World Health Organization

WHO global survey on the inclusion of cancer care in health-benefit packages

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Contents

Foreword

The attainment of universal health coverage (UHC) is a commitment all governments made as part of the 2030 Agenda for Sustainable Development and reiterated in the two subsequent United Nations High-Level meetings on UHC in 2019 and 2023. Governments cannot attain UHC without including priority cancer services. The inclusion of priority preventive, curative and palliative cancer services in national health-benefit packages (HBPs) is essential to protect individuals and families suffering from financial hardship and to improve population health. Countries with higher UHC coverage have lower cancer-specific mortality and can maintain lower mortality during health-system shocks, such as pandemics and humanitarian crises.

Cancer is a leading cause of death and disability globally and its rates are projected to increase over time. More than 1 in 6 people will be diagnosed with cancer in their lifetimes. In 2020, an estimated 10 million lives were lost to cancer, and it is projected that, by 2040, approximately 28 million individuals will have been newly diagnosed with cancer. The growing burden of cancer is expected to disproportionately impact lower-income countries, where health systems are less prepared for it and where cancer services have not traditionally been included in HBPs.

Inclusion and delivery of essential cancer services is indispensable for governments to address the health needs of their populations. Many cancer prevention and control services offer value for money and feature prominently in the expanded list of 'NCD best buys' that was produced by WHO and approved at the 76th World Health Assembly. Priority cancer services do not strain health budgets. The 2020 WHO Global report on cancer calculated that more than 7 million lives by 2030 could be saved by implementing a basic package of services with an annual per capita investment of US$ 2.70 in low-income countries, US$ 3.95 in lower-middle-income countries and US$ 8.15 in upper-middle-income countries.

This WHO publication offers fresh insight into the types of cancer and cancer services that countries are prioritizing and how cancer services are being effectively delivered, with continuity, in the context of UHC. With the good practices outlined in this publication, we can reduce global gaps in cancer care and improve outcomes in an equitable manner. Though the world has a long way to go, we now have a better understanding of the challenges and more tools to achieve our shared commitment to achieve UHC and to prevent and control cancer.

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The report was written primarily by Hesham Gaafar, WHO Consultant, Cancer, with the support of André Ilbawi, Technical Lead, Cancer, and Raffaella Casolino, Technical Officer, Cancer, and the guidance of Andrew Mirelman, Technical Officer, and Kratu Goel, WHO Consultant, Economic Evaluation and Analysis, Health Technology Assessment.

The data included in the report are the product of the WHO Global Survey on Health Technology Assessment and Health Benefit Packages (2020–2021). The data analysis was conducted by Hesham Gaafar.

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Acronyms/abbreviations

ALL	acute lymphoid leukemia
CT	computerized tomography
DNA	deoxyribonucleic acid
EGFR	epidermal growth factor receptor
FIT	fecal immunochemical test
FOBT	fecal occult blood test
GBCI	Global Breast Cancer Initiative
HBP	health-benefit package
HER2	human epidermal growth factor receptor 2
HIC	high-income country
HIV	human immunodeficiency virus
HPV	human papilloma virus
HTA	health technology assessment
IGRT	image-guided radiotherapy
LIC	low-income country
LMIC	lower-middle-income country
MBC	metastatic breast cancer
MRM	modified radical mastectomy
NCD GAP	Global action plan for the prevention of noncommunicable diseases 2013–2020
NCDs	noncommunicable diseases
NSCLC	non-small-cell lung cancer
PET	positron emission tomography
Ph+	Philadelphia chromosome positive
TKI	tyrosine kinase inhibitor
UHC	universal health coverage
UMIC	upper-middle-income country
VIA	visual inspection with acetic acid
WHO-EML	WHO model list of essential medicines

Executive summary

In response to World Health Assembly Resolution 67.23, WHO conducted an initial global survey in 2015 to assess the status of health technology assessment (HTA) in Member States. In 2020 and 2021, WHO launched a second round of the survey to provide an update on the HTA situation and look at related decision-making processes at the global level. The second survey also included an assessment of the characteristics and contents of the countries' largest public-sector health-benefit packages (HBPs)[1,2]. The survey results provide an understanding of the landscape of the inclusion of cancer care along the path to universal health coverage (UHC).

An analysis of the country responses to the 2020–2021 survey was conducted to determine what countries included in their largest public-sector HBPs in terms of types of cancer, screening services, cancer treatments (with particular emphasis on cancer medicines), and palliative and survivorship care. Responses were grouped geographically under WHO regions and World Bank income groups and analyzed to evaluate policy coherence and service prioritization.

This report shows that the inclusion of priority cancer services essential to cancer care is insufficient, particularly in the light of the current size of and projected increase in the cancer burden. The results show that the minimum package for effective cancer management was included in only 39% of the countries HBPs, a proportion that dropped to 28% when palliative-care services were also considered. This highlights the need to raise awareness about the challenges related to providing cancer care and the resources needed to address them.

Countries with limited resources, as measured by World Bank income level, were less likely to cover cancer-care services in their HBPs. The greatest discrepancy was observed between lower-middle-income countries (LMIC) and upper-middle-income countries (UMIC) in relation to the inclusion of 19 of the 20 cancer-management services, except for palliative care. Discrepancies were greatest between UMIC and high-income countries (HIC) regarding three of the four palliative-care services.

Radiation was the treatment modality in connection with which inclusion rates varied most between income groups. On average, there was a four-fold greater likelihood of radiation services being covered in the largest public-sector HBP of a country in the HIC group than in one of a lower-income country (LIC).

The widest disparity was found in relation to the inclusion of lung cancer in HBPs. All surveyed lung-cancer-related services were reportedly 4–7 times more likely to be included in HBPs in the HIC group than in the LIC group. The widest disparity between the income groups in relation to any service was stem-cell transplantation, which was 12 times more likely to be included in a HBP in the HIC group than in one in the LIC group. This, along with breast reconstruction post mastectomy, showed the widest regional differences, each being 7.3 times more likely to be included by respondents in the European Region than those in the African Region.

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[1] A HBP is a set of services that can be feasibly financed and provided under the actual circumstances in which a given country finds itself (Source: Critical considerations and actions for achieving universal access to sexual and reproductive health in the context of universal health coverage through a primary health care approach. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.3).

[2] The term "country" as used in the text of this publication should be understood to refer to countries, territories and areas as well as national and local institutions, data and information.

Cancer survivorship and palliative care were not prioritized. Less than half of all respondents offered post-mastectomy breast reconstruction, extremity/ocular protheses, Philadelphia chromosome positive (Ph+) testing and tyrosine kinase inhibitor (TKI) treatment, or home based palliative care. These services formed three of the five least likely services to be included in a public-sector HBP globally. Other than the inclusion of morphine and other opioids, palliative-care services were included by approximately half or fewer of the respondents. The general low level of inclusion of palliative and survivorship care confirmed that more concentrated effort is needed to achieve holistic, comprehensive cancer care across the continuum.

The inclusion of interventions for childhood cancers is lower than for adult cancers. Childhood-cancer care was not commonly included in the identified HBPs. That care related to acute lymphoid leukemia (ALL), a proxy for childhood-cancer care, was least likely to be offered in the largest public-sector HBPs. Less than half of them included two of the four ALL services surveyed (stem-cell transplantation and extremity/ocular protheses). These two ALL interventions were also among the least likely services to be included among all the cancer services surveyed, strengthening the need for greater support and advocacy for childhood-cancer care globally.

Of the eight medicines surveyed, only three were partially covered in the LIC group, the remaining five being either fully covered or not covered at all. There was a disparity between income groups and WHO regions with respect to the full inclusion of cancer medicines in HBPs. The widest was related to aspirin, full coverage of which was almost three times as likely in the LIC group as in the HIC group. Filgrastim was less than half as likely to be fully covered by the largest public-sector HBPs in a LIC compared to any of the other income groups. There was also a wide disparity in the inclusion of full coverage for medicines, compared to the Western Pacific Region, nivolumab was more than three times more likely to be included in the European region and Filgrastim was more than three times more likely to be included in the Eastern Mediterranean Region.

Opportunities for synergy by including similar services that share resources are not fully realized. For example, in the LMIC group, a quarter of the HBPs that reported covering breast or cervical irradiation did not include lung irradiation. Breast- and cervical-cancer surgeries were approximately 3 and 1.25 times more likely to be included in LICs and LMICs respectively than lung-cancer surgery. These may be favourable areas in which to target inclusion and capacity-building, as the infrastructure, equipment, and skilled personnel needed probably exist already. Thus, providing training and equipment may be enough to expand the care services at a lower cost and in a shorter time.

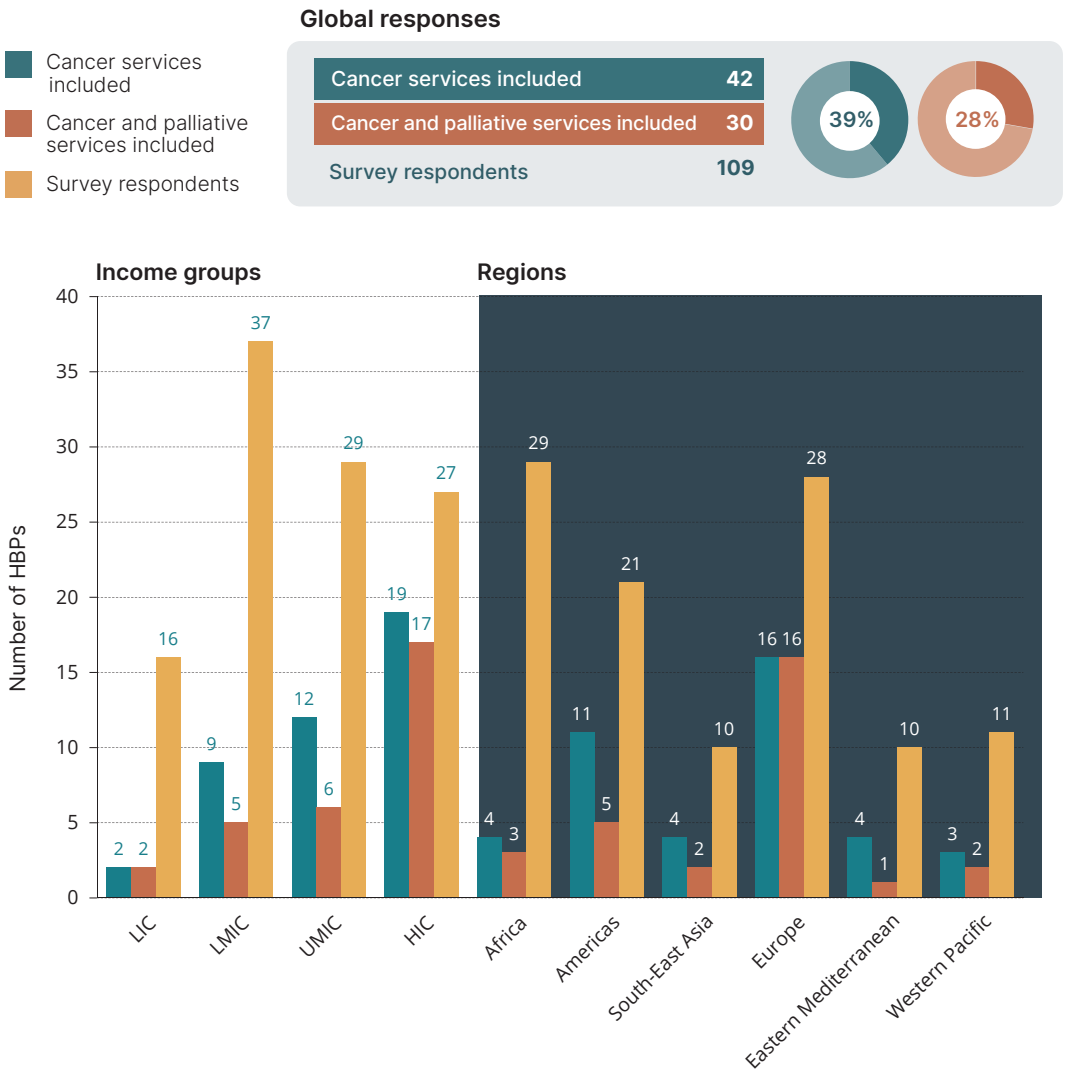
Regarding prioritization and policy coherence, the findings of the survey would suggest that decisions on what services should be included in HBPs are perhaps not based on global recommendations or best practice. This is exemplified by the inclusion of cancer-screening services (without treatment services) or mammographic breast screening (50% in LICs and 65% in LMICs) in countries with weaker health systems. In both cases, this is contrary to established evidence-based recommendations.

The exclusion of priority cancer services from countries' largest public-sector HBPs threatens the health and financial stability of people affected by cancer and their families, the growth and productivity of their economies, and, ultimately, the attainment of relevant targets of the Sustainable Development Goals. If the information contained in this report is used effectively, it will help stakeholders to address the challenges, incoherencies and gaps related to the inclusion of cancer care in HBPs, identify action areas prioritizing the increase cancer-care services globally, and improve access to appropriate care for the millions suffering from cancer each year.

All governments made the commitment to achieve universal health coverage (UHC), of which preventative, curative, and palliative cancer care are an essential part. The 2020–2021 global survey on health technology assessment and health benefit packages (HBPs) is the largest survey of its kind with 115 countries participating, providing valuable insight into the inclusion of cancer-related services in the countries' largest public-sector HBPs. There is still substantial work to be done to ensure adequate coverage of cancer and palliative care and eliminate global disparities between geographical regions and income groups.

The minimum package for effective cancer management was included in only 39% of the countries' HBPs, which dropped to 28% when palliative-care services were also considered (Fig. E.1).

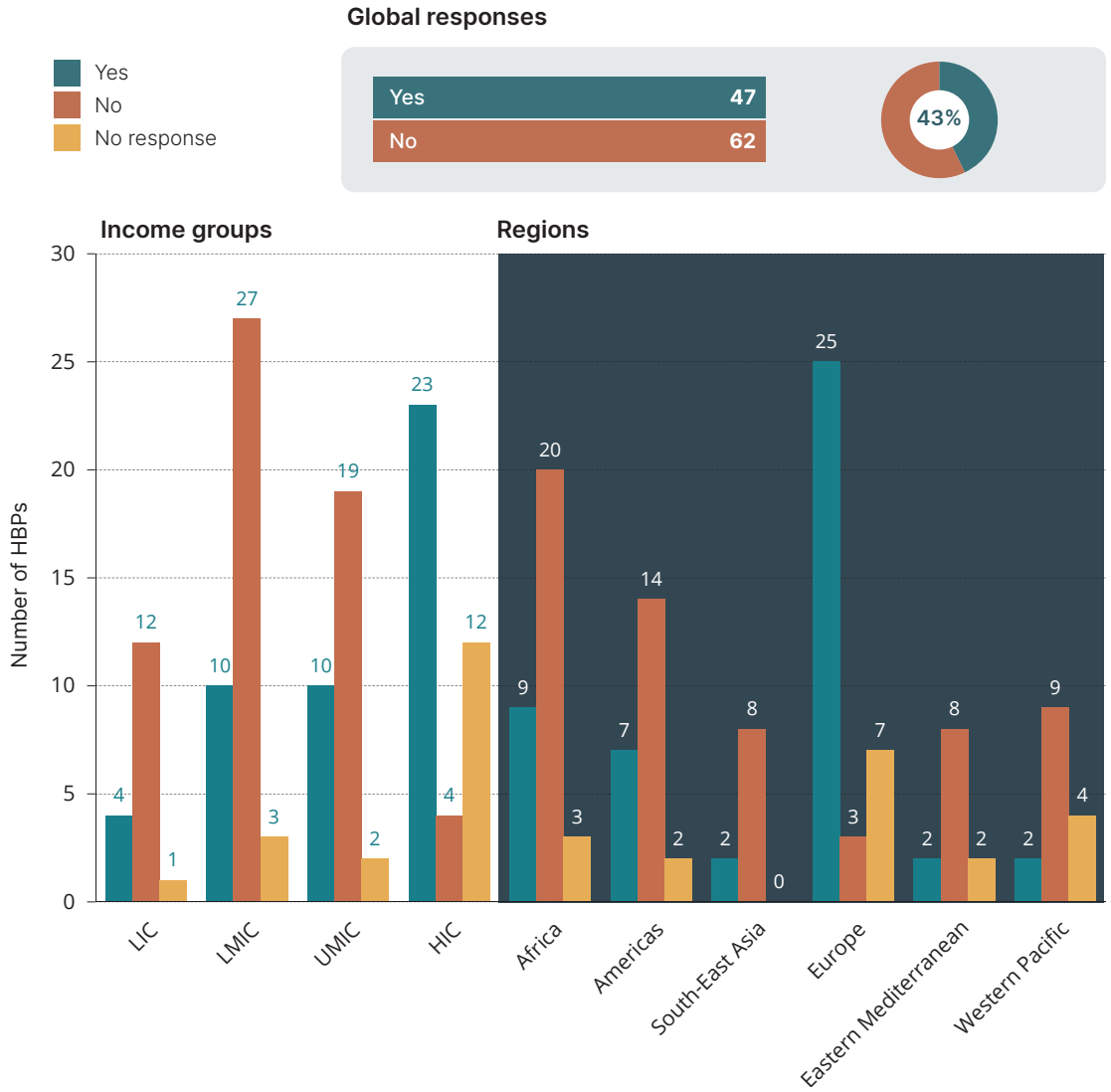
Fig. E.1. Inclusion of cancer and palliative services in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Cancer survivorship and palliative care are not being prioritized: apart from morphine and other opioids, palliative-care services were included in approximately half or fewer of the countries (Fig. E.2)

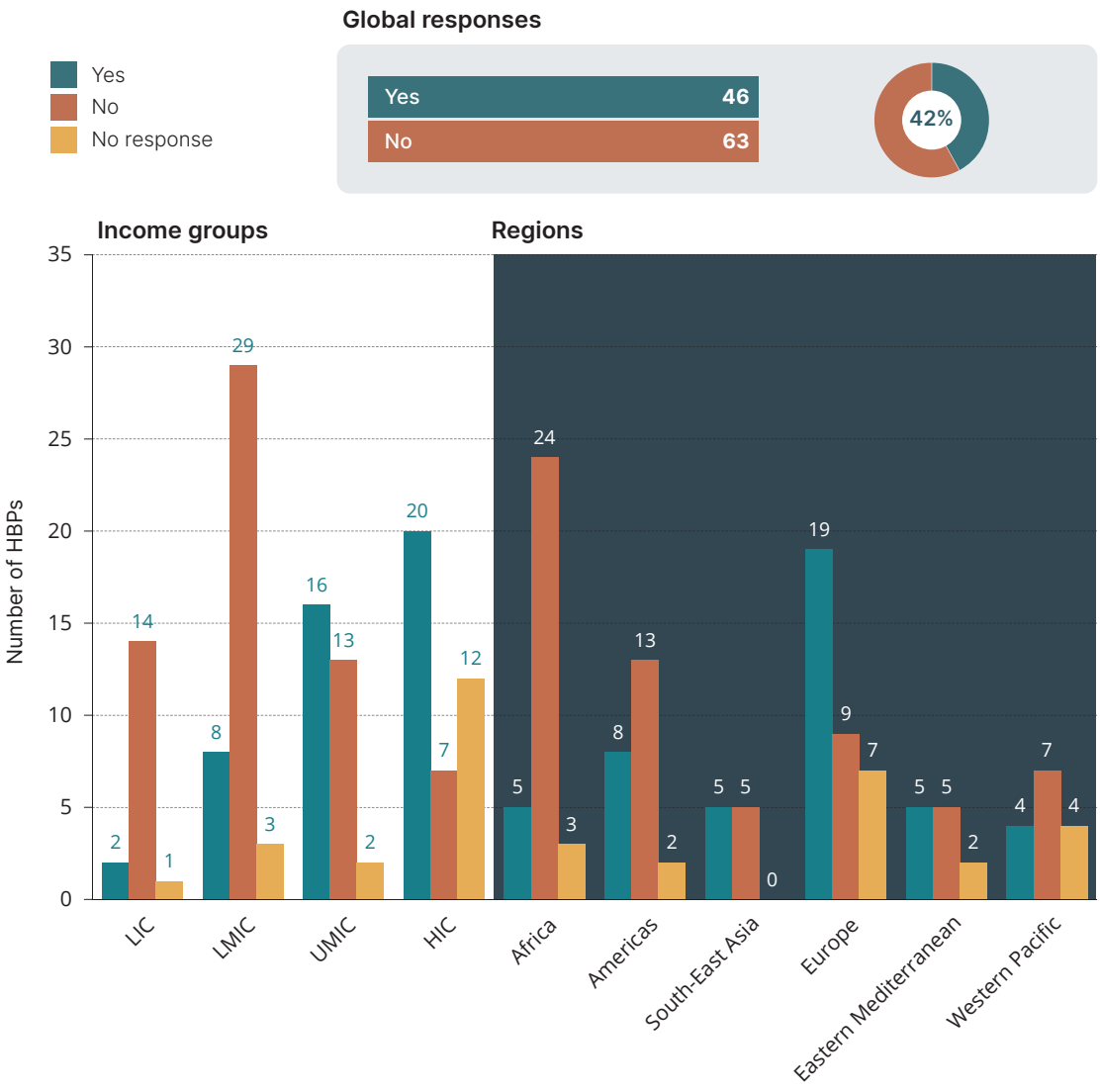
Fig.E.2. Inclusion of home-based palliative care in contries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

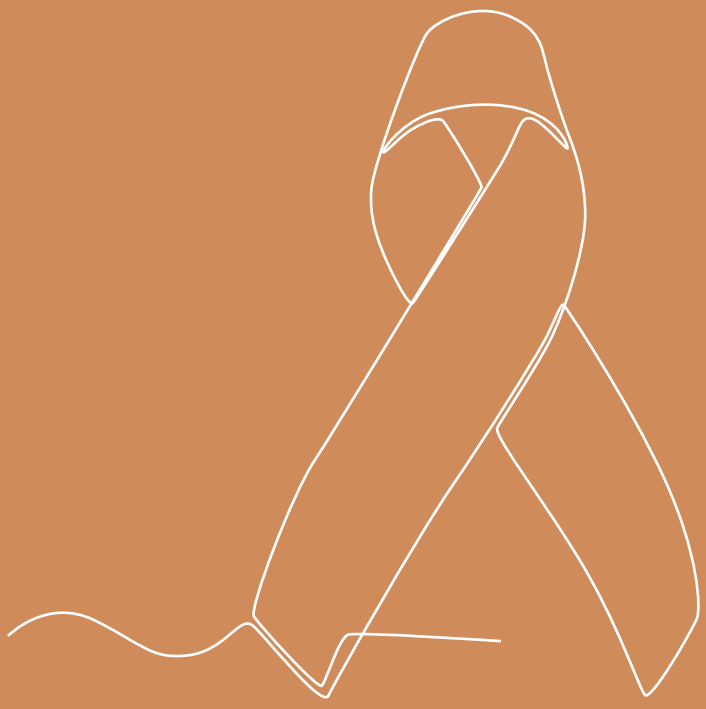
Childhood cancer care was not commonly included in the identified HBPs. Care related to acute lymphoid leukemia (ALL), a proxy for childhood-cancer care, was the least likely to be offered in the largest public-sector HBPs. Less than half of countries included two of the four ALL services surveyed (Fig. E.3)

Fig. E.3. Inclusion of Ph+ testing, TKIs, and extremity/ocular prothesis for ALL in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

The findings of the report strengthen the need for greater support for cancer-care planning and delivery, to continue progress towards UHC. Strategic investments to tackle the critical challenges highlighted in the report would improve and save the lives of millions and reduce global inequities.



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Introduction

World Health Assembly Resolution 67.23 resulted in a global survey in 2015 to assess the status of health technology assessment (HTA) in Member States *(1)*. A second round of the survey was conducted in 2020–2021 to provide an update on the current status of HTA and related decision-making processes at the global level. Questions regarding the characteristics and contents of the countries' largest public-sector health-benefit packages (HBPs) were added.[3] This report utilizes the results of the second survey to better understand the status of countries regarding universal health coverage (UHC) and where they may be supported as they progress to including cancer care in their HBPs.

Universal health coverage (UHC) means that all individuals and communities receive the health-care services they need without experiencing financial hardship *(3)*. To facilitate the delivery of health care that meets the health priorities of their populations, governments and other stakeholders seeking to attain UHC must choose prudently from a wide selection of technologies and interventions. The limited availability of financial resources obliges them to carefully prioritize in selecting the interventions to be included in their health-care services *(2)*. WHO facilitates and guides national priority-setting processes by providing frameworks and recommendations, such as the three dimensions (3 Ds) of decision-making – data, dialogue, and decision *(3)* – and the WHO 2020 report on cancer *(4)*.

The result of these processes is usually reflected in the packages of health-care services, referred to as health-benefit packages (HBPs), that countries agree to provide to eligible beneficiary populations. Increasing the transparency of, and communicating clearly about, HBPs has been thought to improve the equity and quality of health services. Currently, cancer services are inaccessible to large percentages of populations in countries with weaker health systems resulting in inequalities in this area between and within countries, particularly among marginalized and vulnerable populations. Therefore, equity and progressive realization[4] are important guiding principles in decision-making on and the use of instruments, such as HBPs *(5)*.

The inclusion of cancer-management services in HBPs is critical for the achievement of UHC as the current relative and absolute burden of cancer worldwide is enormous and projected to continue to grow. In 2020, more than 19 million people globally developed cancer, with an estimated 10 million deaths, making it the second leading cause of premature deaths among those aged 30–70 years in 127 countries (Fig. 1) *(6)*. The global cancer burden is expected to rise to almost 28 million new cases by 2040, disproportionately impacting those in low- and middle-income countries (LMICs) *(7)*. This increases the need to ensure that the cancer-care services included in HBPs are prioritized in an effective, efficient, and evidence-based manner.

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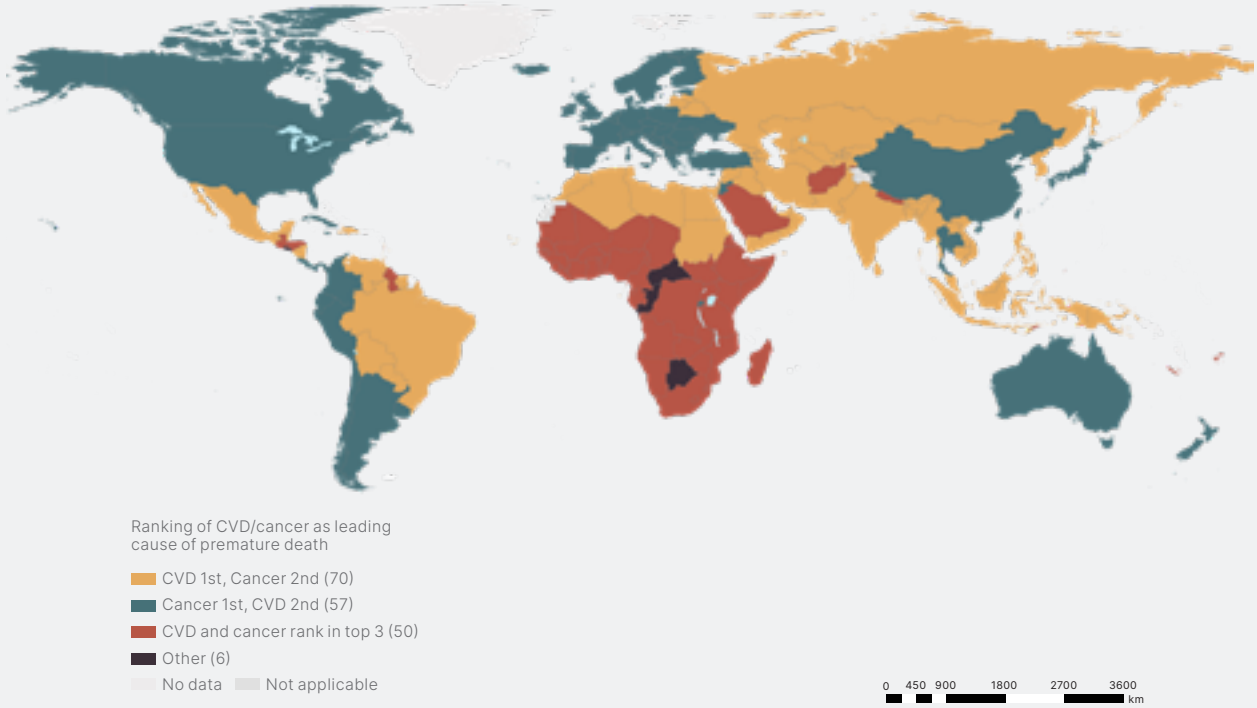
[3] A HBP is a set of services that can be feasibly financed and provided under the actual circumstances in which a given country finds itself *(8)*.

