards investing in existing health facilities in host communities where refugees have settled, benefiting both the refugee population and the host community, which may experience short-term capacity challenges due to the arrival of refugees.

Although the data used for costing refugee inclusion in the host country's health system is from each country's expenditure data on the host population, the estimation may not entirely be accurate or applicable at the country level. Instead, these figures should be regarded as global and income-specific cost estimates; intended for global advocacy purposes. Country-level costing necessitates a more detailed analysis and estimation, considering factors such as the demographics of the refugee population, the country's health benefits package, refugee health needs, the health service delivery model, host country policies towards refugees, and the macro-fiscal situation of the country.

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Annexes

Annex 1: Table A1: Refugee statistics and unit costs by host country

Country	Region	Income Group (2021)	Lending Category	GDP per Capita (Constant 2023 US\$)	CHE per Capita (Constant 2023 US\$)	Population (1,000s)	Total Refugees, Asylum Seekers, Other	Refugee to Population Ratio
Afghanistan	South Asia	LIC	IDA	524.04	91.43	42,239,854	52,389	0.1%
Albania	Europe & Central Asia	UMIC	IBRD	6,244.41	522.50	2,832,439	3,833	0.1%
Algeria	Middle East & North Africa	LMIC	IBRD	5,064.53	229.99	45,606,481	103,139	0.2%
Angola	Sub-Saharan Africa	LMIC	IBRD	3,069.33	72.14	36,684,202	53,277	0.1%
Argentina	Latin America & Caribbean	UMIC	IBRD	15,998.70	1,174.62	45,773,884	230,569	0.5%
Armenia	Europe & Central Asia	UMIC	IBRD	5,819.50	688.94	2,777,970	35,385	1.3%
Azerbaijan	Europe & Central Asia	UMIC	IBRD	6,872.22	280.03	10,412,652	6,439	0.1%
Bangladesh	South Asia	LMIC	IDA	2,165.55	65.14	172,954,319	961,817	0.6%
Belarus	Europe & Central Asia	UMIC	IBRD	8,302.23	525.63	9,498,238	31,946	0.3%
Belize	Latin America & Caribbean	UMIC	IBRD	7,416.64	348.75	410,825	2,127	0.5%
Benin	Sub-Saharan Africa	LMIC	IDA	1,560.85	39.49	13,712,828	9,263	0.1%
Bolivia	Latin America & Caribbean	LMIC	IBRD	3,936.45	306.88	12,388,571	16,605	0.1%
Bosnia and Herzegovina	Europe & Central Asia	UMIC	IBRD	7,646.65	777.47	3,210,847	375	0.0%
Botswana	Sub-Saharan Africa	UMIC	IBRD	8,221.74	514.32	2,675,352	851	0.0%
Brazil	Latin America & Caribbean	UMIC	IBRD	11,084.29	855.88	216,422,446	593,643	0.3%

Country	Region	Income Group (2021)	Lending Category	GDP per Capita (Constant 2023 US\$)	CHE per Capita (Constant 2023 US\$)	Population (1,000s)	Total Refugees, Asylum Seekers, Other	Refugee to Population Ratio
Bulgaria	Europe & Central Asia	UMIC	IBRD	11,106.13	1,169.28	6,687,717	199,172	3.0%
Burkina Faso	Sub-Saharan Africa	LIC	IDA	949.33	64.03	23,251,485	36,784	0.2%
Burundi	Sub-Saharan Africa	LIC	IDA	339.87	27.29	13,238,559	87,200	0.7%
Cameroon	Sub-Saharan Africa	LMIC	Blend	1,836.59	71.71	28,647,293	477,831	1.7%
Central African Republic	Sub-Saharan Africa	LIC	IDA	476.94	48.26	5,742,316	55,893	1.0%
Chad	Sub-Saharan Africa	LIC	IDA	765.80	40.06	18,278,567	768,123	4.2%
Colombia	Latin America & Caribbean	UMIC	IBRD	8,258.66	626.83	52,085,167	2,478,226	4.8%
Congo, Dem. Rep.	Sub-Saharan Africa	LIC	IDA	644.40	25.10	102,262,809	523,522	0.5%
Congo, Rep.	Sub-Saharan Africa	LMIC	Blend	2,209.00	90.52	6,106,869	61,241	1.0%
Costa Rica	Latin America & Caribbean	UMIC	IBRD	16,593.53	1,066.85	5,212,173	229,974	4.4%
Côte d'Ivoire	Sub-Saharan Africa	LMIC	IDA	2,999.81	92.04	28,873,034	21,302	0.1%
Djibouti	Middle East & North Africa	LMIC	IDA	3,729.77	98.65	1,136,454	30,527	2.7%
Dominican Republic	Latin America & Caribbean	UMIC	IBRD	10,812.87	468.71	11,332,972	118,013	1.0%
Ecuador	Latin America & Caribbean	UMIC	IBRD	7,061.27	555.74	18,190,484	566,286	3.1%
Egypt, Arab Rep.	Middle East & North Africa	LMIC	IBRD	5,009.87	202.01	112,716,598	384,282	0.3%
Eswatini	Sub-Saharan Africa	LMIC	IBRD	5,175.16	314.70	1,210,822	2,599	0.2%
Ethiopia	Sub-Saharan Africa	LIC	IDA	1,073.48	29.77	126,527,060	925,860	0.7%
Gabon	Sub-Saharan Africa	UMIC	IBRD	8,460.98	262.94	2,436,566	281	0.0%
Gambia, The	Sub-Saharan Africa	LIC	IDA	856.83	27.69	2,773,168	4,174	0.2%
Georgia	Europe & Central Asia	UMIC	IBRD	6,340.35	468.91	3,728,282	27,027	0.7%