[4] The concept of "progressive realization" is that, in providing services and taking necessary action, countries should utilize their available resources to the maximum with the aim of continuously improving them *(9)*.

Fig. 1. Global ranking of cancer and cardiovascular disease (CVD) as leading causes of premature death (ages 30–70 years) in 183 countries, 2019



Source: GHE 2019 *(10)*.

The inclusion of cancer services in HBPs is associated with a reduction in cancer mortality *(11)* and should contribute to relieving, to some degree, the financial hardship of people with cancer and their families, the extended duration of care, and the associated direct and indirect costs of care incurred through the use of complex, multimodal and expensive treatment methods *(12,13)*.

As the magnitude of the cancer burden continues to grow, and in line with commitments related to attaining UHC, the rising total costs of cancer make it even more urgent to include prioritized cancer interventions in national HBPs. Efforts have been made to understand and define priority (essential) cancer services and target populations, and how they might be included in the wider health system. More evidence is being generated to provide input to decision-making processes on the type and scope of cancer services to be included in HBPs *(13)*.

In this regard, WHO has defined and routinely updated a set of priority interventions (best buys) to address noncommunicable diseases (NCDs) (Fig. 2). These were originally based on Appendix 3 of the *Global action plan for the prevention and control of noncommunicable diseases 2013–2020* (NCD GAP) *(13)*. NCD GAP, which has been extended to 2030, has six objectives (Box 1).

Box 1. The six objectives of NCD GAP

1. **Advocacy:** to garner greater attention and cooperation for NCDs globally, regionally and nationally.
2. **Governance and partnerships:** to strengthen national capacity, leadership, governance, multisectoral action and partnerships for NCDs.
3. **Population-level prevention:** to reduce exposure to NCD risk factors and create health-promoting environments.
4. **Health-system response:** to strengthen primary health care and promote universal health coverage in order to diagnose, manage and care for persons with NCDs and at risk of NCDs.
5. **Research and development:** to increase national capacity for high-quality research and development on NCDs.
6. **Monitoring and evaluation:** to monitor trends and determinants of NCDs, as well as the public health and health system response, and evaluate progress *(13)*.

The implementation of the six objectives at the country level will contribute to achieving the nine NCD targets outlined in NCD GAP by 2030 *(13)* and realizing Sustainable Development Goal (SDG) no. 3 on good health and well-being *(14)*. The updated version of Appendix 3 (2022) of NCD GAP (13,15) contains 90 interventions and 22 overarching/enabling policy actions, as a menu of policy options, cost-effective and recommended interventions for each of the four key risk factors for NCDs (tobacco, harmful use of alcohol, unhealthy diet and physical inactivity) and for four disease areas (cardiovascular disease, diabetes, chronic respiratory disease and cancer) *(13)*. Fig. 2 suggests cancer-management best buys for low and lower-middle countries.

Fig. 2. Cancer management best buys and other recommended interventions for low and lower middle income countries

Manage cancer

Expanded 'Best buys' and other recommended interventions

'Best buys': Effective interventions with cost effectiveness analysis <1$ 100 per HLY gained in low- and lower middle-income countries

Vaccination against himan papillomavirus (1–2 doses) of 9–14 year-old girls

Cervical cancer: HPV DNA screening starting at the age of 30 years with regular screening every 5 to 10 years (using a screen-and-treat approach or screen, triage and treat approach and early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment

Breast cancer: early diagnosis programs linked with timely diagnistic work-up and comprehensive cancer treatment

Prevention of liver cancer through hepatitis B immunization

Childhood cancer: early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment focusing on 6 index cancers of WHO Global Initiative for Childhood Cancer

Early detection and comprehensive treatment of cancer for thos living for HIV

Effective interventions with cost effectiveness analysis <1$ 100 per HLY gained in low- and lower middle-income countries

Breast cancer: screening with mammography (once every 2 years for women aged 50–69) linked with timely diagnostic work-up and comprehensive breast cancer treatment in setting where mammographic screening programme is recommended[a]

Oral cancer: early detection programme of oral cancer, including as appropriate, targeted screening programme for high-risk groups in selected settings, according to disease burden and health system capacities, linked with comprehensive cancer management[b]

Prostate cancer: early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment

Colorectal cancer screening: population-based programme, including stool-based test, as appropriate at age >50 years, linked with timely treatment in settings where screening programme is recommended[c]

[a]Cost effectiveness in prevention of liver cancer is optimal in countries with high Hepatitis B prevalence and especially with vaccination in early childhood and birth, taking into account the feasibility and cost of vaccination

Other non-economic considertions
[b]Requires systems for organized, population-based screening
[c]Requires systems for organized screening of targeted high-risk population

Source: World Health Organization, 2023 *(16)*.

This report aims to present information and findings related to cancer-management services, resulting from the WHO *Health technology assessment and health benefit package survey 2020–2021* to ascertain the medical coverage in the countries' HBPs *(17)*, with a focus on interventions or activities promoted in the current update of Appendix 3 of NCD GAP *(15)*. The results of the survey are organized according to type of cancer, WHO region *(18)* and World Bank income level *(19).* They provide information on issues of HBP design and coverage of specific cancer-management services in the countries' largest public-sector HBPs. The report's intended audience includes national cancer stakeholders (e.g., patient organizations, care providers, policy-makers, and industry groups), international organizations working on cancer management, and researchers wishing to gain a further understanding of how HBP characteristics align with cancer management.

Developing and implementing the global survey

The methodology for the collection of responses in the health-technology assessment and health-benefit package survey (2020–2021) *(17)* is outlined in Box 2.

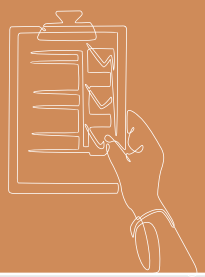
The sections of the questionnaire relating to cancer, palliative care, and medicines can be seen in the Annex. Interventions relating to aspects of the cancer continuum (i.e., screening, diagnosis and staging, treatment, and palliative/survivorship care) were identified across five priority cancer types (breast, cervical, lung, colorectal and childhood cancers). This was informed by best-buy interventions and WHO normative publications, including the WHO model list of essential medicines (WHO-EML) *(20)* and the WHO list of priority medical devices for cancer management *(21)*. The selection of cancers to be addressed was based on WHO initiatives related to, for example, breast cancer, cervical cancer and childhood cancers, and the incidence, for example, of lung cancer and colorectal cancer. Eight cancer-related medications taken from WHO-EML *(20)* were included in the medications list included in the questionnaire.[5]

The survey questionnaire took the following form. Users were requested to: (i) answer a broad set of questions on the inclusion of services at the delivery level (inpatient, outpatient, ambulatory); (ii) indicate whether any of the set of four interventions included in the questionnaire (defined in 37 specific categories) was included in the country's HBP (listed in the order of low-cost, low technology to high-cost, high technology);[6] and (iii) comment on whether any of the medications in the list included in the questionnaire were covered by the country's HBP.

[5] NB: the interventions included in the list for this survey were proxy interventions and did not constitute a comprehensive list of the interventions required to align with UHC. A more comprehensive list of interventions can be found in the UHC Compendium *(22)*

[6] A list of four interventions was established. However, this number varied as a result of the experts' input regarding several of the specific intervention categories. It should also be noted that the given order of the interventions, namely, low-cost, low-technology to high-cost, and high technology, was not based on explicit criteria, but rather on the expert opinions of the WHO headquarters focal points. Therefore, the range of services reported differed for each intervention category.

Box 2. Methodology for the collection of survey responses



To facilitate the survey *(17)*, a questionnaire was developed to identify the HBPs linked to the countries' largest public-sector health-financing schemes. The largest HBP was defined as that covering the greatest number of individuals in the country. Questions relating to the coverage of different interventions in the HBPs were added in a sub-section of the questionnaire. The questionnaire was sent with a circular letter to all WHO Member States and other areas with officially nominated respondents and the responses were coordinated through the WHO regional and country offices. Officially nominated respondents were identified in most regions. When this was not the case, or no response was received to multiple reminders, a protocol was followed in each region to identify contacts and experts who could respond on behalf of the country. In the WHO Region for the Americas, a consultant collected the responses to the HBP section of the survey and reviewed the material, which was then validated by the country stakeholders. In the other regions, each country identified a single respondent (focal point) to answer the survey questions related to HBPs and those collecting the responses were encouraged to collaborate with others with a knowledge of this area, if needed.

Post submission of the completed questionnaires, each respondent received a PDF copy of their recorded responses for confirmation of the results. Responses that did not make sense were followed up with a request for clarification. No further external validation of the information received was conducted as the survey was administered to the best degree possible by experts and officials with an intimate knowledge of their countries' situations.

Interventions relating to aspects of the cancer continuum (i.e., screening, diagnosis and staging, treatment, and palliative/ survivorship care) were identified across five priority cancer types (breast, cervical, lung, colorectal and childhood cancers).

Overall response sample

In total, 115/195 (59%) of the WHO Member States participated in the survey, as well as the occupied Palestinian territory, including east Jerusalem. The results reflect the number of countries/areas that responded to the overall survey *(17)* and are not specific to the parts relating to cancer type, palliative care, or cancer medicines.

The response rates and numbers relevant to these parts are presented, where relevant, later in the report. Table 1 shows the breakdown of responses by WHO region, which ranged from 41% in the Western Pacific Region to 91% in the South-East Asia Region.

Table 1. Number and percentage of countries and areas that participated in the HBP survey, by WHO region

WHO region	Total no. of countries and areas in region	No. of responses to HBP survey	% of responses to HBP survey
Africa	47	31	66
Americas	35	22	63
Europe	53	30	57
Eastern Mediterranean	22	11	52
South-East Asia	11	10	91
Western Pacific	28	11	41
TOTAL[a]	195	115	59

[a] Includes data from the occupied Palestinian territory, including east Jerusalem.

Figs 1 and 2 show background information related to the respondents, most of which were at government level (ministries of health or other government ministries/agency affiliates). Eleven respondents represented international organizations and six represented academic institutions. All other background categories were associated with five or fewer respondents.

In terms of professional background, the respondents could indicate a maximum of two occupations to account for multiple specializations. Those with a public health background formed the largest group; however, respondents identifying as economists, medical-degree holders, or pharmacists were also common. The lowest response rates were in the statistician and epidemiologist categories (four and three, respectively) (Figs 3 and 4).

Fig. 3. Primary organizational affiliations of respondents

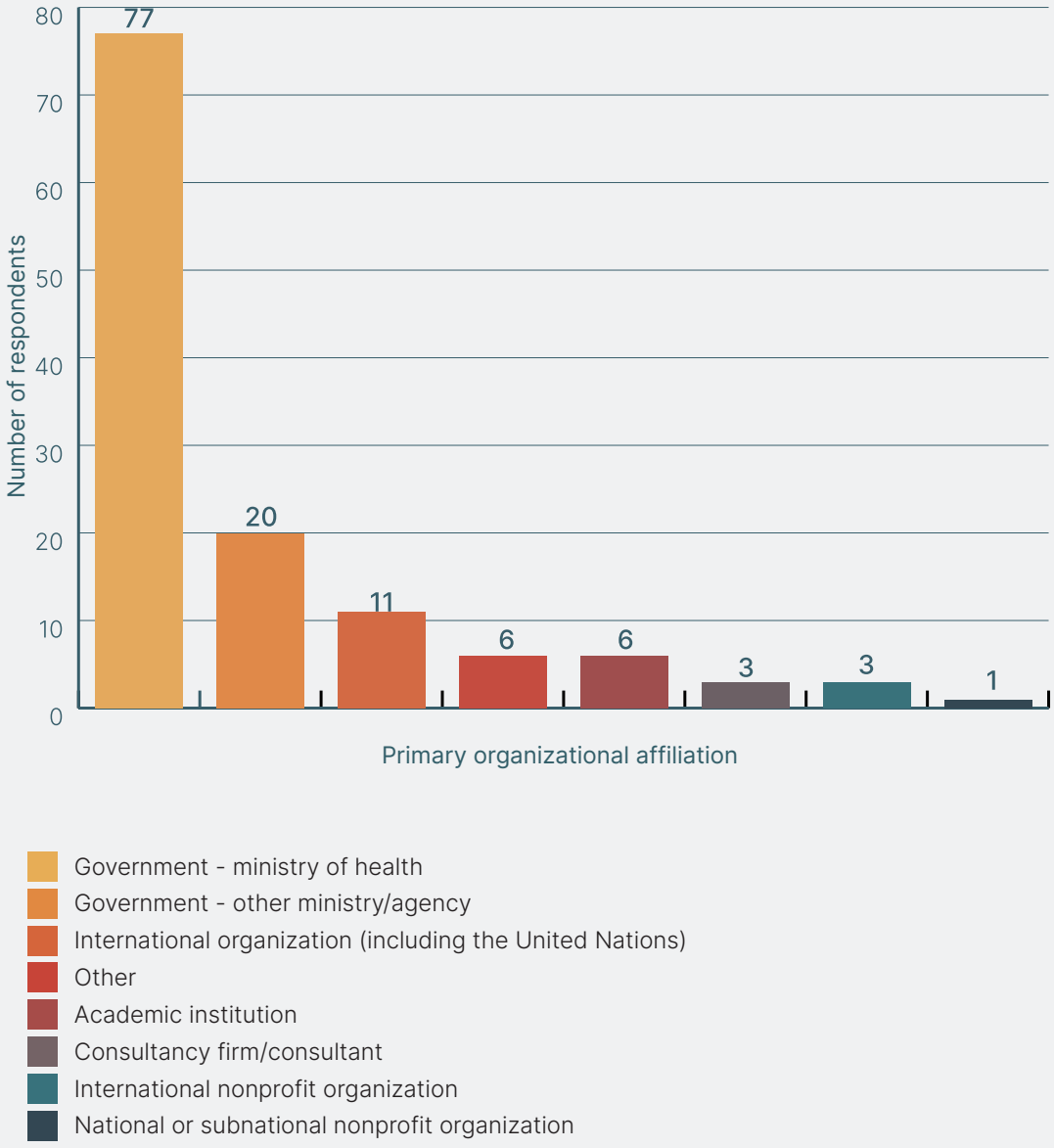
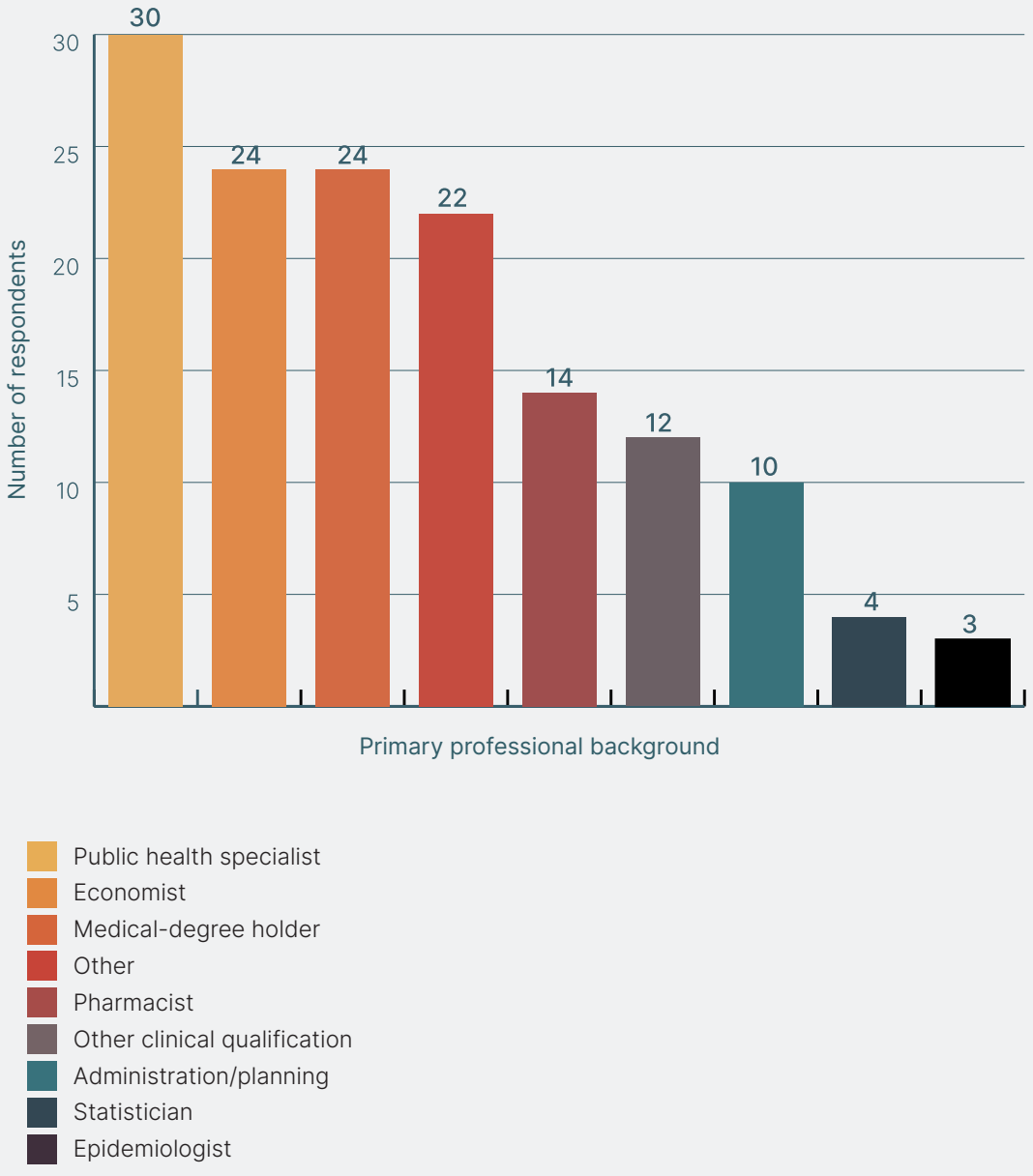


Fig. 4. Primary professional backgrounds of respondents



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Strengths and limitations

With the participation of 115 countries (and a questionnaire in five languages), this survey was the largest of its kind. Its outcome provides a global landscape of the inclusion of cancer-related services in the countries' largest public-sector HBPs. It can be assumed that participation would have been greater if the survey had not coincided with the COVID-19 pandemic.

It is possible that there was an association between the countries that chose to participate and their income levels and health-system priorities. For example, the representation of HICs in the "non-respondents" group was proportionally much greater than in the general sample. The respondents provided information related to coverage in their largest overall public-sector HBPs, but were not asked to provide information about HBPs with coverage for significant numbers of individuals with cancer. It is possible that smaller public-sector HBPs (i.e., those covering smaller numbers of individuals) with a higher coverage of people with cancer, or cancer care services, exist in the countries but were not reflected in the survey.

Since the aim of the survey was to obtain a global perspective of the inclusion of cancer-related services in the countries' largest public-sector HBPs, details relating to effective coverage or implementation may not be reflected in the survey results. To gain a full understanding of a country's HBP would require an in-depth country-specific analysis of how cancer-care services are provided, which was not in the scope of this survey. Limited descriptions of the parameters and standards of each service could open questions of interpretation. The differing cultural and social norms of the respondents could also inform their perspectives or interpretation.

Due to the impracticality of independent external validation, the responses provided were largely accepted as being accurate and valid. Inaccurate, suspicious, or outlier responses were investigated to the best possible degree and according to knowledge of the country's health system.

The services offered in a HBP in one country may not be directly comparable with those offered in another country, taking the breadth and quality of health-care delivery into account. There can be a wide variation among countries in the proportion of populations covered by the largest public-sector HBPs. The survey sought to determine what was included in the countries' HBPs through a limited set of health services, and not the status regarding delivery of or access to health services.

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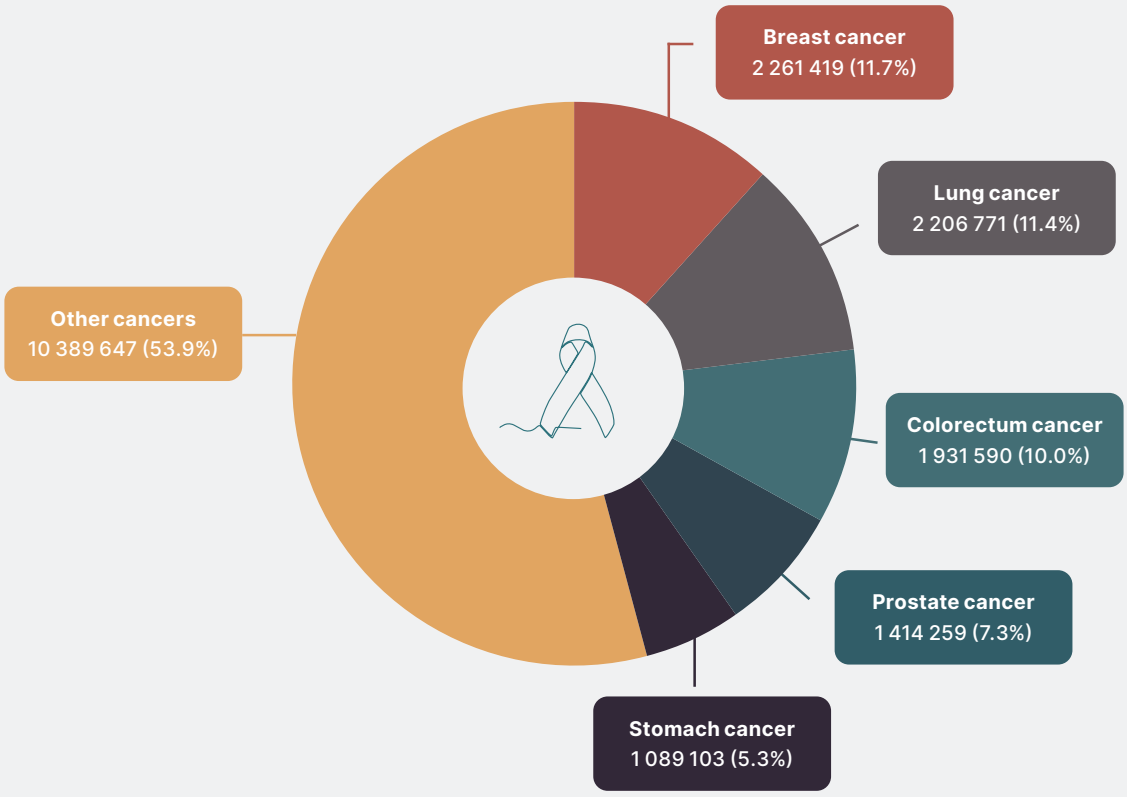
Cancers included in the survey

Fig. 5 illustrates, by type, the estimated number of new cancer cases in 2020. The cancers covered in the survey questionnaire were those of the cervix, breast, lung, and colon-rectum, as well as acute lymphoblastic leukemia (ALL) as a proxy for childhood cancer. The survey identified the related screening, diagnostic, and treatment services that were included in the countries' largest public-sector HBPs.

Fig. 5. Estimated global number of new cancer cases, by type, both sexes, all ages, 2020



Source: Globocan 2020 *(23).*

Cervical cancer

Cervical cancer is the fourth most commonly occurring cancer in women, with an estimated 604 000 incident cases and 342 000 deaths globally in 2020. Approximately 90% of all deaths from cervical cancer occur in countries in the LMIC group *(24)*.

The overwhelming majority (at least 95%) of cervical cancers are attributable to the human papilloma virus (HPV). Women living with HIV are six times more likely to develop cervical cancer than women who do not have HIV, and an estimated 5% of cases are attributable to the human immunodeficiency virus (HIV) *(24)*.

In 2018, the WHO Director-General called for the elimination of cervical cancer and, in 2020, the World Health Assembly adopted the *Global strategy to accelerate the elimination of cervical cancer as a public health problem (25)*. To reach the threshold of an incidence rate of below 4 cases per 100 000 women, WHO set up the 90-70-90 targets to be achieved by 2030 *(26)*.

Breast cancer

Breast cancer develops in the ductal epithelium or lobules of the glandular tissue of the breast. It is the most prevalent form of cancer globally, with 7.8 million women living with a breast-cancer diagnosis in the five years prior to the end of 2020 *(27)*. In 2020, 2.3 million women were newly diagnosed with breast cancer, and 685 000 deaths were attributable to this disease *(28)*.

In 2021, WHO launched the Global Breast Cancer Initiative (GBCI). The aim of the Initiative is to reduce global breast-cancer mortality by 2.5% per year and, thereby, avert 2.5 million breast-cancer deaths globally between 2020 and 2040. It has three pillars towards achieving these objectives, namely: health promotion for early detection; timely diagnosis; and comprehensive breast-cancer management *(27)*.

Lung cancer

The development of cancer in the lung tissue is the second most common form of cancer, with 2.21 million incident cases in 2020. Lung cancer was the leading cause of cancer-related deaths in that year, causing 1.8 million deaths worldwide, which was approximately twice as many as those caused by the second most deadly form of cancer, colorectal cancer, in the same year *(28)*. Most lung-cancer cases can be prevented through tobacco control and by reducing other relevant risk factors, such as pollution and exposure to radon. In addition, lung cancer can be detected early and treated effectively.

Colorectal cancer

Colorectal cancer develops in the large intestine either in the colon or the rectum. In 2020, 1.93 million new cases of cancer of the colon or rectum were diagnosed, making it the third most common cancer in terms of incidence, causing 916 000 deaths in that year *(28)*. The age-standardized mortality rate for colorectal cancer in 2020 was 9.0 per 100 000 *(29)*. Early-detection programmes can significantly reduce mortality, and some types of colorectal-cancer screening can reduce the incidence of the disease, though related data are limited to countries with strong health systems *(30)*.

ALL

ALL is the most common form of pediatric cancer without significant settings-related variations *(31)*. It is, therefore, often used as an indicator for childhood-cancer services. Approximately 6 in 10 cases of ALL occur in children and adolescents (0–19 years), the risk generally being highest in children under 5 years of age *(32)*.

In 2018, with the support of the St. Jude Children's Research Hospital (Memphis, TN, United States of America), WHO launched the Global Initiative for Childhood Cancer. The overall goal of the initiative is to achieve at least 60% survival rates for all children with cancer by 2030, which represents an approximate doubling of the current cure rate. Achieving it would save an additional one million lives over the next decade. The initiative developed the CureAll Framework (a global initiative for childhood cancer), and an accompanying technical package, to support its implementation *(33)*.

The survey identified the related screening, diagnostic, and treatment services that were included in the countries' largest public-sector HBPs.

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Findings

Inclusion of interventions in countries' HBPs

The survey questionnaire included 20 cancer-care services that could potentially be covered in the HBPs of the countries' largest public-sector health-financing schemes (see Annex). The results revealed two peaks in the distribution of interventions included in HBPs, one at each end of the spectrum. The higher peak was at 20, indicating that all interventions were included, while the lower one was half as high and at zero, indicating that none of the interventions were included. Moving away from the poles and towards the centre, there was a reduction in the number of countries that included the indicated number of cancer services in their HBPs.

Of the 127 countries that completed the survey, 15 chose the "no response" option for all the 20 cancer-related interventions included. All 15 answered "no response" to all the questions across all conditions covered in the survey (Table 2).

The graphs included in this report (Figs 6–35) illustrate the number of countries that provided responses to each of the questions, while the written analyses accompanying them describe the relative inclusion rates, based only on the responding countries' data. Responding countries were defined as countries that provided the responses "yes", "no", "fully covered", "partially covered", or "not covered". The term "some degree of coverage" encompasses both full and partial coverage of a medicine in a HBP.

Among the ten countries that responded with "no" to all questions regarding the inclusion of cancer interventions in their HBPs, three (Italy, the United Republic of Tanzania, and the United States of America) also responded "no" to all questions across all conditions covered in the survey. The officially nominated respondents from these three countries were contacted to clarify whether their choice of "no" was intended for all conditions, meaning that no services were offered. No responses were received. Therefore, these three countries were considered as non-responders, bringing the total number of countries in this category to 18.

Table 2. Responses of countries and areas regarding number of cancer-care interventions covered in largest public-sector HBPs (out of 20 interventions included in the survey)

Interventions included (excluding medicines)	Countries and areas	Total
No response received (all conditions)	Afghanistan, Bosnia and Herzegovina, Brunei Darussalam, Canada, France, Greece, Hungary, Ireland, Japan, Kenya, Libya, New Zealand, Seychelles, Slovenia, Viet Nam	15
0	Bangladesh, Burundi, Congo (the), Gambia, Italy, Nigeria, Republic of Moldova, Somalia, Zambia, United Republic of Tanzania (the), United States of America (the)	11
1	Cabo Verde, Comoros, Kyrgyzstan, Malawi, Mauritania, Myanmar, Tajikistan, Tuvalu	8
2	South Sudan, Syrian Arab Republic	2
3	Benin, Ghana	2
4	Eritrea, Lao People's Democratic Republic (the), Mali, Norway	4
5	India, Thailand	2
6	Bolivia (Plurinational State of), Jamaica, Micronesia (Federated States of), Sierra Leone	4
7	Belize, Nepal	2
8	Philippines, Rwanda, Senegal, Solomon Islands	4
9	Guyana, Lebanon, Liberia, Mauritius, Mozambique	5
10	Trinidad and Tobago	1
11	China, Malta, Paraguay	3
12	Eswatini, Mongolia, Namibia, Papua New Guinea	4
13	Honduras, Morocco, Tunisia	3
14	Chile, Dominican Republic, El Salvador, Ethiopia	4
15	Côte d'Ivoire, Romania, Singapore, South Africa, United Kingdom of Great Britain and Northern Ireland	5
16	Bulgaria, Burkina Faso, Cuba, Netherlands (Kingdom of the), Nicaragua, occupied Palestinian territory, including east Jerusalem, Peru, Ukraine	8
17	Algeria, Indonesia	2
18	Belgium, Bhutan, Ecuador, Latvia, Poland, San Marino	6
19	Austria, Belarus, Brazil, Cyprus, Gabon, Germany, Iceland, Malaysia, Maldives, North Macedonia, Panama, Sweden	12
20	Argentina, Chad, Colombia, Costa Rica, Croatia, Czechia, Iran (Islamic Republic of), Kuwait, Mexico, Oman, Portugal, Republic of Korea, Serbia, Slovakia, Spain, Sri Lanka, Switzerland, Timor-Leste, United Arab Emirates, Uruguay	20

Health-system coherence

For a health system to be able effectively to manage and treat cancer in the population it serves, it must have a minimum of services and interventions at its disposal. The interventions with levels 1 and 2 complexity that were included in the survey are considered as the minimum best-buy services that should be included in a cancer-management programme for it to be considered effective. These are listed in Table 3.

The largest public-sector HBP of each country was analysed for the inclusion of levels 1 and 2 complexity cancer-care services in all categories (cancer screening, breast cancer, cervical cancer, lung cancer, and ALL) and again for the inclusion of cancer-care services and palliative care. The use of visual inspection with acetic acid (VIA) testing in screening for cervical cancer was not included in either analysis as current WHO best-practice recommendations advocate the use of HPV testing instead.

HBPs are considered as including cancer-priority services if they cover all levels 1 and 2 cancer interventions, and palliative priority services if they cover all levels 1 and 2 cancer- and palliative-care interventions, except for VIA testing, which was excluded from the list of priority services.

Only 39% of the surveyed HBPs included all cancer services with levels 1 and 2 complexity; this was least likely in the African Region (14%), and most likely in the European Region (57%). The results showed a positive correlation with income grouping. The lowest inclusion rate was found in the LIC group (13%), doubled in the LMIC group (24%), and continued to increase in the UMIC (41%) and HIC (70%).

Table 3. Interventions included in the survey with a Level 1 and 2 complexity

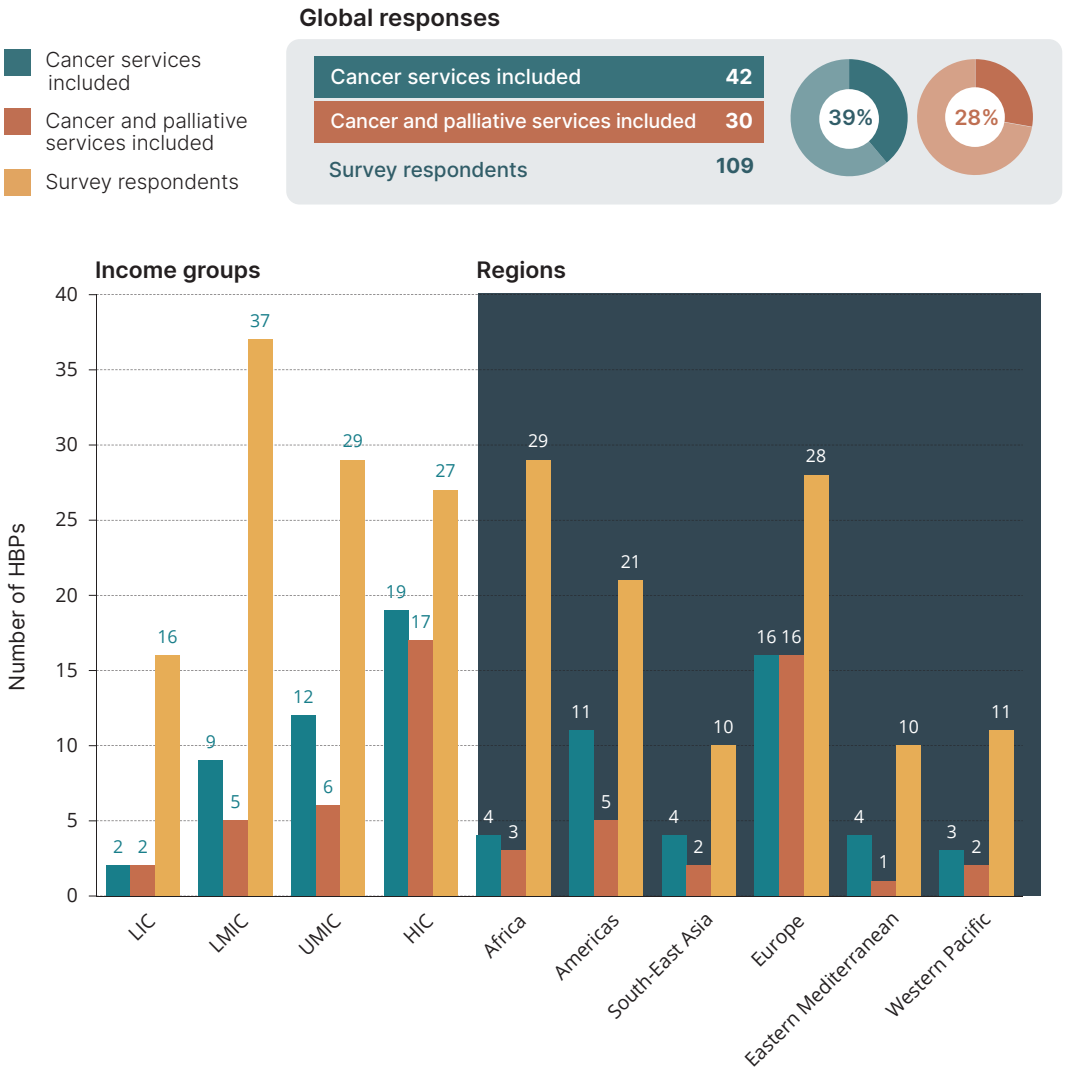
Intervention	Level 1 complexity	Level 2 complexity
Cancer screening	Cervical-cancer screening, using VIA [a]	Cervical-cancer screening using HPV testing,
Breast cancer	MRM surgery	Trastuzumab for adjuvant or metastatic breast cancer (MBC), (human epidermal growth factor receptor 2 (HER2)) testing + treatment)
Cervical cancer	Radical hysterectomy	Radiotherapy (including brachytherapy) for curative cervical cancer
Lung cancer	Surgery (wedge resection, lobectomy)	Adjuvant radiotherapy
ALL	Immunohistochemical staining for morphologic diagnosis of childhood cancers	Outpatient (ambulatory) chemotherapy (for less intensive treatment phases) (first -line agents for ALL)
Palliative care	Morphine and other opioids	Home-based palliative care

[a] As WHO currently recommends HPV testing rather than VIA testing in screening for cervical cancer, the latter was not included in the analysis.

All cancer and palliative services with levels 1 and 2 complexity were included in only 28% of the HBPs globally. The combined inclusion of these services was least likely in the Eastern Mediterranean Region (10%) and the African Region (10%), and most likely in the European Region (57%). This shows a strong positive association with income groupings: LICs and LMICs showed similarly low rates of inclusion (13% and 14% respectively), which increased in the UMIC group (21%) and tripled in the HIC group (63%).

Of the largest public-sector HBPs that include cancer services with levels 1 and 2 complexity, 70% also include palliative-care services with levels 1 and 2 complexity. The European Region was the only region in which all HBPs that covered cancer services with levels 1 and 2 complexity also covered palliative-care services with levels 1 and 2 complexity. In the Eastern Mediterranean Region, only a quarter of the HBPs covering all cancer services with levels 1 and 2 cancer complexity (40%) also included palliative-care services with levels 1 and 2 complexity (10%). In the LIC group, all HBPs covering cancer services with levels 1 and 2 complexity also covered palliative-care services with levels 1 and 2 complexity. Approximately half of the HBPs in the LMIC and UMIC groups covered palliative-care services with levels 1 and 2 complexity if cancer services with levels 1 and 2 complexity were also covered (56% and 50%, respectively). In the HIC group, 89% of those covering cancer services with levels 1 and 2 complexity also covered palliative-care services with levels 1 and 2 complexity (Fig. 6).

Fig. 6. Inclusion of cancer and palliative services in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Early detection

Cancer-screening interventions

Cancer screening is a component of early detection. Population-screening tests aim to identify findings suggestive of pre-cancer or early-stage cancer within specific risk-stratified groups or the wider population *(28)*. Globally, more than half of the responding countries reported including all the queried screening tests in their HBPs. Breast mammography and cervical screening by VIA were the most frequently cited screening tests (75%), while colorectal screening was included by the fewest (65%).

Cervical-cancer screening

In the HBP questionnaire, the inclusion of two types of screening for cervical cancer was assessed: HPV testing and VIA testing.

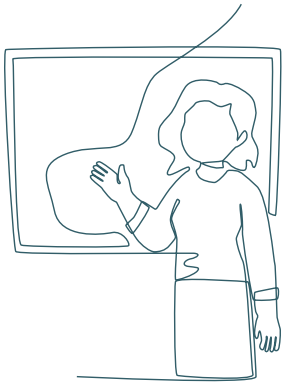
HPV testing

The HPV test seeks to detect HPV genetic material, the presence of which indicates infection. It is simpler than the VIA or cytology tests, prevents more pre-cancers and cancers, and saves more lives. It is also more cost-effective. Accordingly, it is now recommended as the preferred screening modality for the elimination of cervical cancer *(34)*. Sixty-five per cent (65%) of the responding countries reported carrying out cervical-cancer screening through HPV testing. However, the inclusion of this type of testing for cervical cancer in HBPs was not as prevalent as the inclusion of VIA testing (75%). HPV testing was more likely than not included in HBPs in almost all WHO regions, with the exception of the Eastern Mediterranean Region, and almost all income groups, with the exception of the LIC group.

The rates for the inclusion of HPV testing in HBPs were highest for the Americas Region (90%), exceeding the global average (65%). The Eastern Mediterranean Region was least likely to include HPV testing in HBPs (40%), and the only region where HBPs were more likely not to include such testing.

There was a general positive trend showing that higher-income groups were more likely to offer HPV testing. The inclusion rates were similar for the LIC and LMIC groups (50% and 51%, respectively), and higher for the UMIC group (72%) and the HIC group (85%) (Fig. 7).

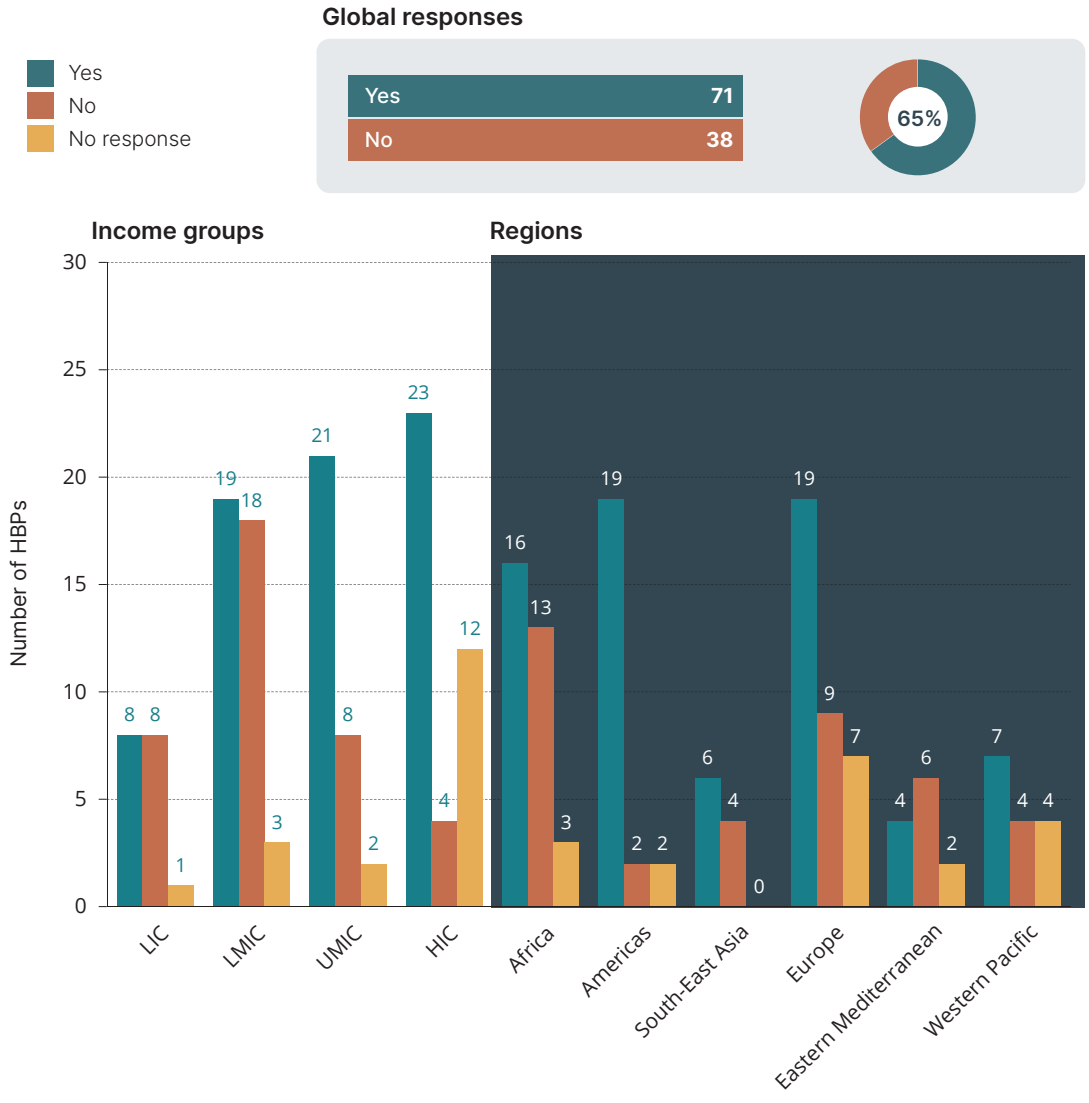
Fig. 7. Inclusion of cervical HPV



Only 28% of responding countries included essential services for effective cancer and palliative care.

76% of countries include both VIA and HPV screening in their HBPs.

testing in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

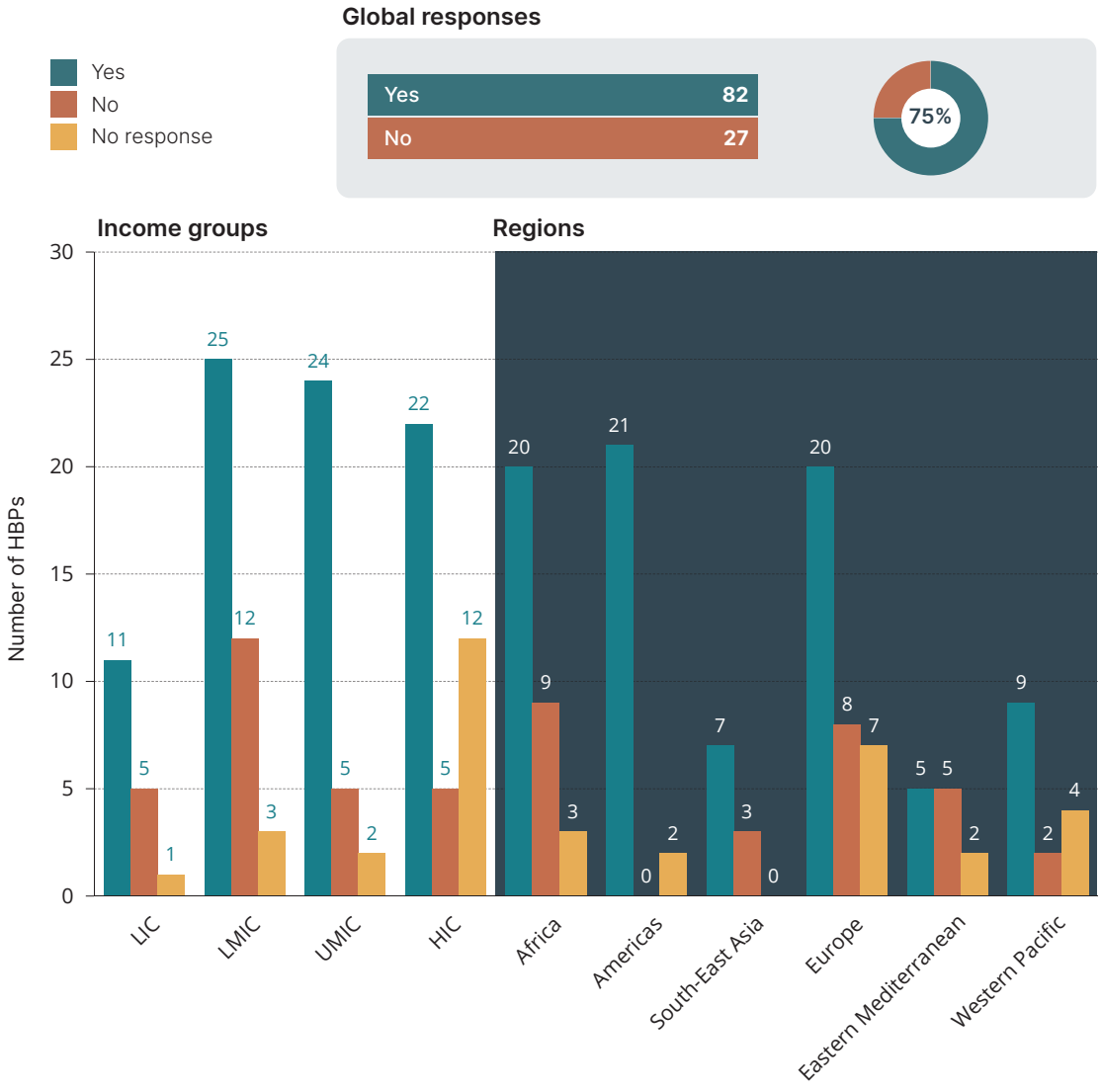
VIA testing

After the application of 5% acetic acid to the uterine cervix, the health-care provider conducts a visual inspection, using the naked eye. The result of the test depends on whether changes in the colour of the cervix are observed *(35)*.

According to the survey, cervical VIA testing was included in 75% of the HBPs assessed. Responses from all regions and income groups indicated that such testing was more likely than not to be included in a HBP. The Americas Region had the highest inclusion rate (100%) and was the only region with universal inclusion. HBPs in the Eastern Mediterranean Region were the least likely to include VIA testing (50%).

Comparison between the four income groups did not show a clear trend with respect to differences regarding the inclusion of VIA screening. However, there was a clear gap in inclusion rates between the LMIC and UMIC groups. The LIC and LMIC groups had similar inclusion rates (69% and 68%, respectively) as did the UMIC and HIC groups (83% and 82%, respectively), with a 15-percentage point gap between the two pairs (Fig. 8).

Fig. 8. Inclusion of cervical VIA testing in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

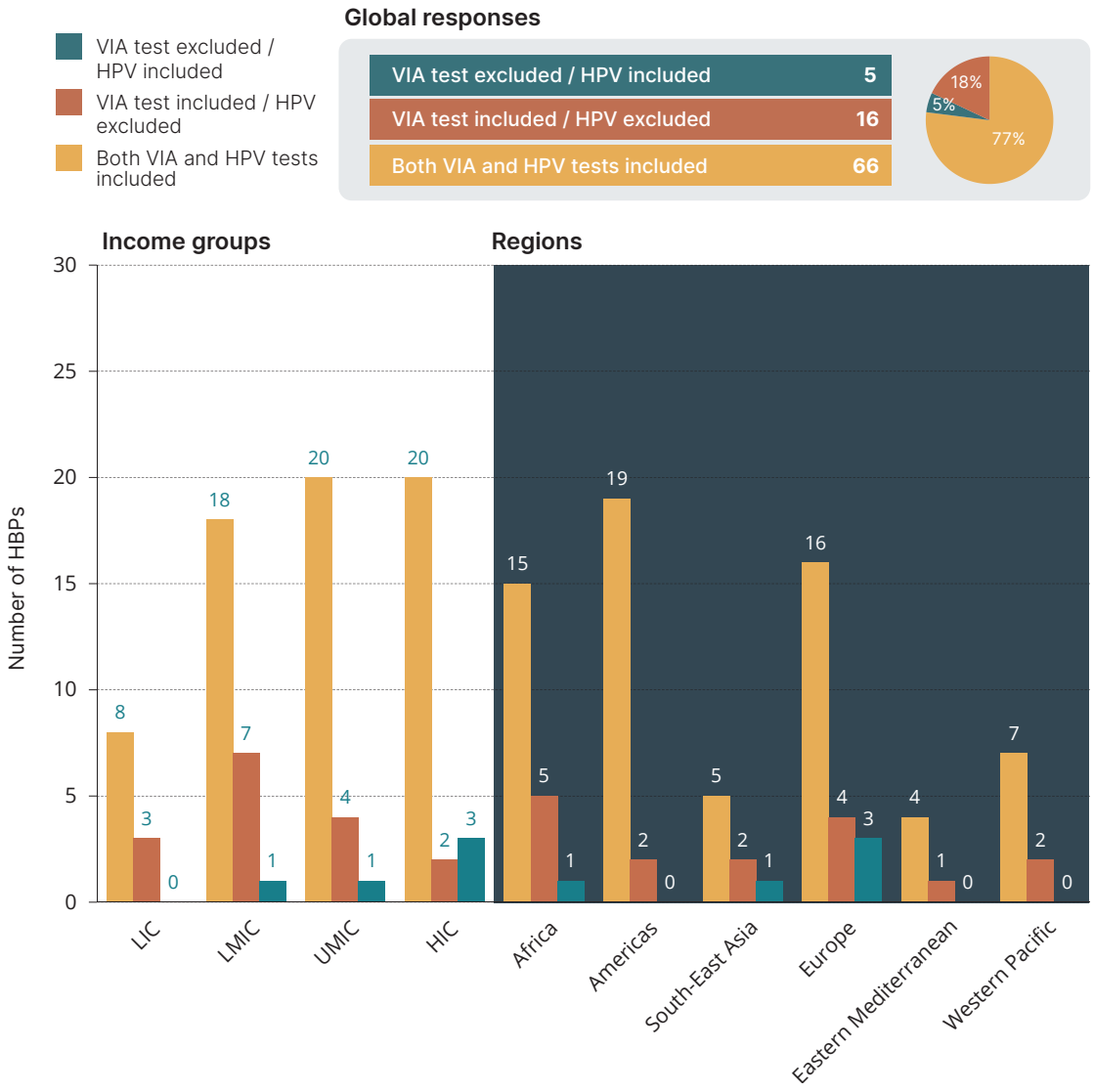
Comparison of cervical-cancer screening tests

Among the HBPs offering either of the cervical-cancer screening tests, most of the respondents (76%) included both, a finding consistent across all WHO regions and income groups. The inclusion of both tests was least likely in the South-East Asia Region (63%), while it was most probable in countries in the Americas Region (90%). The rates for the inclusion of both tests were below the global average in the LIC group (73%) and the LMIC group (69%) and exceeded the global average in the UMIC and HIC groups (80% in both).

In all WHO regions, HBPs were more likely to offer VIA testing than HPV testing in a single-test screening programme and, globally, it was three times as likely as HPV testing to be included alone. All respondents in the Americas, Eastern Mediterranean and Western Pacific Regions reported including VIA testing if HPV testing were also included.

None of the HBPs in the LIC group offered HPV testing only. The preference for VIA to HPV as a single cervical-cancer screening test continued in the LMIC and UMIC groups. In the LMIC group, VIA testing alone was seven times more likely to be included in HBPs than HPV testing alone; in the UMIC group, this was four times more likely. The HIC group was the only group with a preference for HPV testing, compared to VIA testing (only a single test included) with a 3:2 ratio (Fig. 9).