Country	Region	Income Group (2021)	Lending Category	GDP per Capita (Constant 2023 US\$)	CHE per Capita (Constant 2023 US\$)	Population (1,000s)	Total Refugees, Asylum Seekers, Other	Refugee to Population Ratio
Ghana	Sub-Saharan Africa	LMIC	IDA	2,583.28	112.43	34,121,985	11,075	0.0%
Guatemala	Latin America & Caribbean	UMIC	IBRD	5,642.24	383.33	18,092,026	2,651	0.0%
Guinea	Sub-Saharan Africa	LIC	IDA	1,250.63	50.24	14,190,612	2,255	0.0%
Guyana	Latin America & Caribbean	UMIC	N/A	13,958.42	529.05	813,834	19,783	2.4%
India	South Asia	LMIC	IBRD	2,522.34	83.24	1,428,627,663	260,055	0.0%
Iran, Islamic Rep.	Middle East & North Africa	LMIC	IBRD	6,871.60	441.33	89,172,767	3,443,529	3.9%
Iraq	Middle East & North Africa	UMIC	IBRD	5,324.26	279.86	45,504,560	290,486	0.6%
Jordan	Middle East & North Africa	UMIC	IBRD	4,944.32	336.24	11,337,053	739,981	6.5%
Kenya	Sub-Saharan Africa	LMIC	Blend	2,192.94	106.44	55,100,587	623,843	1.1%
Kyrgyz Republic	Europe & Central Asia	LMIC	IDA	1,472.77	81.91	6,735,348	1,028	0.0%
Lebanon	Middle East & North Africa	LMIC	IBRD	7,851.88	345.31	5,353,930	806,944	15.1%
Lesotho	Sub-Saharan Africa	LMIC	IDA	1,221.61	128.96	2,330,318	629	0.0%
Liberia	Sub-Saharan Africa	LIC	IDA	809.71	126.22	5,418,376	1,773	0.0%
Libya	Middle East & North Africa	UMIC	IBRD	10,731.28	811.80	6,888,388	44,454	0.6%
Malawi	Sub-Saharan Africa	LIC	IDA	724.27	52.34	20,931,751	51,466	0.2%
Malaysia	East Asia & Pacific	UMIC	IBRD	13,634.90	547.53	34,308,525	180,758	0.5%
Mali	Sub-Saharan Africa	LIC	IDA	957.48	45.11	23,293,698	64,893	0.3%
Mauritania	Sub-Saharan Africa	LMIC	IDA	2,005.33	100.39	4,862,988	108,199	2.2%
Mexico	Latin America & Caribbean	UMIC	IBRD	12,548.25	686.54	128,455,566	415,792	0.3%
Moldova	Europe & Central Asia	UMIC	IBRD	4,742.22	461.09	3,435,931	108,740	3.2%