Fig. 9. Inclusion status of cervical VIA testing versus cervical HPV testing in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

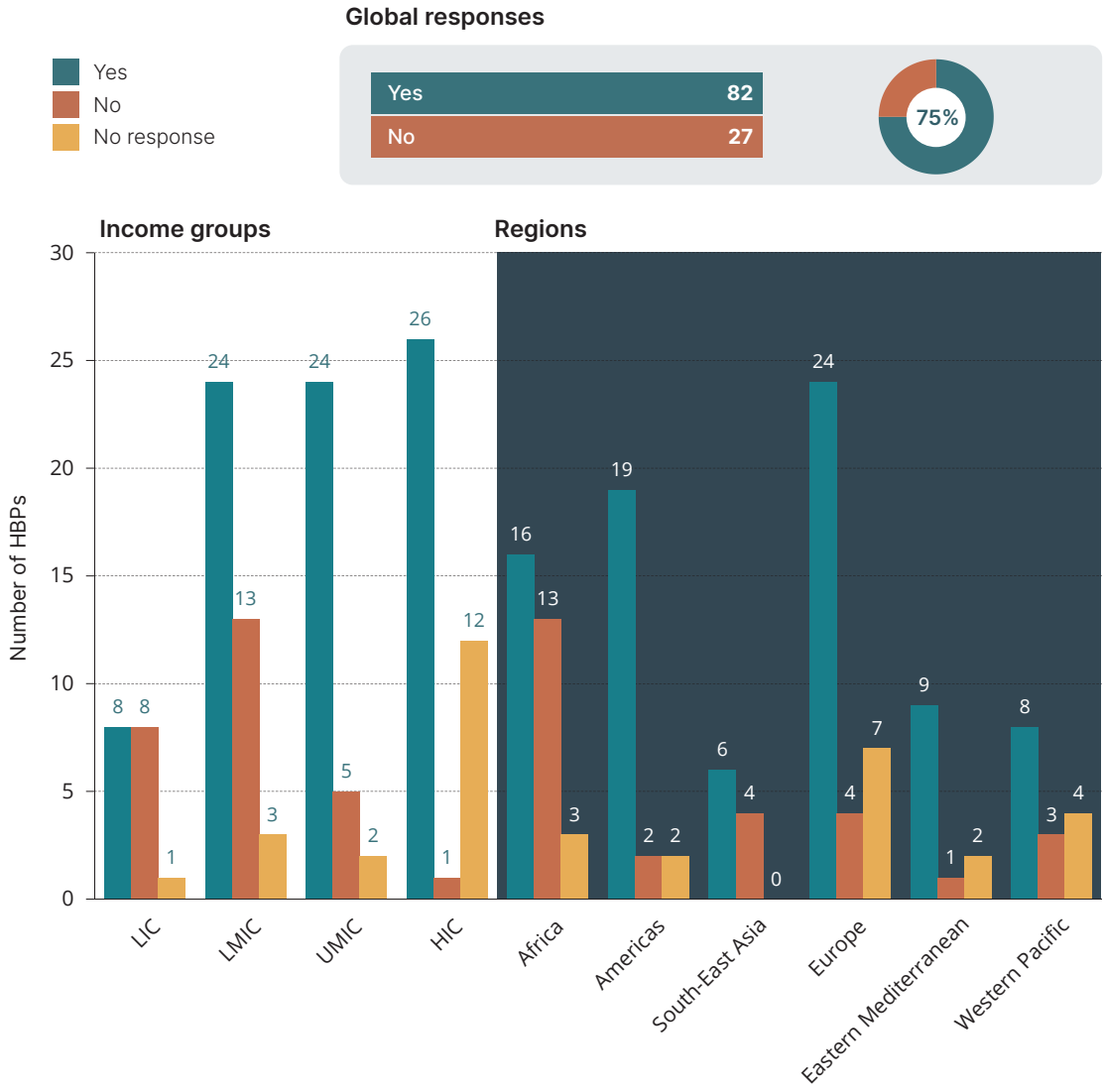
Breast-cancer screening

The screening test for breast cancer included in the survey questionnaire was mamography, which is an x-ray of the breast used to identify malignant changes at an early stage *(36)*. Breast-cancer-screening programmes are only recommended for countries with strong health systems *(36)*.

The inclusion of mammographic screening for breast cancer in HBPs was reported by 75% of the respondent countries across a majority of WHO regions and income groups, except for the LIC group. The coverage of mammography in HBPs was least prevalent in the African Region (55%), and most prevalent in the Americas and Eastern Mediterranean Regions (90% in both).

The inclusion of mammography was strongly associated with income, increasing from 50% among respondents in the LIC group to 96% in the HIC group. The greatest gap in inclusion rates was between the LMIC and UMIC groups (65% and 83%, respectively) (Fig. 10).

Fig. 10. Inclusion of mammographic screening for breast cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group.



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

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Colorectal-cancer screening

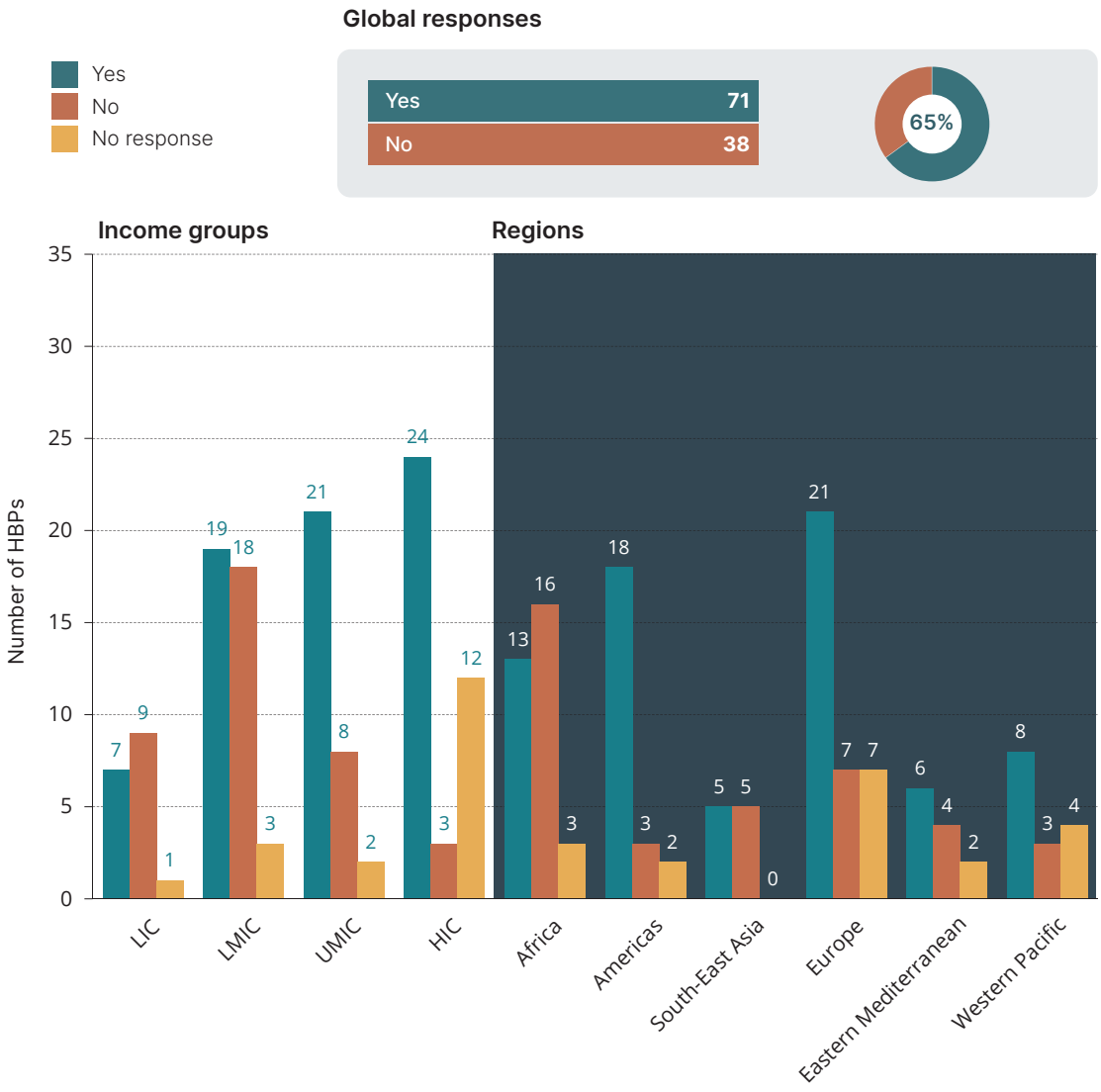
Screening tests for colorectal cancers are usually either stool-based or endoscopic. The survey questionnaire included three screening tests – the stool-based test, the fecal immunochemical test (FIT), and the fecal occult blood test (FOBT) – as well as the colonoscopy examination.

FIT and FOBT both assess the stool for evidence of blood caused by damage to the fragile blood vessels found in the colorectal polyps or cancers during its passage through the gastrointestinal tract. Stool samples may be collected at home and sent to a laboratory for analysis. A colonoscope is used to visually check the colon and rectum for any abnormal areas or lesions *(37)*.

In the survey questionnaire, these three tests were not treated separately, and an affirmative response indicated that at least one of the three tests was covered by the largest public-sector HBP in the country in question.
Most of the countries (65%) responded positively regarding coverage of colorectal screening. Compared to the other interventions included in the survey, screening for colorectal cancer was less likely to be included in HBPs. The African Region was the only one in which a minority of the countries covered colorectal screening (45%). The highest inclusion rate was found in the Americas Region (86%).

There was a positive correlation between the inclusion of colorectal-screening tests in HBPs and income groups. Only 44% of the respondents in the LIC group reported including colorectal screening in their HBPs, 51% in the LMIC group, and 72% in the UMIC group. The inclusion rate for colorectal screening in the HIC group was 89%, double that in the LIC group, the widest disparity between income groups of any of the screening tests (Fig. 11).

Fig. 11. Inclusion of screening tests for colorectal cancer in countries' largest public-sector HBPs, by WHO region, and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

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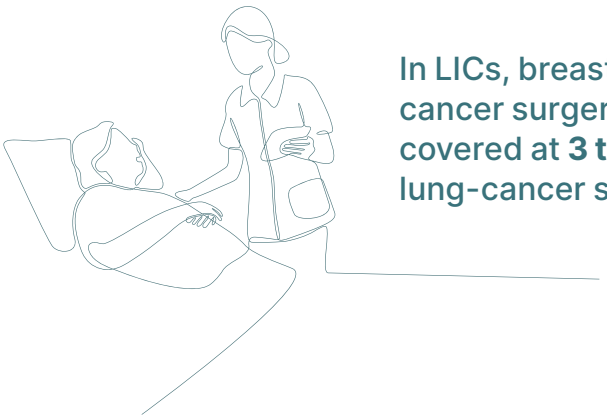
Treatment modality

Surgery

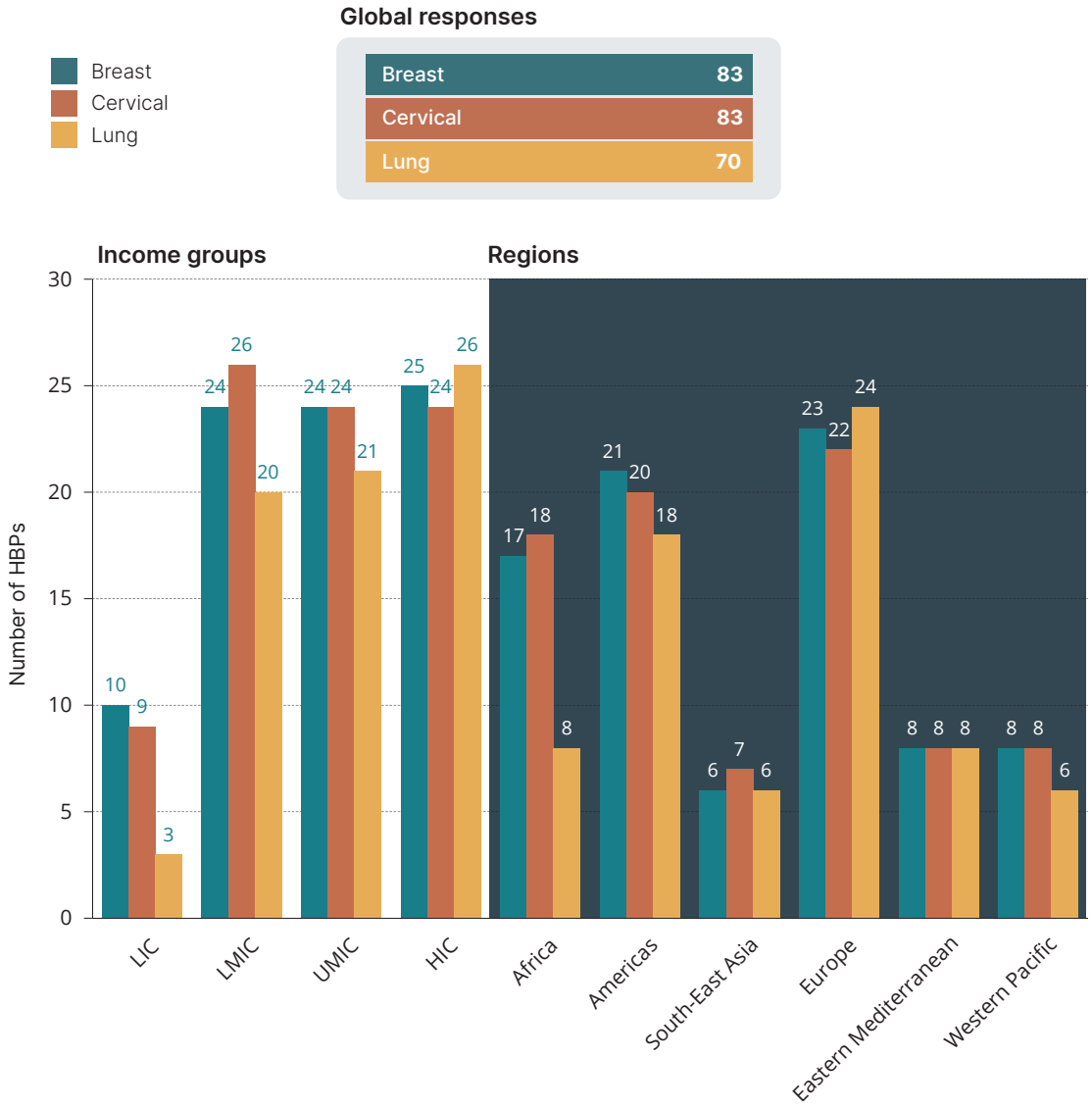
The numbers of countries offering surgical management for breast and cervical cancer as part of their public-sector HBPs were equal (76%), with fewer countries offering surgical management for lung cancer (64%). This pattern, where countries tended to include breast- and cervical-cancer surgery at similar rates, and more often than lung-cancer surgery, was observed in the African, Americas and Western Pacific Regions. In the South-East Asia Region, 70% included cervical surgery, 10-percentage points more than for either breast or lung surgery, which six countries included. In countries in the Eastern Mediterranean Region, the three surgeries were equally represented with 80% indicating the inclusion of either breast-, cervical-, or lung-cancer surgery in their HBPs. The European Region was the only one in which this pattern was reversed, with more countries offering surgery for lung cancer than for breast or cervical cancer (86%, 82%, and 79% countries, respectively). The difference in the inclusion rates for the different surgeries tended to be quite narrow, ranging between 0- and 17-percentage points. The difference in the prevalence of surgical management in the African Region was much larger; here, more than twice as many countries included cervical surgery (62%) in their HBPs as those that included lung surgery (28%).

The surgical management of lung cancer was the least prevalent form of surgical cancer care to be offered in the LIC, LMIC, and UMIC groups. In the HIC group, the pattern was once again reversed, with lung surgery being the most frequent form of surgical management offered in the HBPs of countries in this group. The inclusion rates of surgical management decreased in range as income-group level increased. The greatest difference in the inclusion rates for surgical management of the different cancers was found in the LIC group where only 19% included lung-cancer surgery, but three times as many included cervical- or breast-cancer surgery (56% and 63%, respectively). In the LMIC group, most countries included cervical-cancer surgery (70%), while fewer included breast-cancer surgery (65%), and fewest included lung-cancer surgery (54%). In the UMIC group, an equal percentage of countries (83%) included breast- or cervical-cancer surgery in their HBPs, though only 72% included lung-cancer surgery. Cervical-cancer surgery was least often included in countries in the HIC group (89%). In this group, the surgical management of lung cancer was most frequently included (96%), though the surgical management of breast cancer was not far behind (93%) (Fig. 12).



In LICs, breast- and cervical-cancer surgeries were covered at **3 times the rate** of lung-cancer surgeries

Fig. 12. Inclusion of surgical-care services for breast, cervical and lung cancers in the largest public-sector HBPs of countries globally, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Radiotherapy

In relation to cervical cancer, countries most often reported the inclusion of radiotherapeutic management in public-sector HBPs (69%). This was, however, limited to basic radiotherapy and excluded advanced radiotherapy techniques. The inclusion rate for breast-cancer management using radiotherapy (67%) was almost equal to that reported for the inclusion of basic cervical radiotherapy. In almost all regions and income groups, the numbers of countries reporting the inclusion of basic radiotherapy for cervical-cancer management and breast-cancer management in their HBPs were the same. The exceptions were the South-East Asia and European Regions, and the LIC group where the rates for the inclusion of basic cervical radiotherapy were, respectively, 10-, 3-, and 6-percentge points higher than those for breast radiotherapy.

Globally, fewer countries (62%) offered radiotherapy for the treatment of lung cancer than basic radiotherapy for cervical or breast cancer. In the African Region, 38% reported offering the latter, whereas 28% offered radiotherapy of the lung. In the Western Pacific Region, the rates were 64% for both breast and cervical radiotherapy, compared to lung radiotherapy, which was 45%. In the Americas Region, 86% reported including radiotherapy of the breast and cervix and 81% radiotherapy of the lung. As stated earlier, in the South-East Asia Region basic cervical radiotherapy (70%) was included at a greater rate than breast radiotherapy (60%) whereas the numbers of countries providing lung radiotherapy and breast radiotherapy were equal. In the Eastern Mediterranean Region, the inclusion rate for basic radiography of the cervix, breast, and lung were the same (80%). The European Region was the only region in which there was a greater coverage rate for radiotherapy of the lung (86%) than radiotherapy of the breast (82%), The coverage rate for basic cervical radiotherapy (86%) was the same as that for basic lung radiotherapy (86%).

Globally, the fewest countries (52%) reported offering advanced radiotherapy techniques for cervical cancer in their largest public-sector HBPs, with 32% more offering basic radiotherapy techniques than advanced techniques. In almost all regions, the exception being the African Region, advanced radiotherapy techniques for cervical cancer were the least likely of all the radiotherapy services included in the survey to be covered in the HBP. Only 28% of the countries in the African Region reported including lung radiotherapy and advanced cervical radiotherapy. The widest gap in coverage of advanced and basic cervical radiotherapy was seen in the Americas and Western Pacific Regions where there were 24- and 45-percentage point differences, respectively. In the South-East Asia and European Regions, fewer countries included advanced cervical radiotherapy techniques (50% and 79%, respectively) than basic cervical radiotherapy (70% and 86% respectively) The smallest difference between coverage of basic and advanced radiotherapy techniques for cervical cancer (70% and 80%, respectively) was found in the Eastern Mediterranean Region.

The increasing inclusion of services in HBPs is seen as a result of increasing income. Where the advanced radiotherapy techniques for cervical cancer were excluded, similar rates of inclusion were reported for basic radiotherapy techniques for breast, lung, and cervical cancer within all income groups, except for the LMIC group. A third more countries in this group reported including basic radiotherapy for breast and cervical cancer HBPs than the number including basic radiotherapy for lung cancer.

The LIC group was seen as the group with the lowest variation in the inclusion of radiotherapy. Breast, lung, and advanced-technique cervical radiotherapy were offered by 19% in the group and basic technique cervical radiotherapy by 25%. It was the only group in which advanced radiotherapy techniques for cervical cancer were not the least likely to be offered.

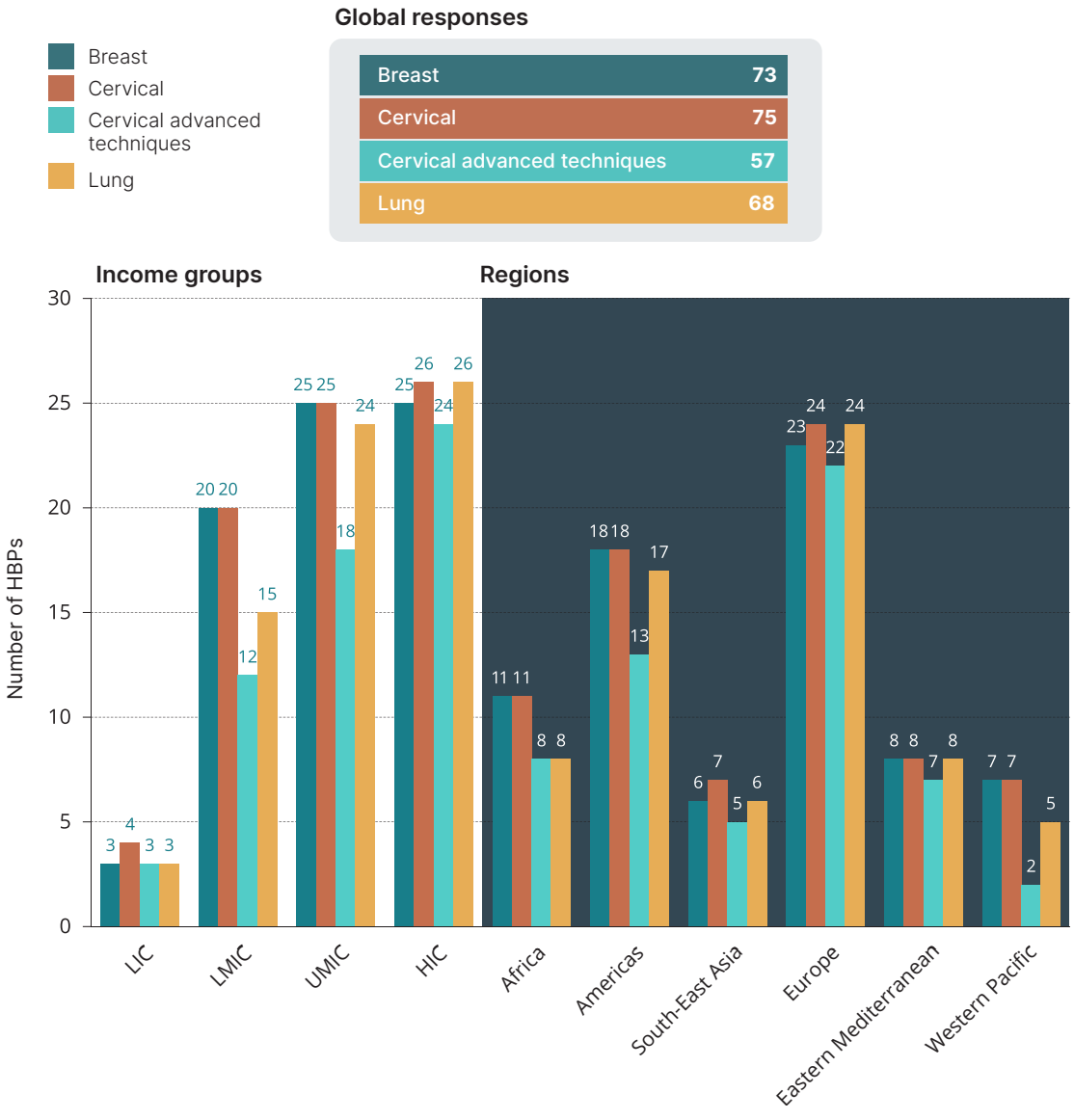
The LMIC group showed the greatest variation in coverage of services in HBPs, whether these included advanced-technique cervical radiotherapy or not. In this group, advanced-

technique cervical radiotherapy was the least likely service to be included (32%), compared to lung radiotherapy (40%), and breast and basic cervical radiotherapy (54%).

In the UMIC group, the gap between countries offering basic and those offering advanced radiotherapy techniques for cervical cancer was 24-percentage points (86% and 62%, respectively). This gap was similar to that in the LMIC group (22-percentage points). There was an almost equal likelihood of breast radiotherapy, cervix-basic techniques, and lung radiotherapy (86%, 83% and 86%, respectively) being included by countries in this group.

In the HIC group, the frequency of coverage of all radiotherapy services was similar for breast cancer (93%), cervix-basic techniques (96%), lung cancer (96%), and cervix-advanced techniques (89%) (Fig. 13).

Fig. 13. Inclusion of radiotherapeutic-care services for breast, cervical and lung cancers in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

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Cancer Management

Cancer diagnoses included in HBPs

ALL

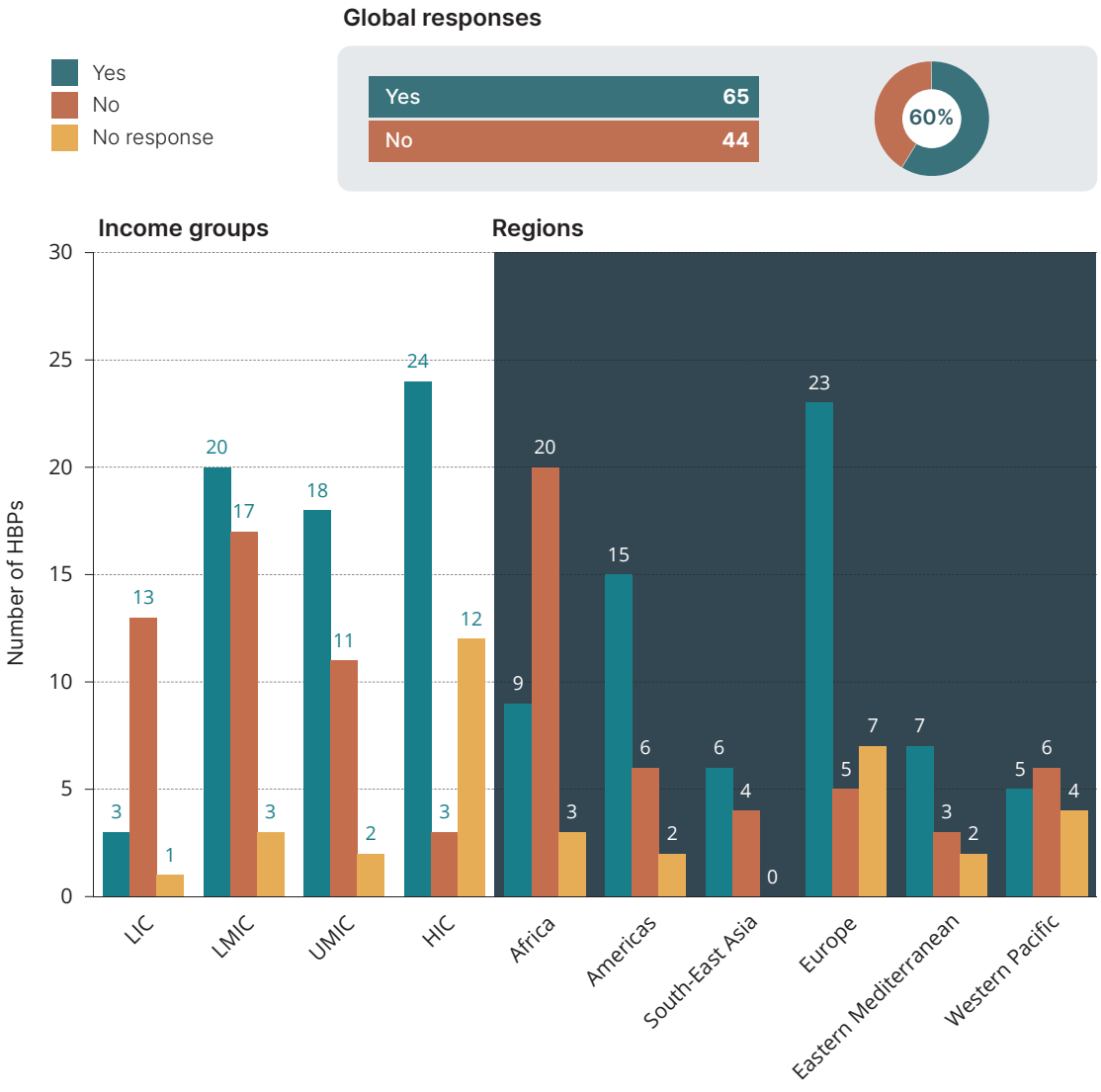
A diagnosis of ALL usually requires the presence of at least 20% blast cells in the bone marrow. Normally, blast cells account for under 5% of bone-marrow cells. Immunohistochemical staining and the microscopic examination of samples of bone-marrow tissue enable a morphological diagnosis *(38)*.

Diagnosis through immunohistochemical staining was included by most of the countries globally (60%). Countries in the African Region were the least likely to use morphological examination to diagnose ALL (31%), while those in the European Region were most likely to do so (82%).

There was a positive correlation between income group and the inclusion of morphological staining for the diagnosis of ALL. Less than a fifth of the countries in the LIC group (19%) reported the inclusion of this test compared to an almost universal inclusion in the HIC group (89%). The largest gap in the rates for inclusion of immunohistochemical staining for the diagnosis of ALL was between the LIC and LMIC groups (19% and 54%, respectively), although there was also a large gap between the UMIC and HIC groups (62% and 89%, respectively) (Fig. 14).

Diagnosis through immunohistochemical staining was included by most of the countries globally (60%).

Fig. 14. Inclusion of IHC staining for childhood cancer in countries' largest public-sector HPBs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Cancer staging in HBPs

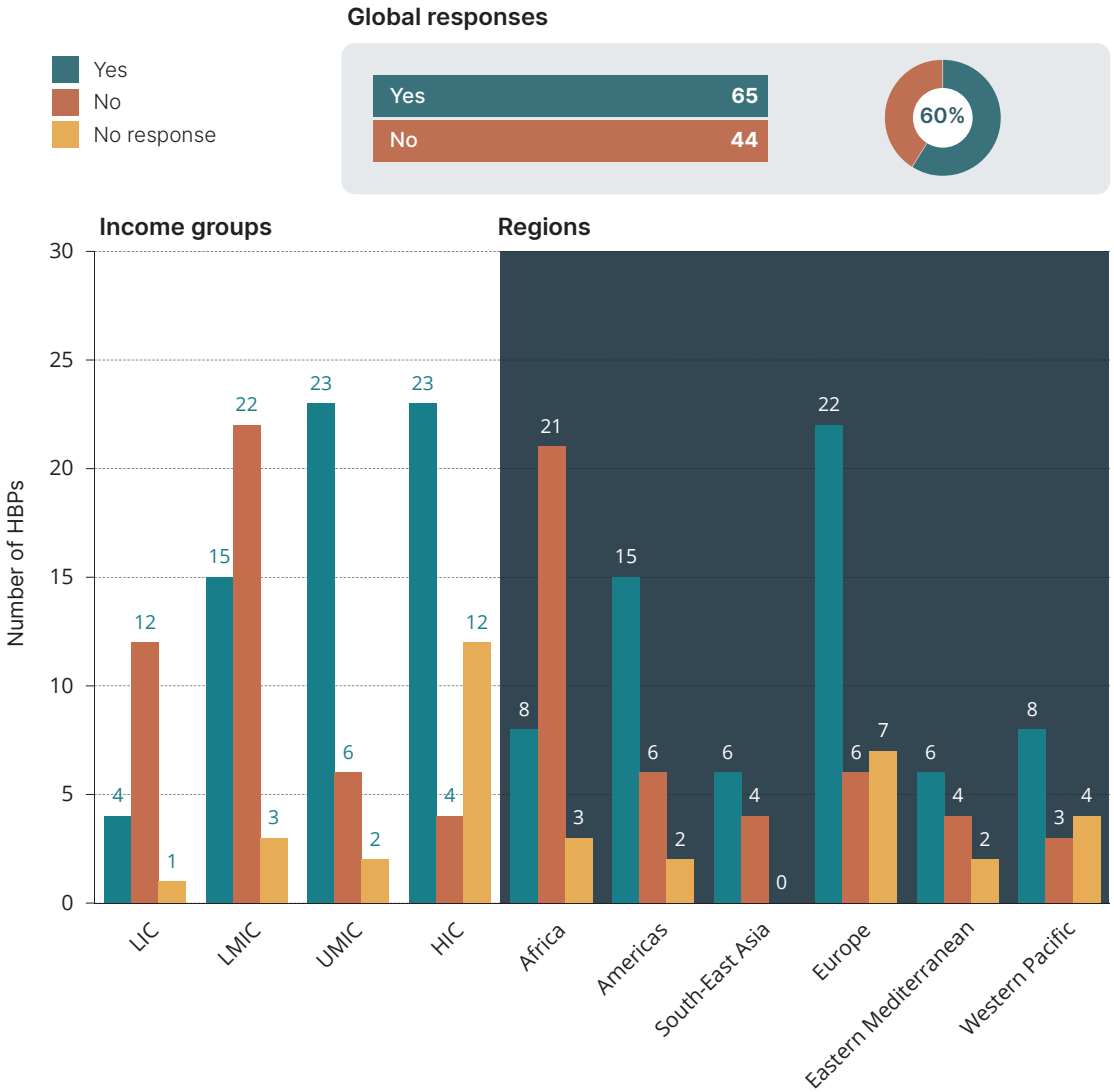
Cervical cancer

The staging of cervical cancer is determined by findings during clinical examination and from imaging studies. Imaging modalities, such as computerized tomography (CT) or positron emission tomography (PET) scans, may enable a more accurate definition of the extent of the spread *(39)*.

The use of PET/CT imaging for staging cervical cancer was included in the HBPs of 60% of the respondent countries. The African Region was the only region in which most of the countries did not include PET/CT staging. Only 28% of the respondents in this region indicated that staging was included, which was less than half the next-lowest rate, namely that of the South-East Asia Region (60%). The remaining regions were all more likely to include PET/CT staging than the global average, the European Region being the most likely to do so (79%).

There was a positive correlation between income group and the inclusion of cervical-cancer staging using PET/CT, the rates being widely distributed between the LIC group (25%), the LMIC group (41%), the UMIC group (79%) and HIC group (85%) (Fig. 15).

Fig. 15. Inclusion of PET/CT imaging for cervical-cancer staging in countries' largest public-sector HBPs, by WHO region and World Bank income group.



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

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Cancer-treatment interventions in HBPs
Effective screening programmes are excellent tools for facilitating early diagnosis and improving prognosis. However, they must be accompanied by appropriate treatment options to impact outcomes. The following paragraphs illustrate the number of countries that include both screening and either surgical or radiation treatment, screening only, or treatment only in their largest public-sector HBPs.

Cervical cancer

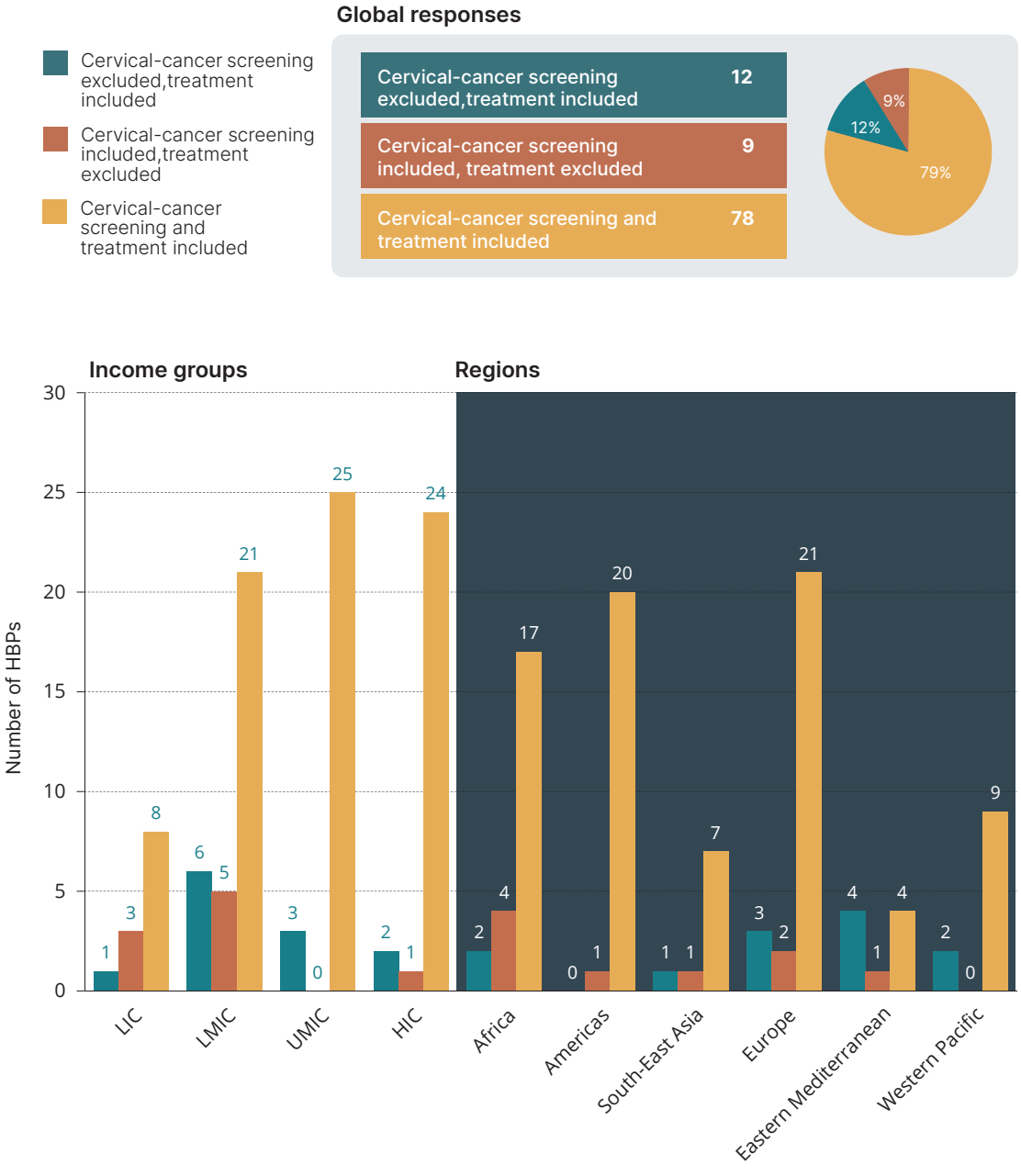
Screening and treatment

Among the global respondents that covered either testing through cervical screening and/or at least one of the four treatments included the survey in their largest public-funded HBPs, 79% reported coverage of both a cervical-screening test and one of the four forms of treatment. Of the countries that included screening or treatment, 9% included screening only and 12% included treatment only. The inclusion of both screening for and treatment of cervical cancer was lowest in the Eastern Mediterranean Region (44%) and highest in the Americas Region (95%). The rates for coverage of both screening for and treatment of cervical cancer were similar in the LIC and LMIC groups (67% and 66%, respectively), but higher in the UMIC and HIC groups (89% in both groups).

The inclusion of screening for and not treatment of cervical cancer was highest in the African Region (17%) and lowest in the Western Pacific Region (0%). There was a general negative correlation between income groups and the inclusion of screening only for cervical cancer, highest in the LIC group (25%) and dropping to 16% in the LMIC group and 0% in the UMIC group. There was, however, a small increase in the HIC group (4%).

Coverage of treatment of but not screening for cervical cancer was highest in the Eastern Mediterranean Region (44%) and lowest in the African Region (9%). There did not seem to be an association between income groups and this type of coverage. The inclusion rates were 8% in the LIC group, 19% in the LMIC group, 11% in the UMIC group, and 7% in the HIC group (Fig. 16).

Fig. 16. Coverage of screening for and treatment of cervical-cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



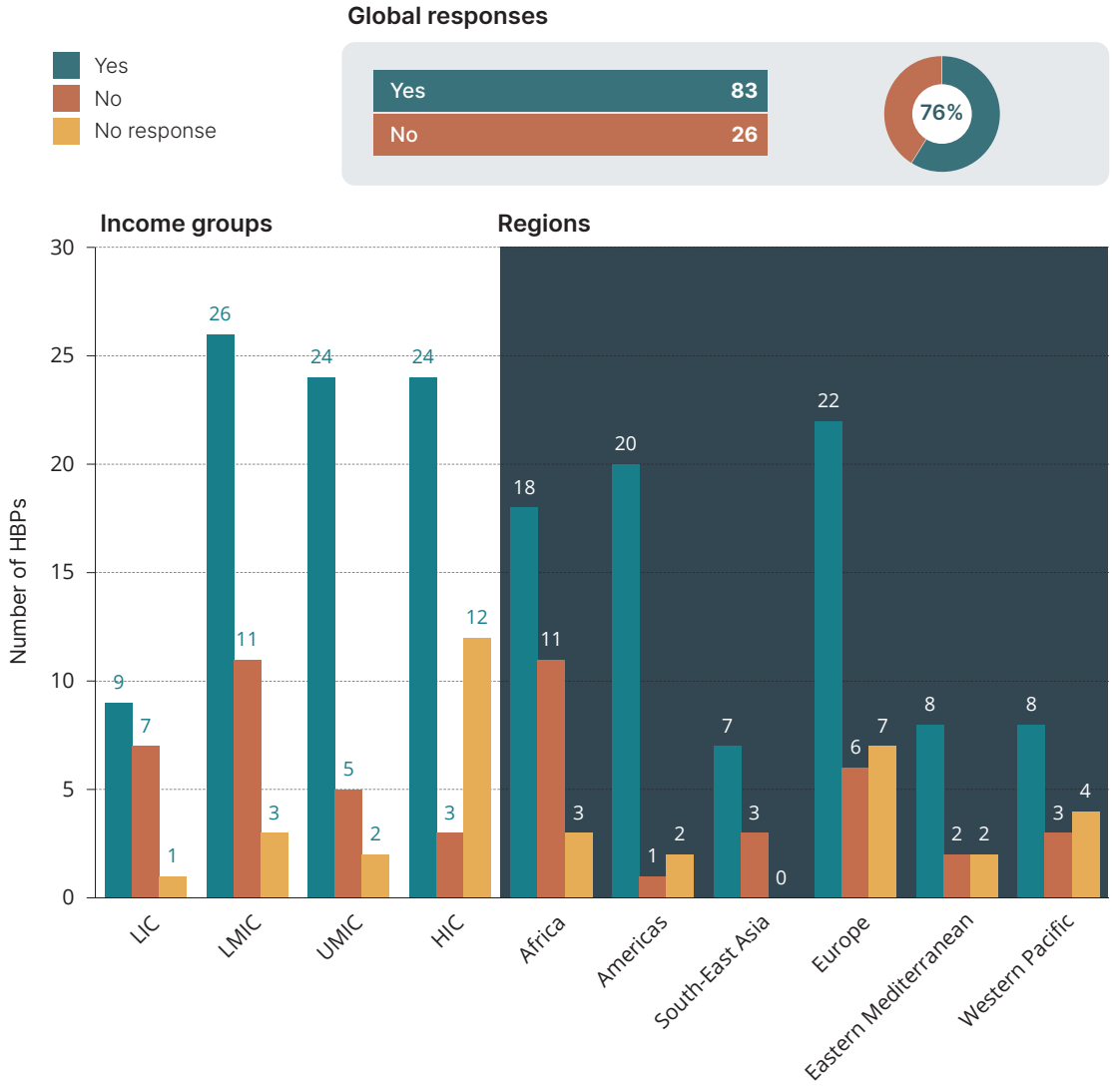
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Surgery

The surgical treatment of cervical cancer may involve local excision of the lesion or removal of the entire uterus and related structures. Radical hysterectomy – removal of the uterus, cervix, both ovaries, both fallopian tubes, and nearby tissue – was the surgical procedure included in the survey.

Among all respondents, 76% included surgery in their country's largest public-sector HBP. The inclusion rates were lowest in the African Region (62%) and highest in the Americas Region (95%). They increased according to income group, namely, from 56% in the LIC group to 89% in the HIC group, those in the LMIC and UMIC groups (70% and 83%, respectively) falling in between (Fig. 17).

Fig. 17. Inclusion of radical hysterectomy as treatment for cervical cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

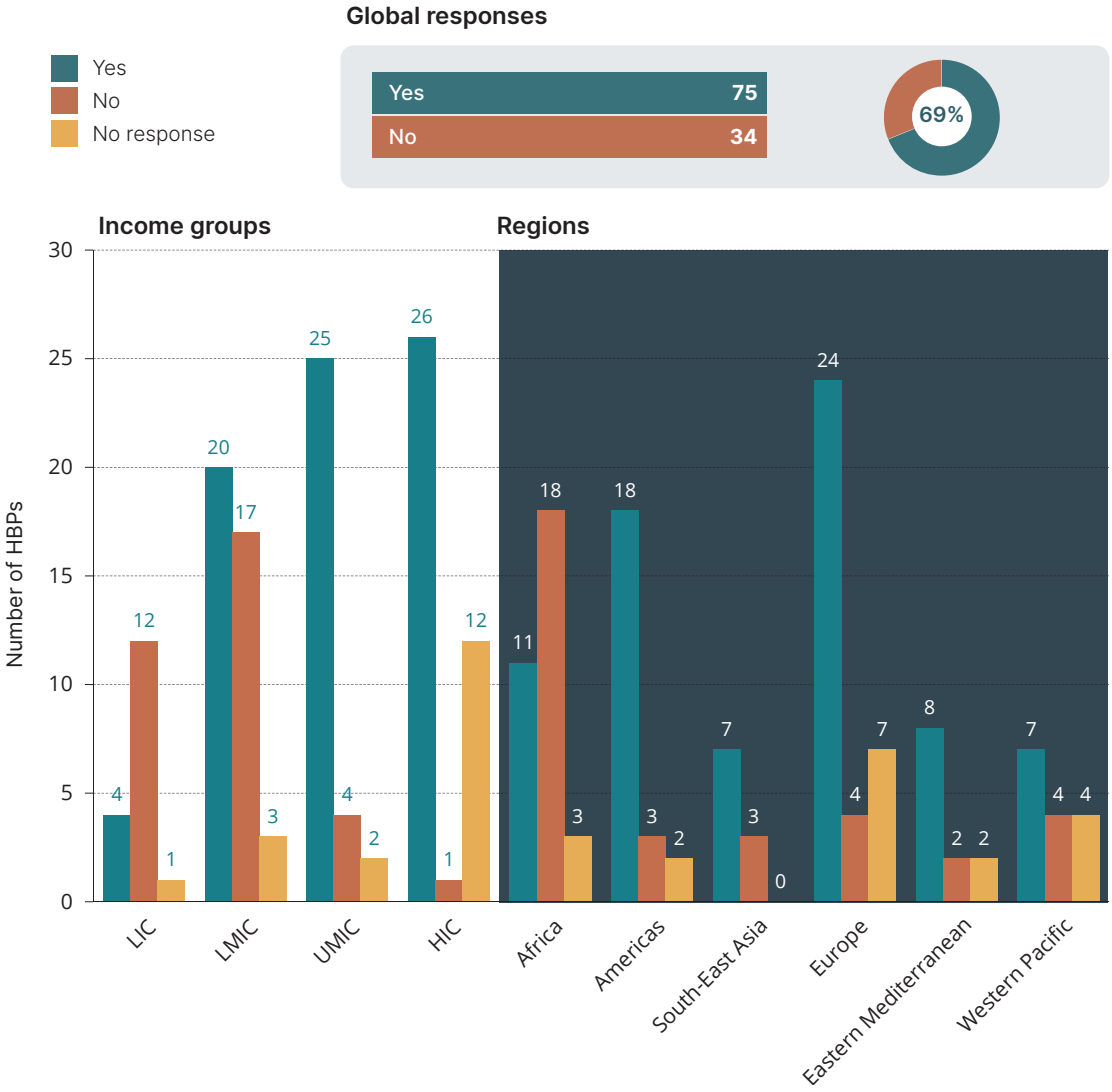
Radiotherapy

Cervical cancer is radiosensitive and may be treated using external or internal (brachytherapy) radiation therapy. To improve the targeting of the cancer, advanced radiation-therapy techniques, such as image-guided radiotherapy, intensity-modulated radiation therapy (IMRT), and image-guided brachytherapy, may be used. The survey investigated which countries covered basic or advanced radiation therapy techniques independently in their largest public sector HBPs.

The responses revealed that 69% of the countries covered the use of basic radiation therapy, including brachytherapy, for cervical cancer. Of the countries in the African Region, only 38% reported doing so. However, most of the respondents in all other WHO regions reported that this service was included in their HBPs, the highest rate being in the Americas Region (86%).

There was a positive correlation between income group and rate of inclusion of basic curative radiotherapy, with the gap narrowing between the groups as income increased. The inclusion rate was below the global average (69%) in the LIC and LMIC groups (25% and 54%, respectively), and higher than the global average in the UMIC and HIC groups (86% and 96%, respectively) (Fig. 18).

Fig. 18. Inclusion of radiotherapy (including brachytherapy) as treatment for cervical cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group

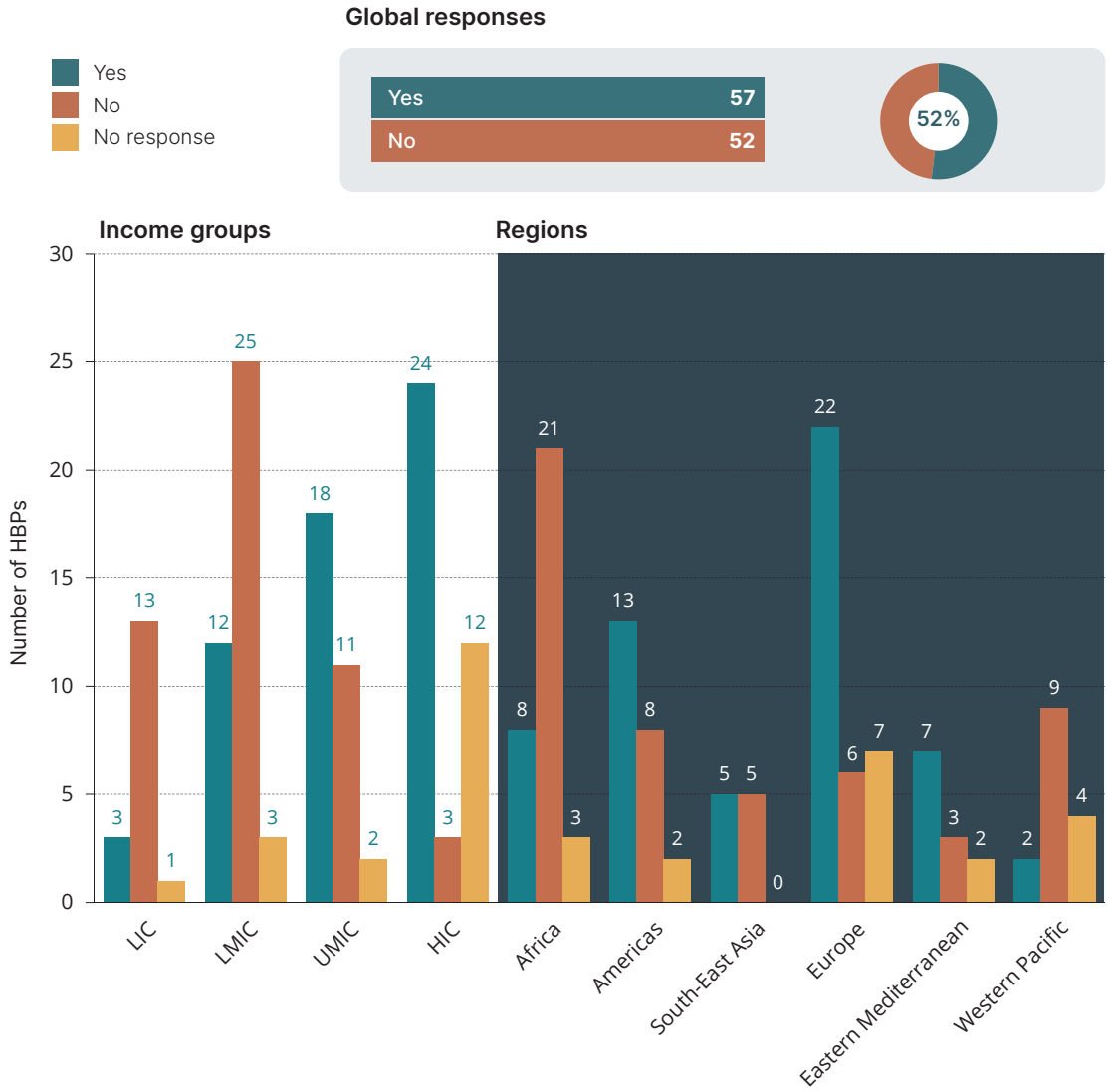


Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

The inclusion of advanced radiotherapy techniques was claimed by 52% of the responding countries globally, with the lowest rate in the Western Pacific Region (18%). These techniques were more than four times as likely to be provided in the European Region, where the inclusion rate was highest (79%).

There were large gaps among income groups regarding the inclusion of advanced radiotherapy techniques, which was more than four times more likely in the HIC group (89%) than in the LIC group (19%). The inclusion rate was below average in the LMIC group (32%), which was almost half that in the UMIC group (62%) (Fig. 19).

Fig. 19. Inclusion of advanced radiotherapy as treatment for cervical cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.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Systemic treatment

Cisplatin was the chemotherapeutic agent included in the survey for the treatment of cervical cancer. The findings and trends associated with cisplatin can be found in the "Cancer Management" section under "Medicines" (see page 62).

Breast-cancer treatment

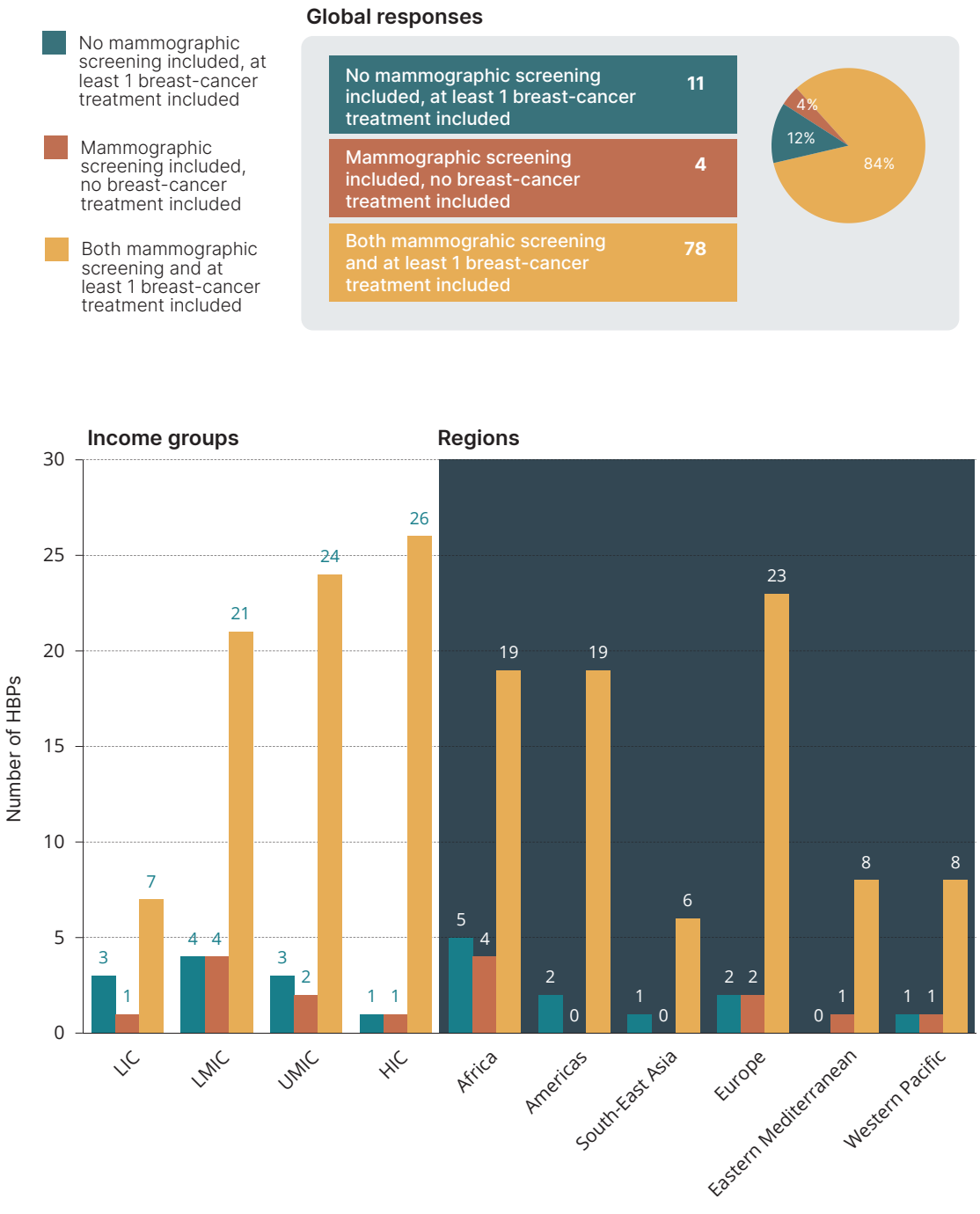
Screening and treatment

Of the countries reporting coverage of breast-cancer screening or a breast-cancer treatment in their HBPs, 84% included both. Only a small minority (4%) reported including screening but not treatment. The remaining 12% reported including some form of treatment, but not screening.