Country	Region	Income Group (2021)	Lending Category	GDP per Capita (Constant 2023 US\$)	CHE per Capita (Constant 2023 US\$)	Population (1,000s)	Total Refugees, Asylum Seekers, Other	Refugee to Population Ratio
Montenegro	Europe & Central Asia	UMIC	IBRD	9,501.15	1,107.52	626,484	40,743	6.5%
Morocco	Middle East & North Africa	LMIC	IBRD	4,234.46	248.60	37,840,044	19,484	0.1%
Mozambique	Sub-Saharan Africa	LIC	IDA	747.52	50.06	33,897,354	32,720	0.1%
Namibia	Sub-Saharan Africa	UMIC	IBRD	5,436.62	513.16	2,604,172	7,137	0.3%
Nepal	South Asia	LMIC	IDA	1,340.87	73.42	30,896,590	19,782	0.1%
Niger	Sub-Saharan Africa	LIC	IDA	652.72	38.61	27,202,843	302,111	1.1%
Nigeria	Sub-Saharan Africa	LMIC	Blend	3,123.53	94.26	223,804,632	98,634	0.0%
North Macedonia	Europe & Central Asia	UMIC	IBRD	6,897.98	629.94	2,085,679	8,284	0.4%
Pakistan	South Asia	LMIC	Blend	2,122.17	48.45	240,485,658	2,129,394	0.9%
Papua New Guinea	East Asia & Pacific	LMIC	Blend	3,068.87	69.05	10,329,930	13,822	0.1%
Paraguay	Latin America & Caribbean	UMIC	IBRD	8,047.66	538.20	6,861,523	7,520	0.1%
Peru	Latin America & Caribbean	UMIC	IBRD	8,288.27	463.44	34,352,719	1,526,196	4.4%
Russian Federation	Europe & Central Asia	UMIC	IBRD	13,179.79	1,052.03	144,444,359	1,250,115	0.9%
Rwanda	Sub-Saharan Africa	LIC	IDA	1,143.88	67.70	14,094,683	127,625	0.9%
Senegal	Sub-Saharan Africa	LMIC	IDA	1,855.57	80.07	17,763,163	12,106	0.1%
Serbia	Europe & Central Asia	UMIC	IBRD	9,160.34	1,033.40	7,149,076	31,067	0.4%
Somalia	Sub-Saharan Africa	LIC	IDA	658.82	49.91	18,143,378	35,998	0.2%
South Africa	Sub-Saharan Africa	UMIC	IBRD	7,661.60	656.21	60,414,494	144,475	0.2%
South Sudan	Sub-Saharan Africa	LIC	IDA	-	36.74	11,088,796	317,489	2.9%
Sudan	Sub-Saharan Africa	LIC	IDA	2,244.93	24.26	48,109,006	959,705	2.0%

Country	Region	Income Group (2021)	Lending Category	GDP per Capita (Constant 2023 US\$)	CHE per Capita (Constant 2023 US\$)	Population (1,000s)	Total Refugees, Asylum Seekers, Other	Refugee to Population Ratio
Suriname	Latin America & Caribbean	UMIC	IBRD	9,037.45	336.08	623,236	2,836	0.5%
Syrian Arab Republic	Middle East & North Africa	LIC	IDA	957.37	45.21	23,227,014	18,856	0.1%
Tajikistan	Europe & Central Asia	LMIC	IDA	1,648.12	82.55	10,143,543	9,233	0.1%
Tanzania	Sub-Saharan Africa	LMIC	IDA	1,339.30	41.78	67,438,106	242,248	0.4%
Thailand	East Asia & Pacific	UMIC	IBRD	7,877.77	409.65	71,801,279	96,099	0.1%
Togo	Sub-Saharan Africa	LIC	IDA	1,104.60	60.88	9,053,799	32,746	0.4%
Tunisia	Middle East & North Africa	LMIC	IBRD	4,924.42	298.46	12,458,223	8,502	0.1%
Türkiye	Europe & Central Asia	UMIC	IBRD	17,291.53	495.88	85,816,199	3,629,581	4.2%
Uganda	Sub-Saharan Africa	LIC	IDA	1,183.48	48.85	48,582,334	1,561,637	3.2%
Uzbekistan	Europe & Central Asia	LMIC	Blend	4,314.59	176.73	35,163,943	13,025	0.0%
Venezuela, RB	Latin America & Caribbean	UMIC	IBRD	-	180.00	28,838,499	30,917	0.1%
Yemen, Rep.	Middle East & North Africa	LIC	IDA	1,317.21	71.16	34,449,825	71,452	0.2%
Zambia	Sub-Saharan Africa	LIC	IDA	1,642.53	84.70	20,569,738	70,830	0.3%
Zimbabwe	Sub-Saharan Africa	LMIC	Blend	1,657.42	70.53	16,665,409	22,167	0.1%

Annex 2: Data

Refugee Numbers

To compute the costs of refugee inclusion in each country, the study uses the latest available refugee figures from UNHCR’s Global Trend database (reflecting data from mid-2023).⁴⁹ It does not include IDPs (internally displaced persons).