Countries in the African Region (68%) were the least likely to cover both screening for and treatment of breast cancer. Countries in the Americas Region reported the inclusion of both screening and treatment most frequently (90%). All responding countries in the Americas and South-East Asia Regions reported that they covered treatment if screening were included. The inclusion rates for screening without treatment ranged from 7% in the European Region to 14% in the African Region, while all respondents in the Eastern Mediterranean Region reported covering treatment when screening was included in the HBPs. The inclusion rates for treatment without screening ranged from 7% in the European Region to 18% in the African Region.

As the income-group level increased, the inclusion rate for both screening and treatment rose steadily from 64% in the LIC group, to 72% in the LMIC group, 83% in the UMIC group, and 93% in the HIC group. There was a general negative trend in the coverage of screening without treatment, with inclusion rates of 9% in the LIC group, 14% in the LMIC group, 7% in the UMIC group, and 4% in the HIC group. A similar negative trend was seen in the proportion of respondents who reported coverage of treatment but not screening (from 27% in the LIC group to 4% in the HIC group) (Fig. 20).

Fig. 20. Inclusion of breast-cancer screening and treatment in countries' largest public-sector HBPS, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

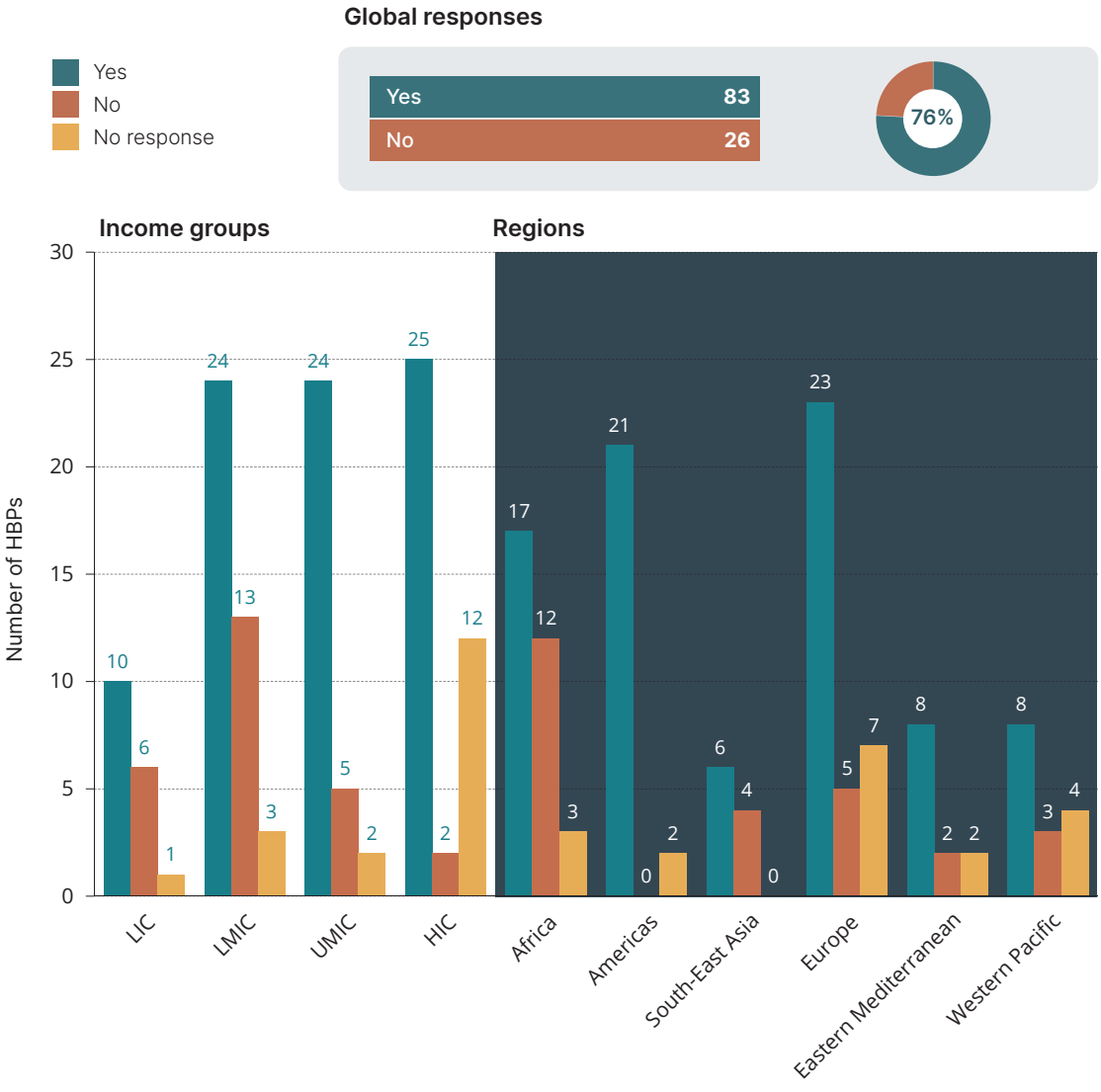
Surgery

The surgical treatment for breast cancer included in the survey was modified radical mastectomy (MRM). This procedure involves the removal of the entire breast and related lymph nodes. After removal of the breast, surgical reconstruction may be performed either during the same surgical session or at a later stage.

The inclusion of MRM surgery in the countries' largest public-sector HBPs was reported by 76% of the respondents, the lowest proportion in the African Region (59%) and the highest in the Americas Region (100%).

The reported inclusion rates for MRM were below the global average (76%) in the LIC group and LMIC groups (63% and 65%, respectively), jumping to 83% in the UMIC group and 93% in the HIC group (Fig. 21).

Fig. 21. Inclusion of MRM surgery as treatment for breast cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

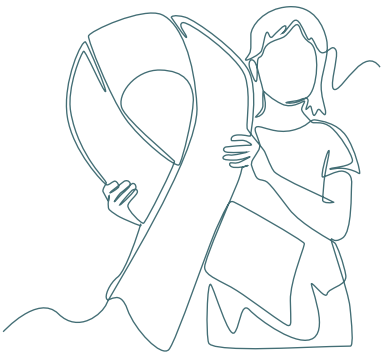
Breast reconstruction

The inclusion of post-mastectomy breast reconstruction in HBPs was reported by a minority of the respondents (40%). This was the lowest inclusion rate of all the surveyed services. There was a wide disparity between the WHO regions, with only 10% inclusion among respondents in the African Region compared to 75% among those in the European Region where most respondents reported coverage of breast reconstruction.

There was a positive association between income group and the likelihood of including post-MRM breast-reconstruction surgery in HBPs. The inclusion rates were similar for the LIC and LMIC groups (13% and 14%, respectively), but there was a wide gap between these rates and those for the UMIC and HIC groups (48% and 85%, respectively) (Fig. 22).

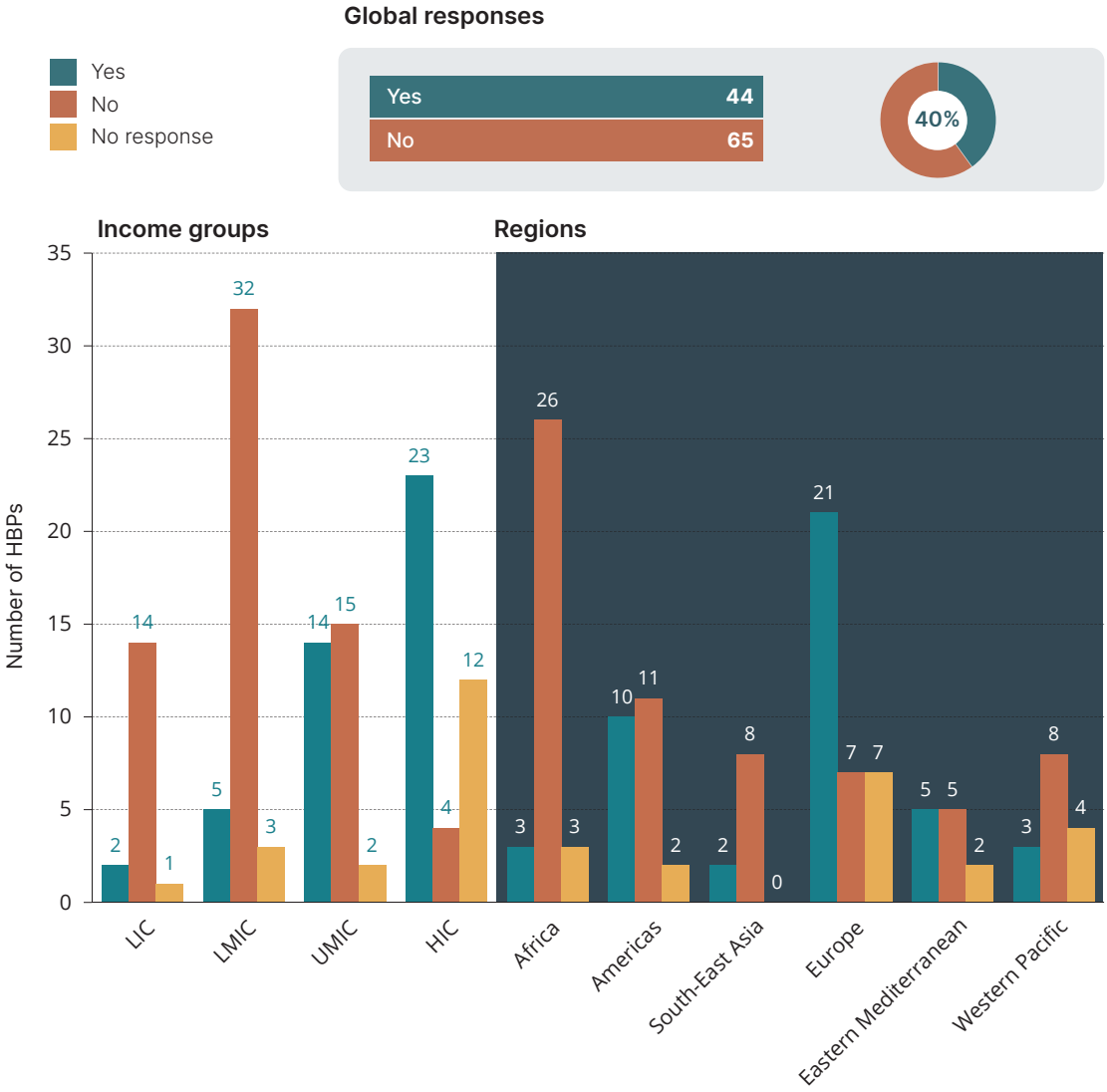
Across all regions and income groups, more respondents reported the inclusion of MRM surgery than breast-reconstruction surgery post MRM; 52% reported the inclusion of both MRM surgery and post-MRM-surgery reconstruction and one country reported the inclusion of post-MRM-surgery reconstruction but not the initial MRM surgery. The survey revealed that countries in the European and Eastern Mediterranean Regions were the most likely to cover both MRM surgery and post-surgical reconstruction (91% and 63%, respectively). These were the only two regions where more than half the countries covered both interventions. Countries in the African Region were least likely to cover both MRM and post-surgical reconstruction (18%).

In countries in the LIC and LMIC groups, the likelihood that HBPs included MRM surgery and post-surgical reconstruction was low (20% and 17%, respectively), particularly when compared to the UMIC and HIC groups where the probability was 58% and 92%, respectively (Fig. 23).



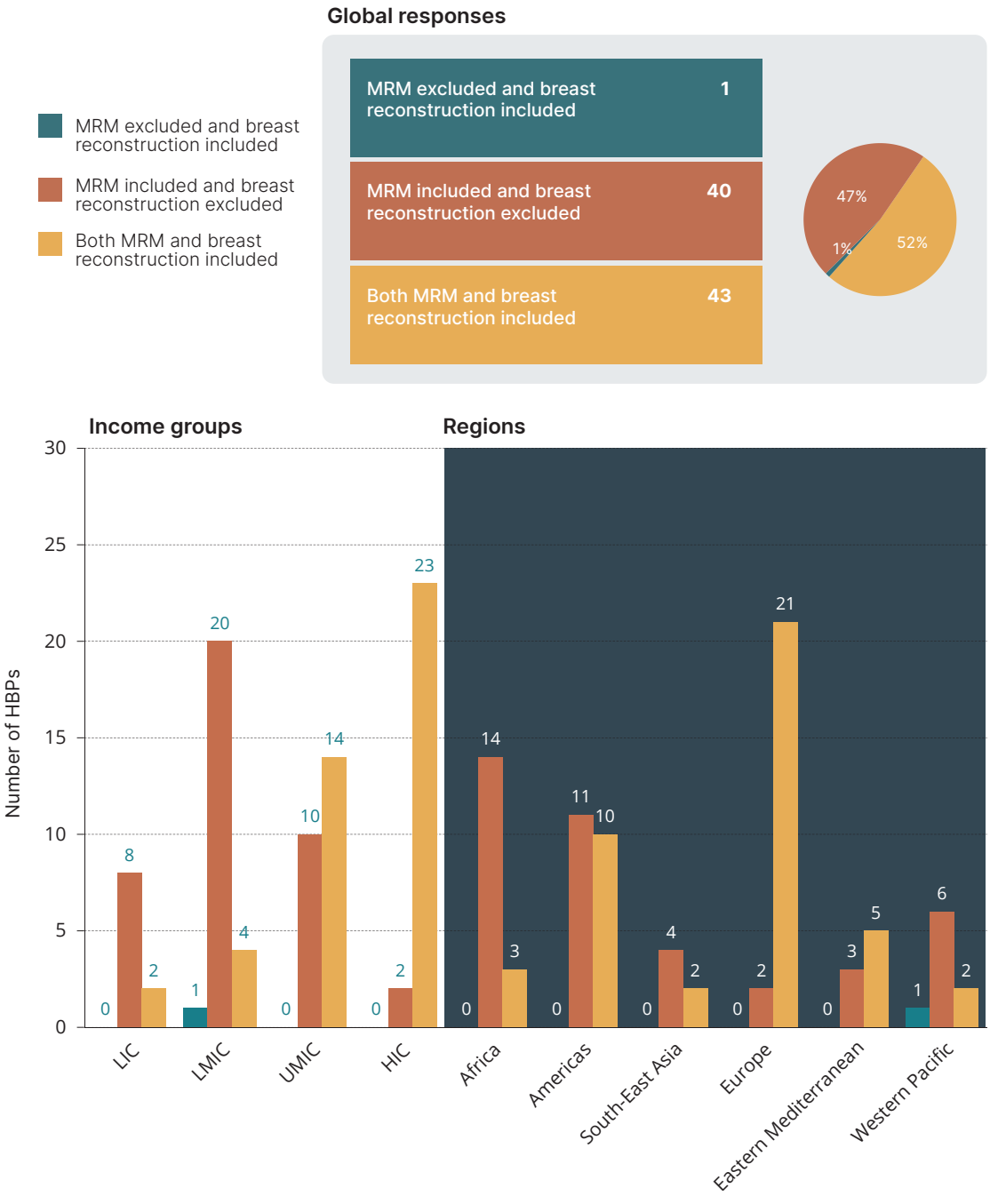
Post-surgical breast reconstruction is 7.3 times more likely to be offered in Europe than in Africa

Fig. 22. Inclusion of post-mastectomy breast reconstruction in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 23. Inclusion of MRM surgery and post-mastectomy breast reconstruction in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

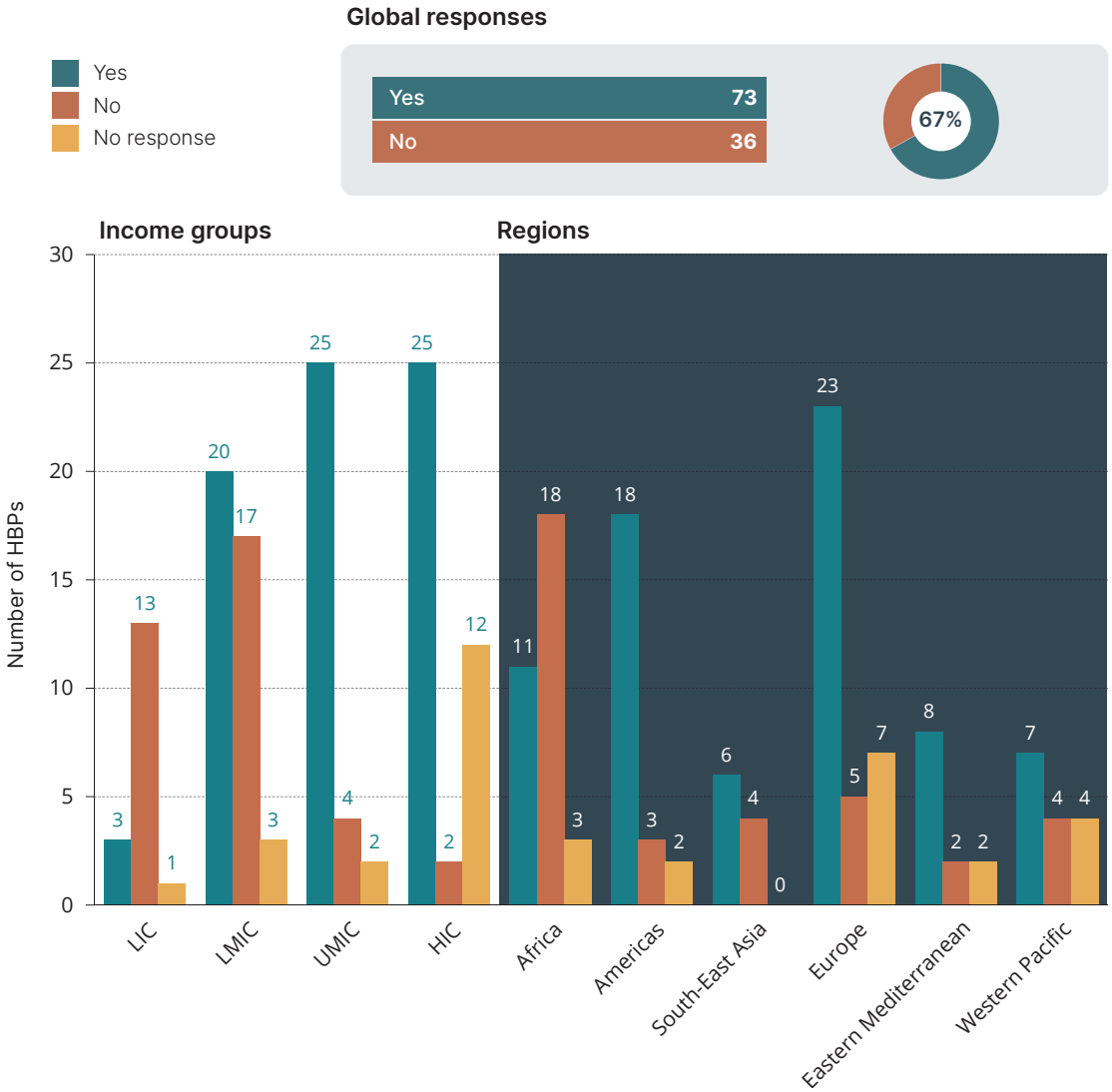
Radiotherapy

Generally, after surgery, the remaining breast tissue and/or chest wall needs to undergo irradiation. Radiotherapy helps destroy any remaining cancer cells and reduces the likelihood of cancer recurrence.

The inclusion of radiotherapy for breast conservation in the HBPs was reported by 67% of the respondents globally. Inclusion was most likely in countries in the Americas Region (86%) and least likely in those in the African Region (38%).

The inclusion of radiotherapy for breast conservation showed a positive association with income grouping. There were wide gaps in inclusion rates between the LIC group (19%), the LMIC group (54%), and the UMIC group (86%), with a narrower gap to the rates for the HIC group (93%) (Fig. 24).

Fig. 24. Inclusion of radiotherapy for breast conservation in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

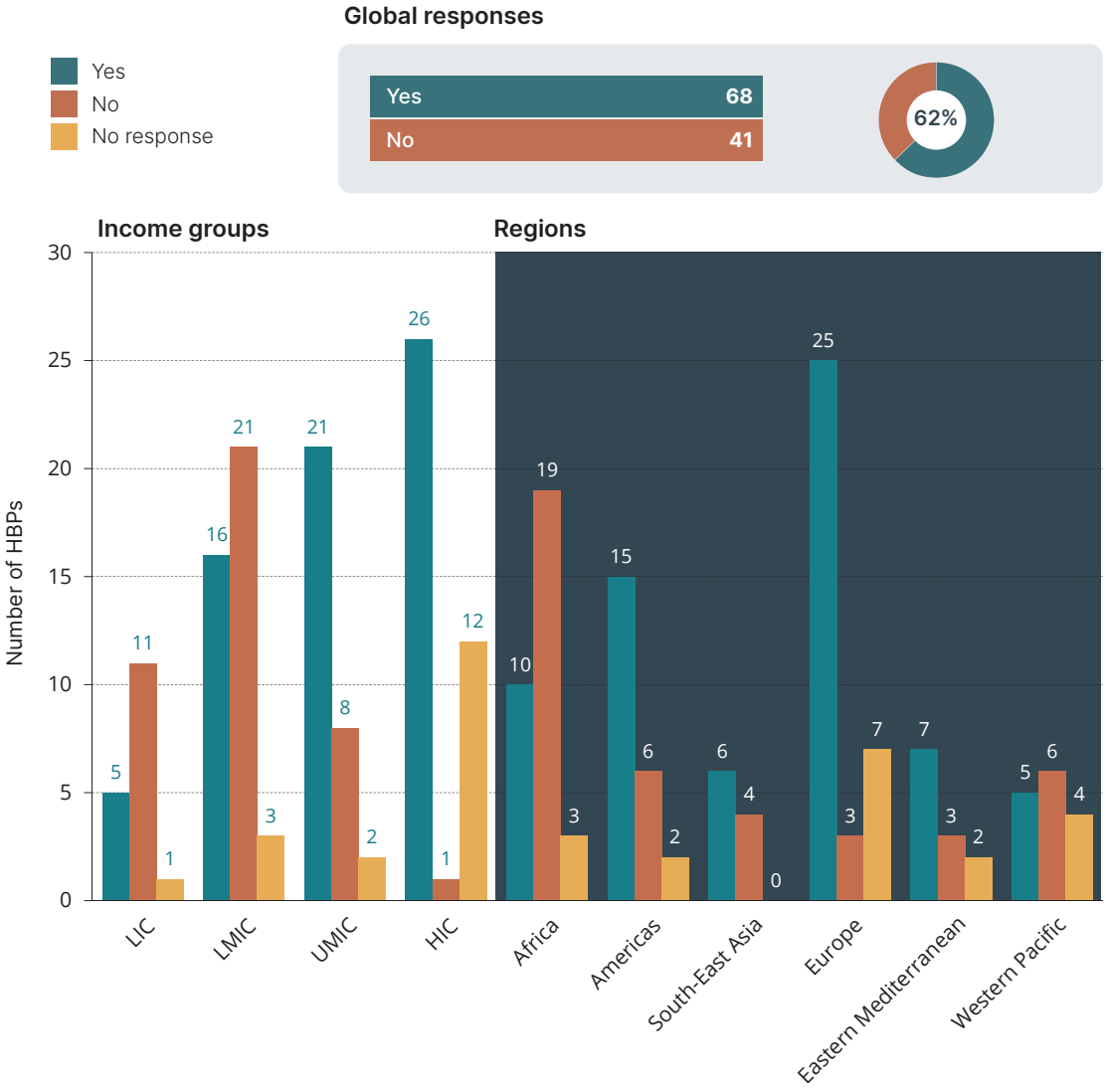
Systemic therapy

Trastuzumab is a monoclonal antibody that is used in the treatment of HER2-positive breast cancer, which tends to be more aggressive than other forms of breast cancer and accounts for approximately 20% of all breast cancers. The respondents indicated the inclusion of testing for HER2 and the provision of trastuzumab as part of a combined adjuvant therapy or as treatment for MBC.

HER2 testing and trastuzumab were included in the HBPs of 62% of the countries. The lowest inclusion rate was seen in the African Region (34%) and the highest in the European Region (89%). In the LIC and LMIC groups, less than half of the respondents reported including testing and treatment in their HBPs (31% and 43%, respectively). A comparatively large increase was seen in the UMIC group, the majority (72%) of which included testing and treatment, and this was even larger in the HIC group (96%) (Fig. 25).

The survey also included questions about the use of cyclophosphamide in the treatment of breast cancer. The findings and trends associated with cyclophosphamide can be found in the section entitled Cancer Management" under "Medicines" (see page 70).

Fig. 25. Inclusion of HER2 testing and trastuzumab for breast cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

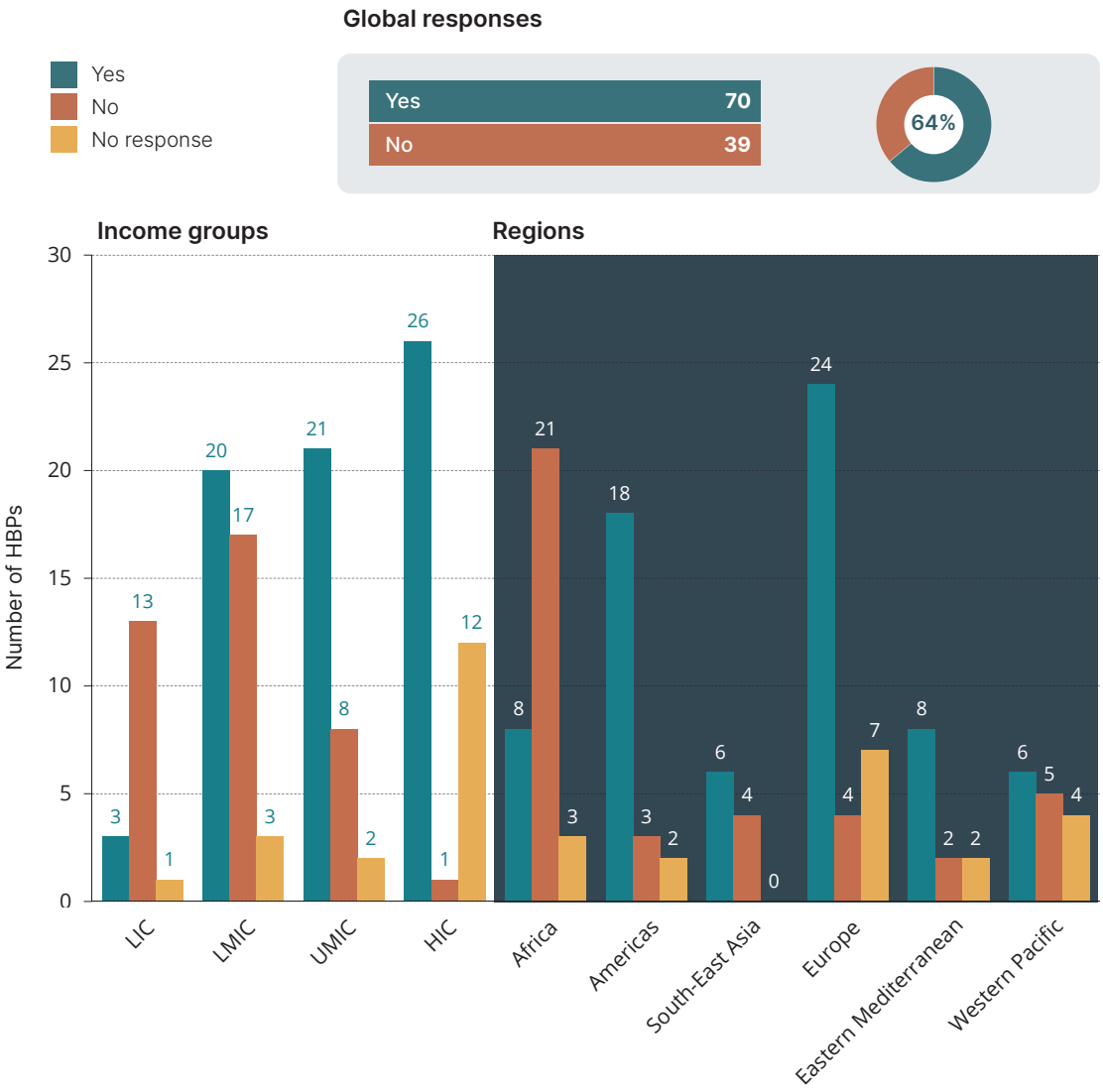
Lung-cancer treatment

Surgery

Surgical excision is usually the preferred treatment for early-stage lung cancer. Respondents were asked to indicate if wedge resection or lobectomy were included in their largest public-sector HBPs as options in the surgical treatment of lung cancer. The survey showed that 64% of the respondents included surgical treatment; countries in the African Region were least likely to include lung-cancer surgery (28%) while those in the European and the Americas Regions were most likely to do so (86% in both) (Fig. 26).

There was a positive association between income grouping and coverage of surgical care for lung cancer, the latter increasing in relatively steady increments. The lowest inclusion rate was found in the LIC group (19%), and the highest in the HIC group (96%) with the rates for the LMIC and UMIC groups falling in between (54% and 72%, respectively).

Fig. 26. Inclusion of wedge resection or lobectomy surgeries for lung cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



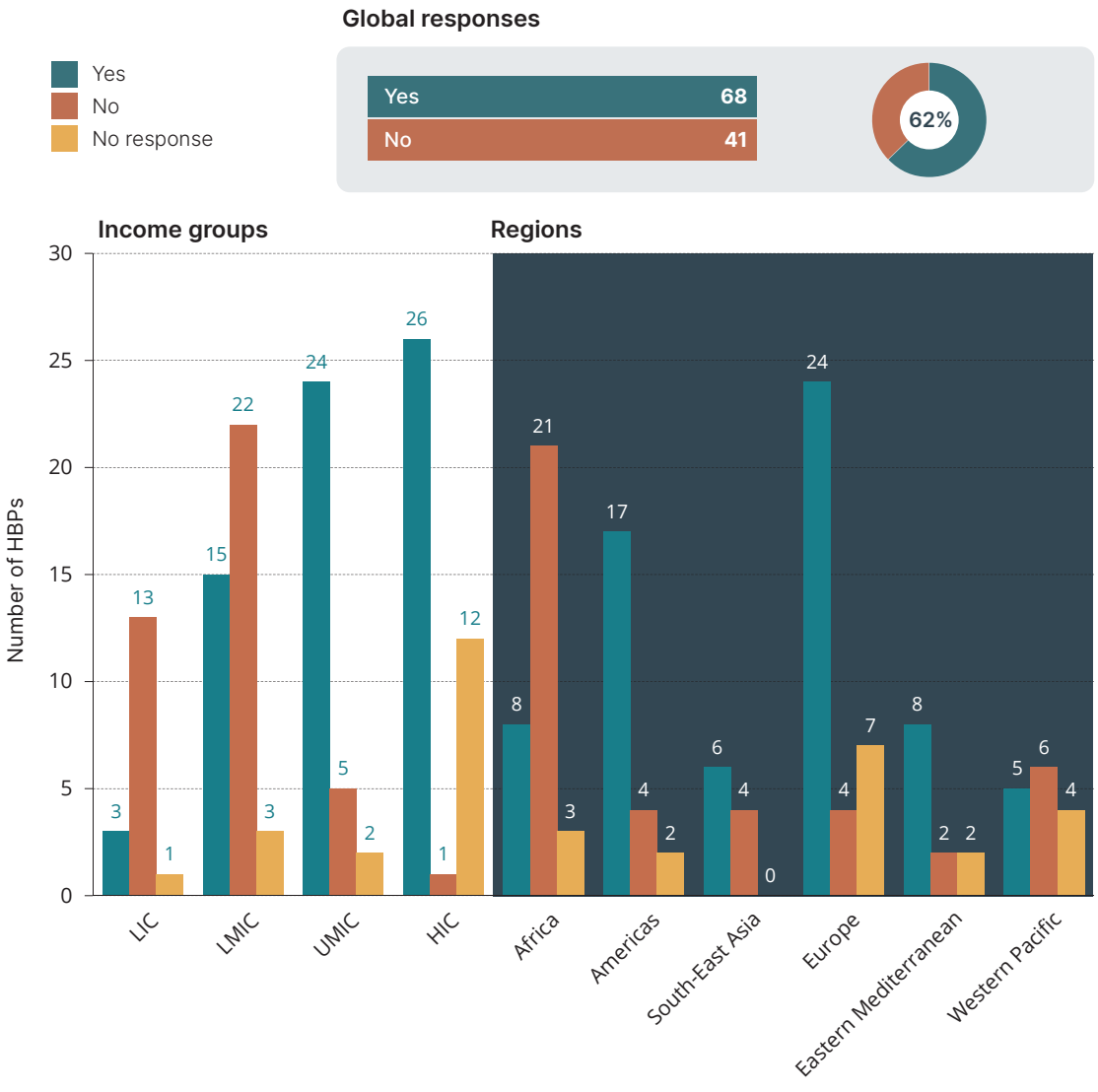
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Radiotherapy

Adjuvant radiotherapy may be administered in combination with the primary therapy to reduce the likelihood of a recurrence of lung cancer. The global rates for coverage of adjuvant radiotherapy for lung cancer in HBPs were similar to those for the inclusion of surgical care for lung cancer, the global inclusion rate for radiotherapy being slightly lower (62%). The lowest inclusion rate was seen among respondents in the African Region (28%) and the highest among those in the European Region (86%) (Fig. 27).

There was a positive correlation between inclusion and income in relation to radiotherapy, the inclusion rates in the LIC and HIC groups being the same as those for surgery in these groups (19% and 96%, respectively). The general trend showed a doubling of the inclusion rates for radiotherapy from 19% for the LIC group to 41% for the LMIC group and 83% for the UMIC group, with a moderate increase to 96% for the HIC group.

Fig. 27. Inclusion of adjuvant radiotherapy for lung cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Systemic therapy

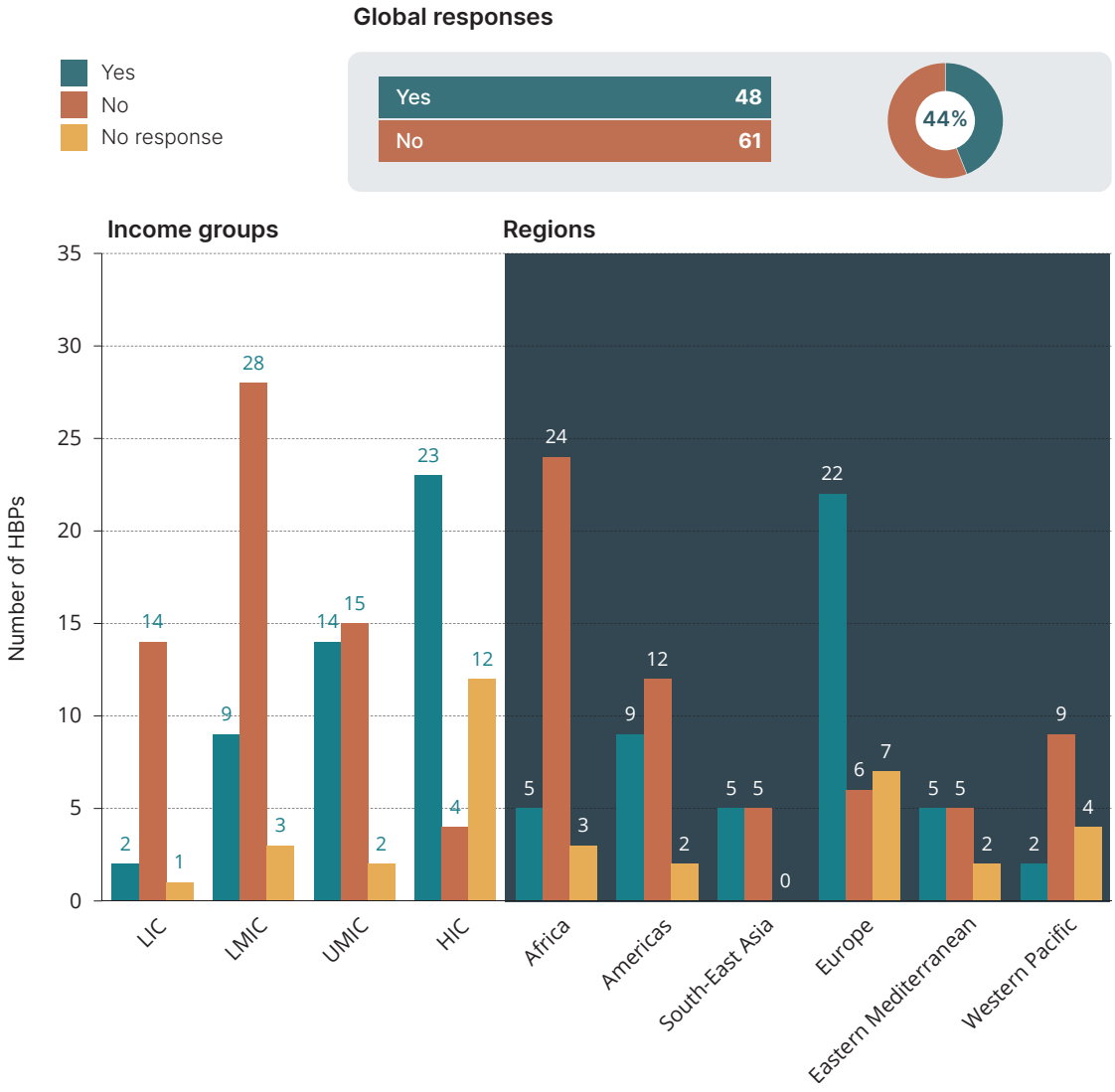
There are three types of systemic therapy that can be used in the treatment of lung cancer: cytotoxic antineoplastic therapy, targeted therapies, and immunotherapy. Targeted therapies are designed to act on cells with specific mutation. In the case of lung cancer, a mutated EGFR is commonly targeted as almost a third of all non-small-cell lung cancers (NSCLC) have the mutation *(40)*. Immunotherapy strengthens the immune system, allowing it to better recognize and destroy cancer cells throughout the body.

In the survey, respondents indicated whether immunotherapy and targeted EGFR inhibitors were included in their largest public-sector HBPs. Testing for EGFR mutations was included as part of the targeted therapy package, along with treatment.

The global average rates for the inclusion of immunotherapy for metastatic lung cancer in the countries' largest public-sector HBPs were among the lowest (44%) of all cancer interventions included in the survey. There was also a wide disparity among these inclusion rates, the lowest of which was seen among respondents in the African Region (17%) and the highest among those in the European Region (79%).

Inclusion rates for immunotherapy increased according to income group. The HIC group was the only one in which most of the countries included immunotherapy (85%), while only 13% in the LIC group, 24% in the LMIC group and 48% in the UMIC group did so (Fig. 28).

Fig. 28. Inclusion of immunotherapy for lung cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



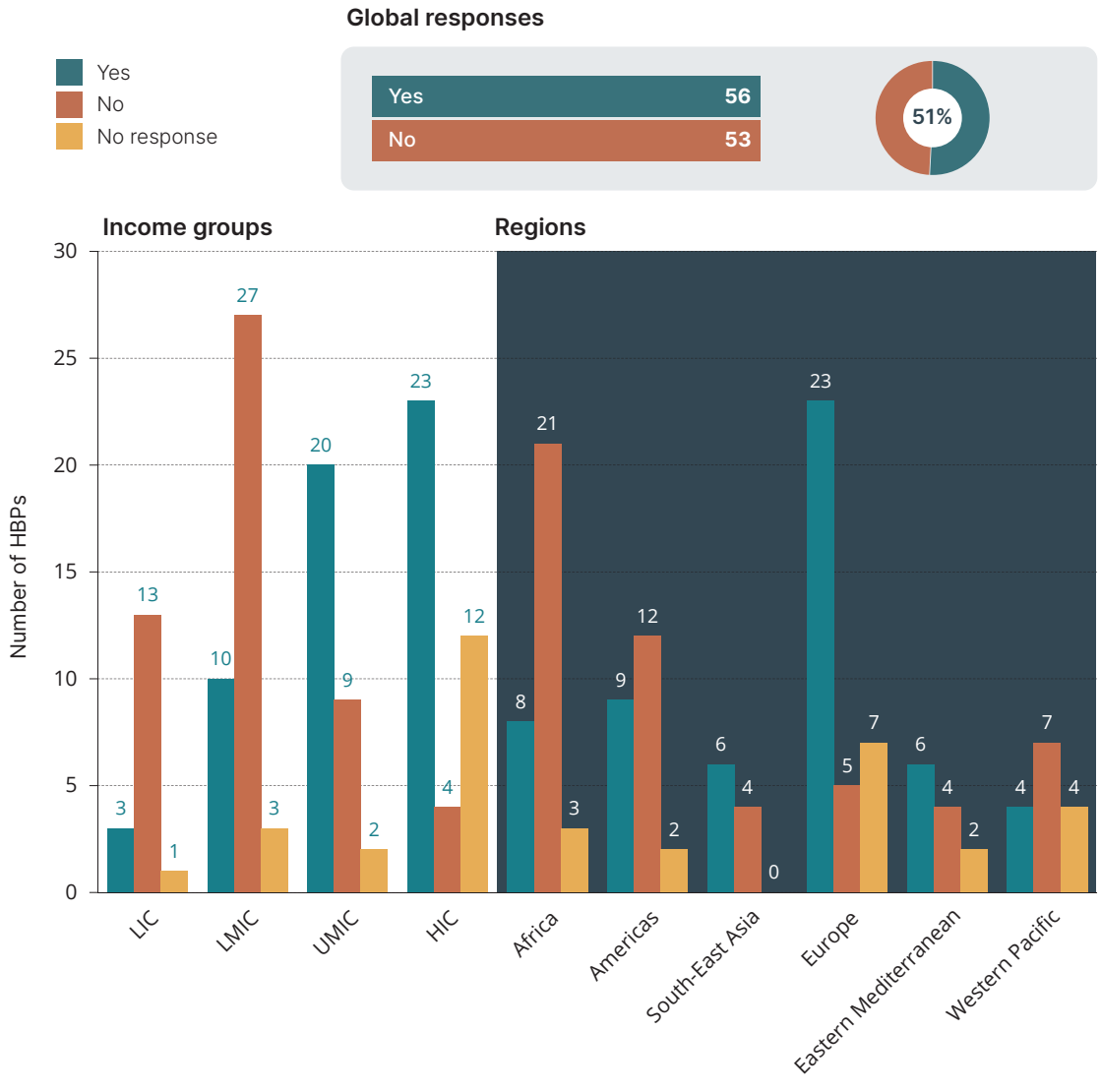
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Among all the respondents, there was a 51% likelihood of the inclusion of EGFR-mutation testing and targeted therapy in HBPs, lowest among respondents in the African Region (28%) and highest among those in the European Region (82%).

The inclusion of EGFR-mutation testing and targeted therapy treatment for lung cancer showed a general positive trend relative to income group. Less than half of the countries in the LIC and LMIC groups (19% and 27%, respectively) reported the inclusion of EGFR-mutation testing for and targeted therapy treatment of lung cancer in their HBPs. The inclusion rates in the UMIC group (69%) were more than double those in the LMIC group. The highest inclusion rate was found in the HIC group (85%) (Fig. 29).

Other non-specific therapeutic agents included in the lung-cancer-treatment protocols covered in the survey were cisplatin, erlotinib, nivolumab, and cyclophosphamide. The findings and trends associated with these medicines can be found in the section entitled, "Cancer Management" under "Medicines" (See page 60).

Fig. 29. Inclusion of EGFR testing and EGFR mutation inhibitors for lung cancer in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

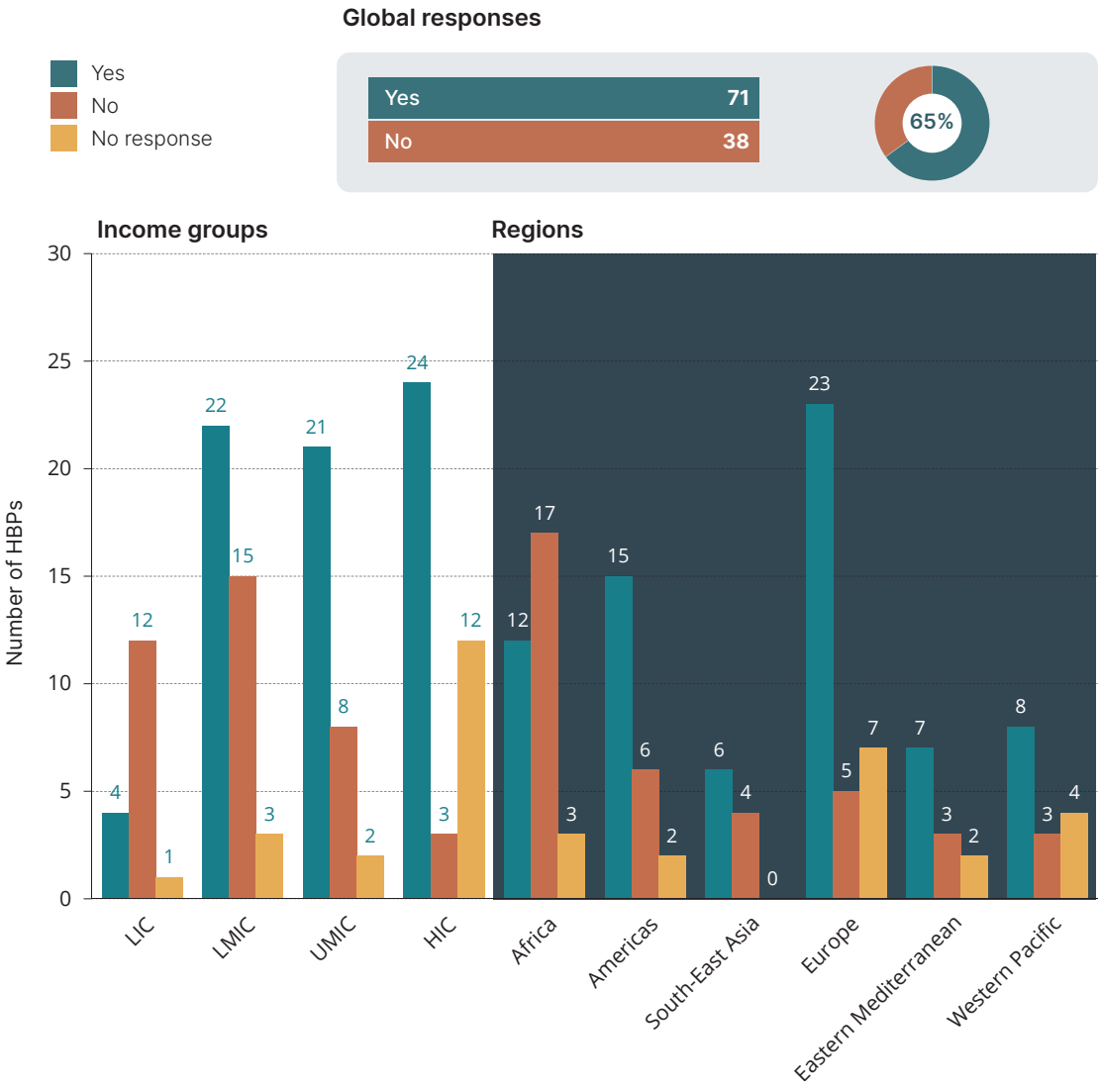
ALL treatment

Outpatient/ambulatory chemotherapy treatment using first-line agents

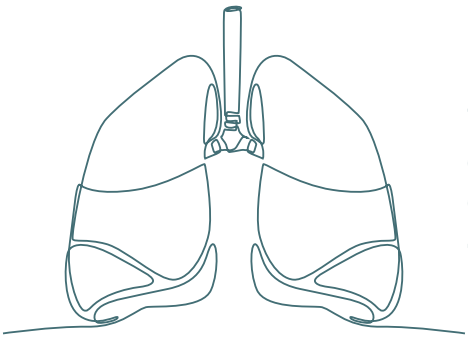
Most respondents (65%) reported the inclusion of outpatient first-line chemotherapy for treatment of ALL in their HBPs. The lowest inclusion rate (41%) was found in the African Region and the highest (82%) in the European Region.

There was a positive correlation between income groups and inclusion rates regarding outpatient chemotherapy. Only 25% of the respondents in the LIC group, more than half of those in the LMIC group (59%), and 72% of those in the UMIC group reported the inclusion of outpatient chemotherapy. The highest inclusion rate was in the HIC group (89%) (Fig. 30).

Fig. 30. Inclusion of first-line agent outpatient chemotherapy for ALL in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.



The inclusion of lung-cancer care shows the widest disparity, the rate for HIC being 4–7 times that for LIC.

Systemic treatment and protheses

Ph+ is a subtype of ALL where a mutation causes a fusion of the breakpoint cluster region protein/renal carcinoma antigen NY-REN-26 (BCR) and Abelson genes. The Ph+ subtype is accountable for approximately 5% of pediatric and 40% of adult cases of ALL. TKIs are used to target Ph+ chromosome mutation.

Hematological abnormalities (anemia, thrombocytopenia) and infiltration by migrating tumour cells can lead to potential complications in the extremities or eyes, which may require their removal and the fitting of protheses.

The survey included a question on whether testing for Ph+ chromosome mutation, treatment using TKI, and extremity/ocular prothesis was included in public-sector HBPs.

The inclusion of protheses, testing for Ph+ chromosome, and treatment using TKI ranked second lowest among all treatments covered in the cancer-related part of the survey, with only 42% of all respondents including them in their HBPs.[7]

There was a wide gap in inclusion rates for these services among the regions, from 17% in the African Region to 68% in the European Region. The maximum regional inclusion rate for these services was 68%, the lowest among all cancer-treatment interventions covered in the survey.

There was a positive correlation between income and the inclusion of the ALL treatment services in HBPs. The survey showed large jumps in inclusion rates as the income-group levels increased. The lowest inclusion rate was found in the LIC group (13%), increasing to 22% in the LMIC group, more than doubling to 55% in the UMIC group, and increasing again to 74% in the HIC group. With an inclusion rate of 74%, these treatment services – along with stem-cell transplantation – were shown to be among those least likely to be offered in HICs (Fig. 31).

Medicines used in the treatment of ALL, which were included in the survey, were asparaginase, cyclophosphamide, and mercaptopurine. The findings and trends associated with these medicines can be found in the section entitled, “Cancer Management” under “Medicines” (page 60).

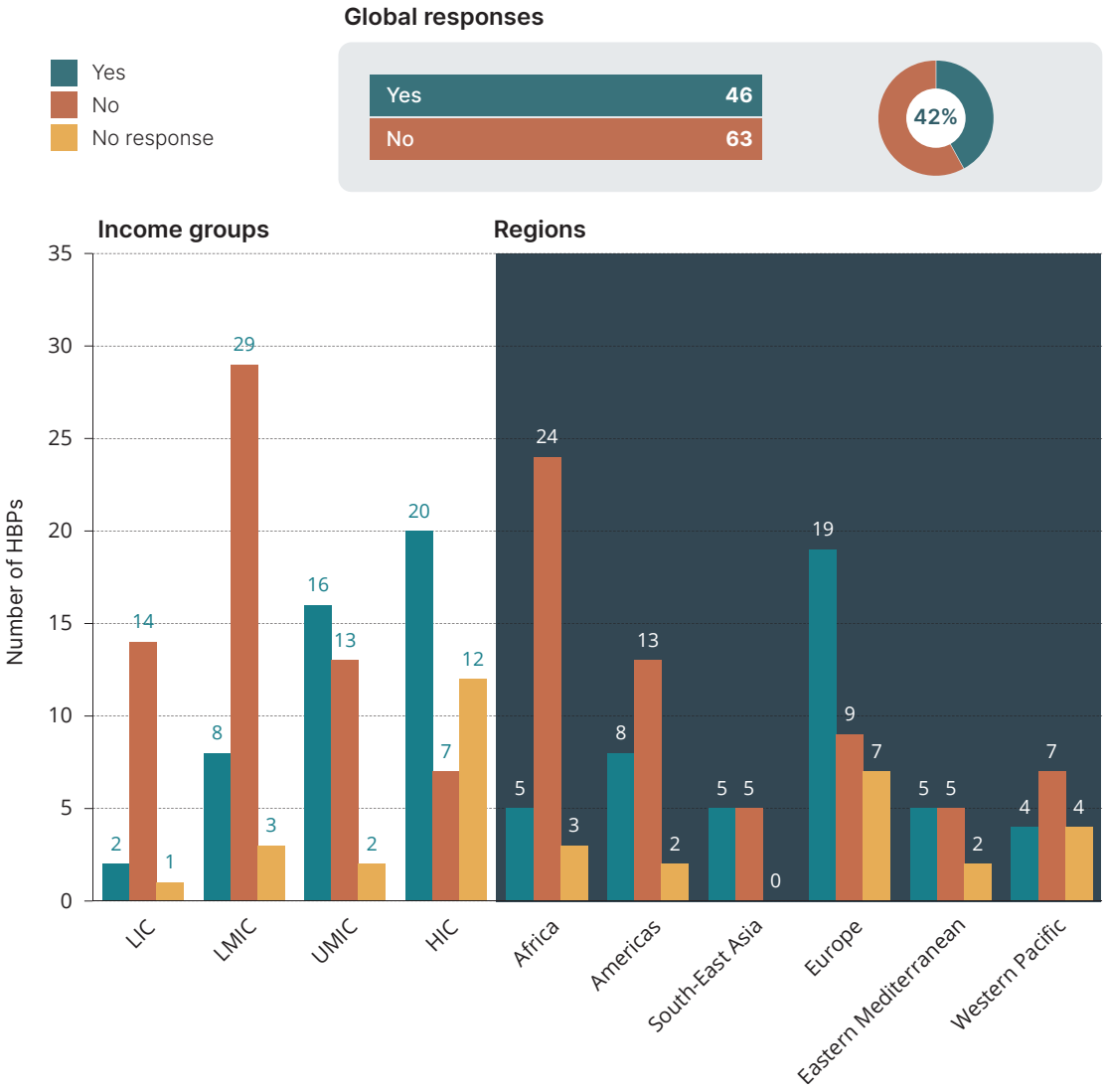
Stem-cell transplantation

Stem-cell transplantation is carried out with the objective of restoring healthy bone-marrow capacity. After treatment and conditioning, the patient is transfused with stem cells, which migrate to the bone marrow to begin producing blood cells.