This study includes all refugees in LICs and MICs and includes 89 countries that collectively account for around 99 percent of all refugees in these countries.

Expenditure Data

Current health expenditure data for scenario 1, the costing based on the host country population health service utilization, is extracted from GHED⁵⁰. GHED is updated annually with a two-year lag (t-2), data is collected from the Member States, or estimated by WHO in case of gaps in data. When countries report preliminary data with a year lag (t-1), these are also published on the GHED.

Data is published for the calendar year. However, for countries in which the fiscal year begins after June 30th, expenditure data are allocated to the later calendar year (e.g., fiscal year 2020-2021 is published as 2021 data). The recommended data source for health expenditure statistics is countries’ health accounts produced following the System of Health Accounts (SHA) 2011 methodology. This study uses the GHED data as extracting data from national health accounts (NHAs) can be cumbersome and often difficult to find for the latest year for all countries. The pros and cons of both data sources are highlighted in Table A2.

Table A2. Summary of NHA and WHO Global Health Expenditure Database, pros and cons

	Pros	Cons
NHA	<p>Detailed, country-specific data on health financing; often include sub-accounts and other useful breakdowns.</p> <p>Include descriptive text to discuss findings and contextualize results.</p> <p>Original data (the basis of which is entered into GHED later)</p> <p>Detailed methodology outlined in each report (important because there is inconsistent transition from SHA 1.0 [1995-1999] to SHA 2011 across countries)</p>	<p>Very time consuming – requires data extraction from individual country reports.</p> <p>Difficult to get timeseries data, often requires extraction from multiple reports.</p> <p>Few countries (especially LICs) produce annual health accounts, often multiple years of data for data to be available publicly.</p> <p>Not all data may be available for same year, making cross-country comparisons challenging</p>

49 UNHCR Data finder is available at: <https://www.unhcr.org/refugee-statistics/download/>

50 GHED is the largest database offering internationally comparable expenditure data for nearly 190 countries with data series starting from the year 2000 and follows the System of Health Accounts 2011 (SHA 2011).

	Pros	Cons
GHED	<p>Rapidity – query data and access immediately from GHED database.</p> <p>Comprehensive – includes data from almost all countries, across long range of years.</p> <p>Internationally recognized, vetted, approved – GHED data used for World Bank development indicators, by experts, etc.</p> <p>Largest database providing internationally comparable expenditure of 190 countries from 2000 onwards.</p> <p>Used by major studies (including the WHO paper on costing achievement of SDG3/UHC)</p> <p>Timeseries data starting from the year 2000 using SHA 2011; previous data from SHA 1.0 also available (1995-1999)</p>	<p>Includes some projections/modelled data to fill in gaps in country data.</p> <p>Does not include all data from detailed country NHA reports but a subset of key indicators.</p> <p>Transition from SHA 1.0 to SHA 2011 methodology not consistent across all countries.</p> <p>Individual countries may not report data for prolonged period of time.</p>

To illustrate the consistency and comparability of health expenditure data between GHED and NHA across countries, we extracted data from both sources for the year 2019 for a selection of six countries with high refugee-to-population ratios. The results reveal that individual NHA reports aligned closely to reported data in the WHO GHED, particularly for countries that produced annualized NHA figures. Discrepancies between the two were largely limited to a small percentage (with most approximately 1-3 percent or less).

Annex 3: Summary of methodology used in Comparator Scenario, WHO SDG Cost Modelling⁵¹

Objective. In this study, Stenberg et al. estimated the additional resources needed to strengthen comprehensive health service delivery in low-income and middle-income countries to achieve Sustainable Development Goals (SDGs) targets as part of broader attainment of universal health coverage (UHC), particularly focusing on SDG 3 (healthy lives and wellbeing) and other targets for which health is primary intent (SDG 2, 6, and 7). Costs, health effects, reduced prevalence of illness, lives saved, and increases in life expectancy were estimated for 67 countries from 2016 to 2030, representing 95% of the population in low-income and middle-income countries. Two scenarios were modeled: a progress scenario (in which countries are limited by their health system’s assumed absorptive capacity) and an ambitious scenario (in which countries largely attain global SDG targets).

Target-setting. The authors set targets consistent with SDG 2030 global targets on the basis of global best practices, including globally accepted health system benchmarks and WHO intervention guidelines and recommended practices. Specific targets were set for each strategic investment area (health workforce, infrastructure and equipment, supply chain, governance, HIS, emergency risk management, and health service delivery).

⁵¹ Stenberg, K., Hanssen, O., Edejer, T. T. T., Bertram, M., Brindley, C., Meshreky, A., ... & Soucat, A. (2017). Financing transformative health systems towards achievement of the health Sustainable Development Goals: a model for projected resource needs in 67 low-income and middle-income countries. *The Lancet Global Health*, 5(9), e875-e887.

Recognizing the diversity of health system capacity of LICs and MICs, the authors grouped the countries into five types: conflict-affected countries, countries with vulnerable systems, and countries in health systems categories 1 (poor performance across health systems functions; limited resources), 2 (some country investment into health systems, but resource constraints), and 3 (mature health system; relatively high resource availability) to determine the timing and duration of strategic investments.

For service delivery targets, the authors took into account the probable attainable frontiers for different types of service delivery platforms. For example, management of non-communicable diseases is modelled to reach a maximum of 60% coverage, a level that many high-income countries have not reached. Other services, such as maternal, child, and immunization services, were projected to potentially reach 95% coverage.

Benefit package contents. The study costed a package of 187 specific health interventions that included policy and population-wide interventions, periodic schedulable and outreach services, first-level clinical services, specialized care, and overarching functions. The interventions comprised targets from: SDGs 3.1-3.9 (maternal health, child health, communicable diseases, NCDs, substance abuse, achieving UHC, and other health-related factors like road traffic accidents and mortality due to air pollution); SDGs 3.a-3.d (tobacco control, vaccine and drug R&D, health financing and health workforce increases, and emergency preparedness); SDG 2.1 (malnutrition); SDG 6.1-6.2 (safe drinking water; sanitation and hygiene); and SDG 7.1 (clean fuels). The study included direct intervention costs (such as commodities and supplies, health workforce, disease specific, and program-specific costs), as well as health systems costs (such as infrastructure, governance, supply chain, health financing policy, emergency preparedness, risk management, and response, and health information system).

Methods and data sources. Direct intervention-related costs and effects were modelled using the Spectrum-based OneHealth tool; the analysis was complemented by Excel-based models, and system-specific components were excluded from disease-specific costs to avoid double counting. The authors used a bottom-up, inputs-based costing approach (quantities times price), considering a steady closing of the gap between current and target investments year by year. Inputs were multiplied by country-specific prices from the WHO-CHOICE⁵² database and other publicly available sources. In addition, the authors used WHO's Global Health Expenditure Database (GHED) as the primary source for health expenditure (total, general government, and domestic) and the IMF World Economic Outlook for national financial indicators (GDP, general government expenditure).

Key findings. The study reported that the progress scenario would require an additional \$274 billion spending on health per year by 2030, whereas the ambitious scenario would require US\$371 billion. This translates to per person costs of an additional \$41 (range 15–102) or \$58 (22–167) per person, respectively, by the final years of scale-up. Costs are reported in non-inflation adjusted 2014 US\$.

These findings will serve as key inputs into the costing presented in this paper under Scenario 2. The inputs we include in our costing study are summarized in Table A3.

⁵² Choosing Interventions that are Cost Effective database is a tool developed by who to assist policymakers in making informed decisions about health interventions.

Table A3: Inputs for scenario 2

	Additional incremental investment need per person (2030)	Modelled total cost per person, 2030 (THE)*	Modelled total cost per person, 2030 (GGHE)**
Progress Scenario			
All countries	41	249	149
LIC	66	92	71
LMIC	40	130	72
UMIC	36	519	303
Ambitious Scenario			
All countries	58	271	168
LIC	76	112	91
LMIC	58	146	89
UMIC	51	536	320

All figures are 2014 US\$.

* From the paper, page e882: “Additional costs per-person are reported for 2030. To provide an estimate similar to the previously published estimate of \$86,15 we also calculated a measure for total cost per person, which we defined as total current health expenditure (reported in 2014 in national health accounts) plus the estimated incremental cost by country-year from our model.”

From the Appendix: “The health expenditure input data is based on financing agents consistent with the System of Health Accounts (SHA 1.0). It includes both current and capital health expenditure. Total health expenditure, which includes, among other components, government health expenditure, social health insurance, voluntary private health insurance, out-of-pocket spending, and aid, provides the overall envelope of available resources for health in a country.”

** General government health expenditure includes social health insurance as well as foreign development assistance for health channeled through government as budget support. General government health expenditure, which also encompasses social health insurance, represents a large part of total health expenditure in most countries and plays a central role in advancing universal health coverage by reducing financial barriers and impoverishment through prepayment and pooling.