According to the respondents, stem-cell transplantation was the treatment service least likely to be included in public-sector HBPs, with only 41% of countries reporting that they did so.[7] There was a wide gap between the lowest regional inclusion rate, which was found in the African Region (10%), and the highest, which was found in the European Region (75%).[7] With a 10% inclusion rate among respondents in the African Region, stem-cell transplantation had the lowest inclusion rate of any treatment service in any of the WHO regions.[7]

[7] Post-MRM breast reconstruction (40%) is considered a rehabilitative rather than a treatment service.

Fig. 31. Inclusion of Ph+ testing, TKIs, and extremity/ocular prothesis for ALL in countries' largest public-sector HBPs, by WHO region and World Bank income group



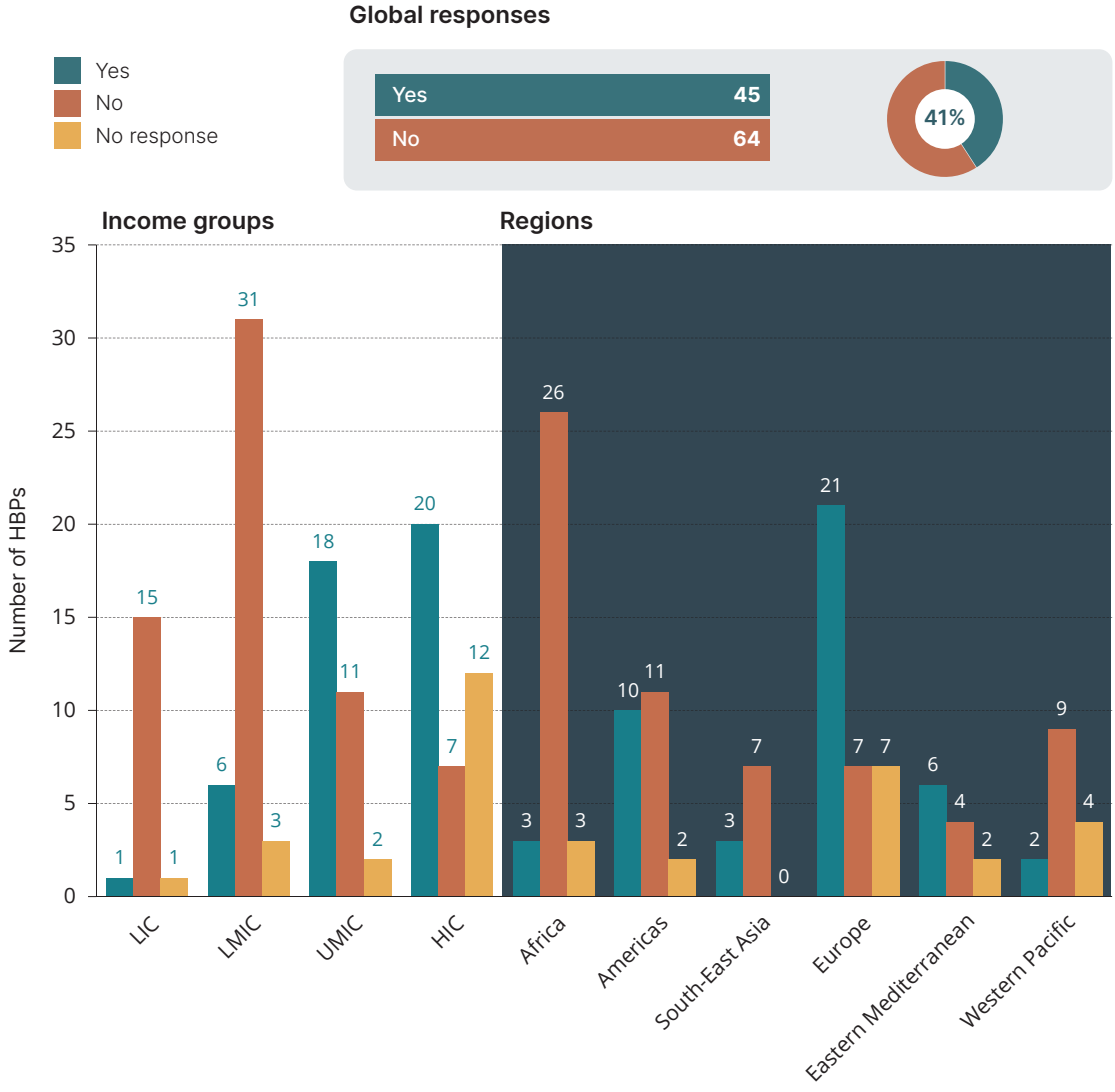
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Children with ALL are 12 times more likely to have stem cell transplantation covered in a HIC than a LIC.

Stem-cell transplantation showed a positive correlation with income. It was also the service with the widest disparity in inclusion rates between the LIC and HIC groups, which were 12 times higher in the HIC group (74%) than in the LIC group (6%). These were the lowest inclusion rates of any treatment in the LIC and HIC groups.

A 74% inclusion rate was shared with outpatient first-line chemotherapy for ALL in the HIC group. The inclusion rates for the LMIC group (16%) were below the global average (41%), while there was a large jump to those for the UMIC group (62%), which surpassed it (Fig. 32).

Fig. 32. Inclusion of stem-cell transplantation for ALL in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

3 of the 4 palliative care services were included by fewer than 50% of respondents

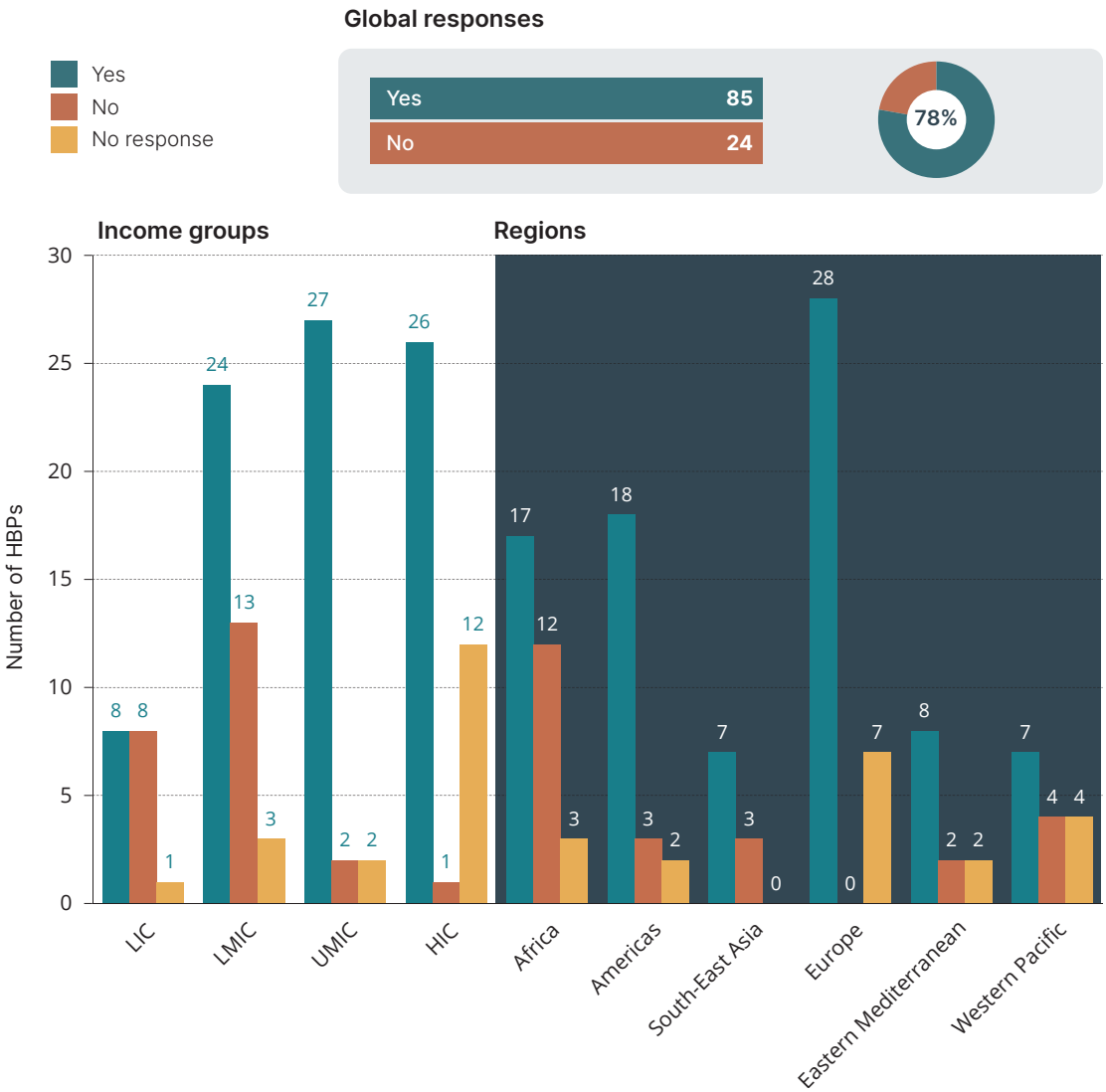
Palliative care

Morphine and other opioids

Of all the palliative services covered in the survey, the inclusion rates for morphine and other opioids in HBPs were the highest (78%), ranging from 59% in the African Region to 100% in the in the European Region (Fig. 33).

There was a positive correlation between income group and inclusion rates for morphine and other opioids in HBPs. Inclusion was lowest in the LIC group (50%), the rates for which, along with the LMIC group (65%), was below the global average (78%). The second pair, comprising the UMIC group and HIC group, had much higher inclusion rates (93% and 96%, respectively) (Fig. 34).

Fig. 33. Inclusion of morphine and other opioids in countries' largest public-sector HBPs, by WHO region and World Bank income group



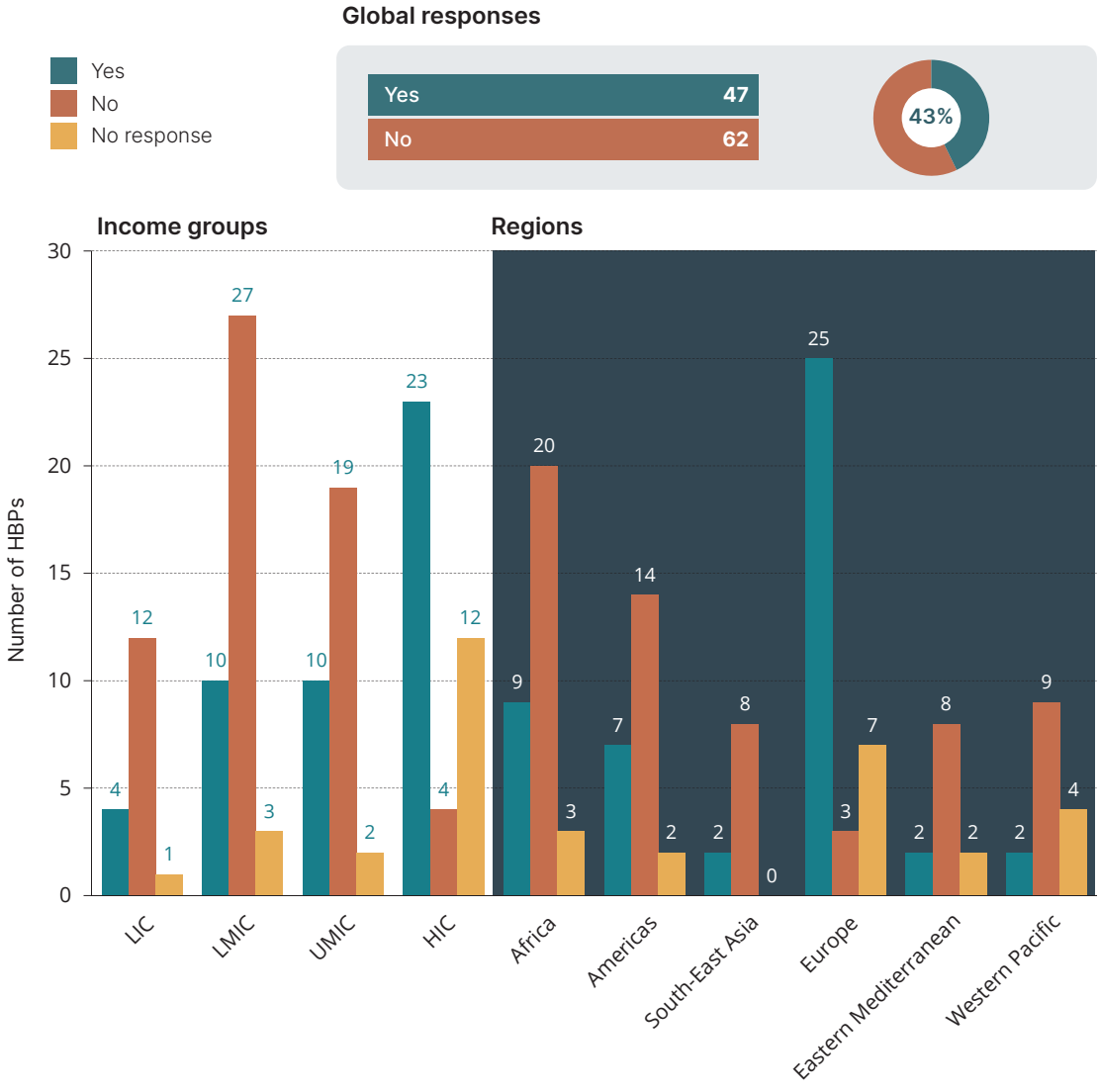
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Home-based palliative care

Home-based palliative care had the lowest inclusion rate of the four palliative-care services surveyed, with a global inclusion rate of only 43%. The lowest inclusion rate (18%) was observed in the Western Pacific Region (18%) and the highest in the European Region (89%), which – being three times higher than the next-highest inclusion rate (i.e., that for the Americas Region (33%)) – was considered an outlier.

There was a positive correlation between income group and the inclusion of home-based palliative care in HBPs. A cluster, comprising the LIC, LMIC, and UMIC groups had inclusion rates below the global average (25%, 27% and 34%, respectively). There was a massive spike to 85% in the inclusion rate for the HIC group (Fig. 34).

Fig. 34. Inclusion of home-based palliative care in contries' largest public-sector HBPs, by WHO region and World Bank income group



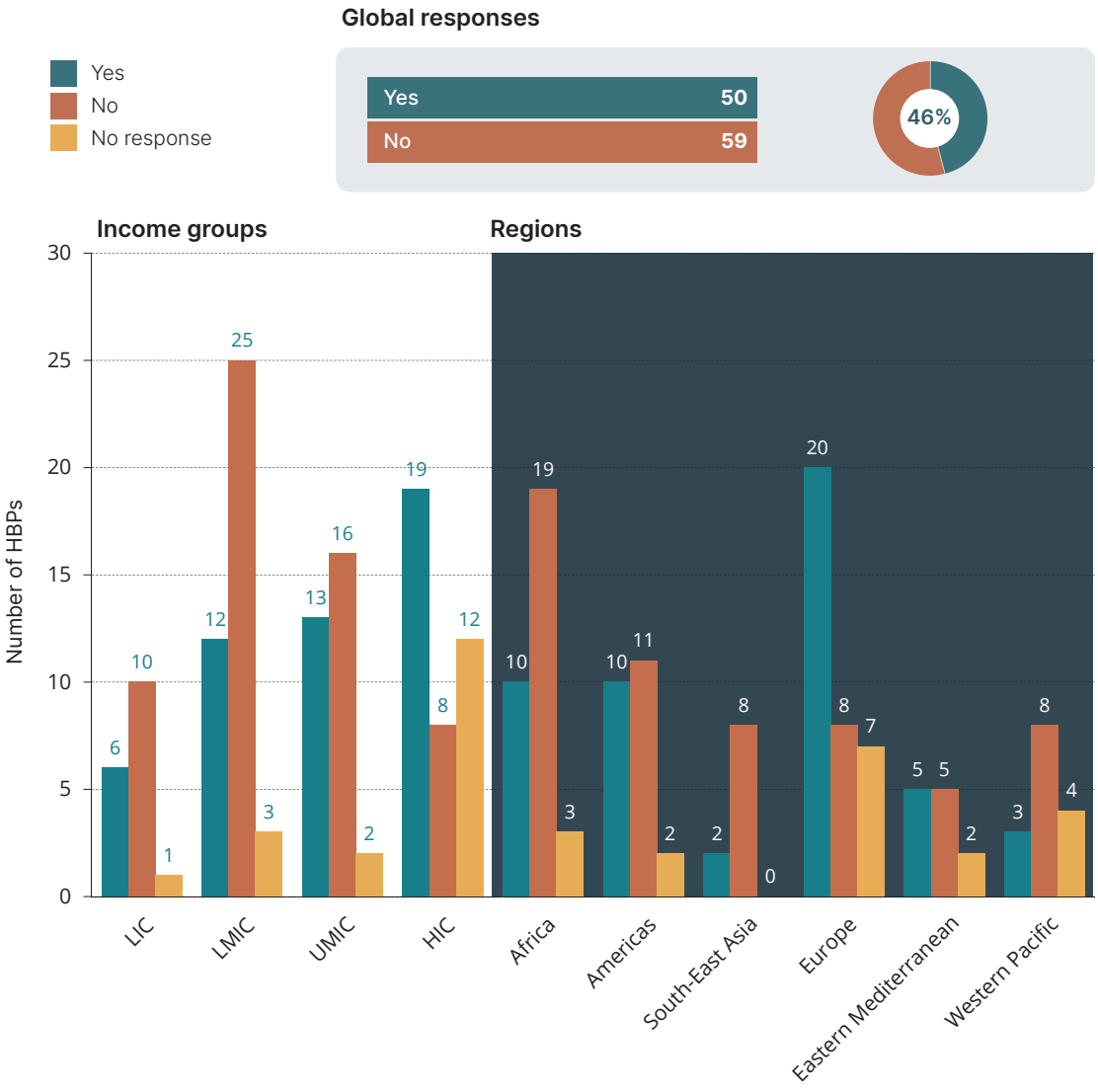
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Psychological, social, and spiritual care, including bereavement support

The inclusion rate for psychological, social, and spiritual care, including bereavement support, was 46% among all respondents, the lowest rate being reported by the South-East Asia Region (20%) and the highest by the European Region (71%).

There was a general positive trend in the income groups regarding coverage of psychological, social, and spiritual care (including bereavement support) in HBPs, except for the LMIC group where rates dipped to 32%. The LIC, LMIC and UMIC groups, with inclusion rates of 38%, 32% and 45%, respectively, formed a cluster, while the HIC group was the only group with an inclusion rate (70%) higher than the global average (Fig. 35).

Fig. 35. Inclusion of psychological, social, and spiritual care, including bereavement support, in countries' largest public-sector HBPs, by WHO region and World Bank income group



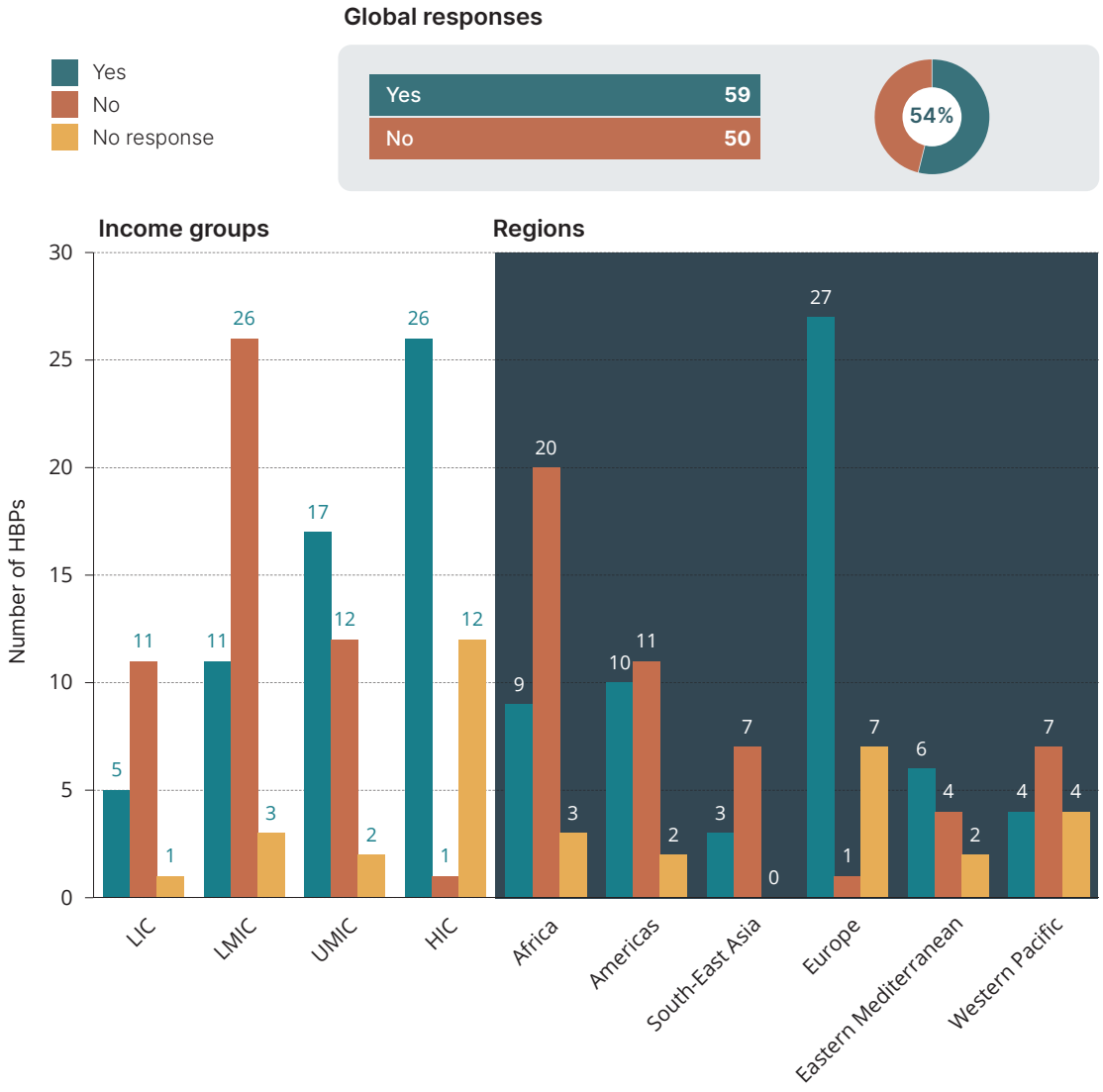
Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Inpatient hospice care

The inclusion rate for inpatient hospice care in public-sector HBPs was 54% among all respondents. The lowest rate was reported in the South-East Asia Region (30%) and the highest in the European Region (96%).

There was a general positive correlation between income groups and inclusion rates; coverage in the LIC and LMIC groups was similar (31% and 30%, respectively) and below the global average (54%), higher than the global average in the UMIC group (59%), and almost universal in the HIC group (96%) (Fig. 36).

Fig. 36. Inclusion of inpatient hospice care in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Medicines

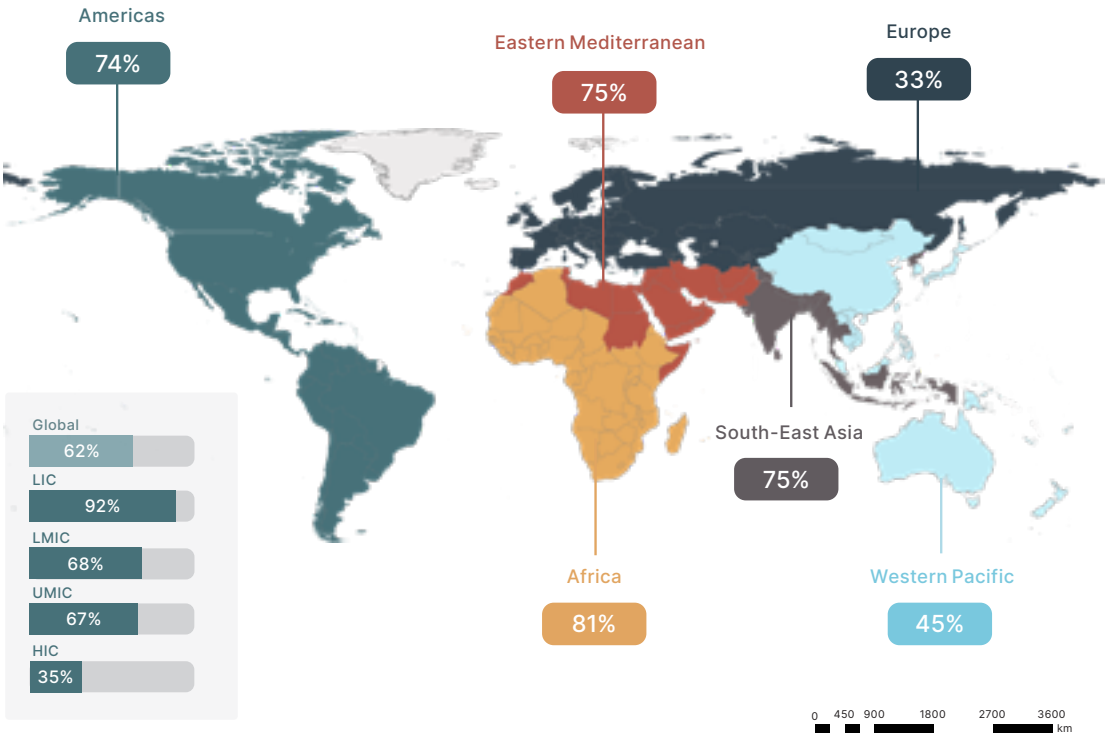
Acetylsalicylic acid (aspirin)

Aspirin is a nonsteroidal anti-inflammatory drug, a support medicine which, with its analgesic, anti-inflammatory, antipyretic, and antiplatelet properties, is used in the treatment of cancer to inhibit cyclooxygenase enzymes.

Full coverage of aspirin in HBPs was reported by 62% of all respondents, while some degree of coverage was reported by 89%. Full coverage was highest in the African Region (81%), while some degree of coverage was universal (100%) in the Americas, South-East Asia, Eastern Mediterranean and Western Pacific Regions. The lowest rates for both full and some degree of coverage of aspirin were found in the European Region (33% and 67%, respectively) (Fig. 37).

Full coverage of aspirin showed a negative correlation with income grouping. The highest inclusion rates, by a large margin, were seen in the LIC group (92%), dropping in the LMIC group (68%), remaining relatively constant in the UMIC group (67%), and dropping to almost half in the HIC group (35%). The inclusion rates for some coverage of aspirin in HBPs seemed to be relatively consistent across income groups, except for the HIC group. They were high in the LIC, LMIC, and UMIC groups (92%, 97%, and 93%, respectively). The HIC group was the only one where the inclusion rates for aspirin (73%) were below the global average. Aspirin was the only medicine covered in the survey, which was least likely to be included in HBPs in the HIC group when compared to other income groups. No respondents in the LIC group reported partial coverage of aspirin (Fig. 38).

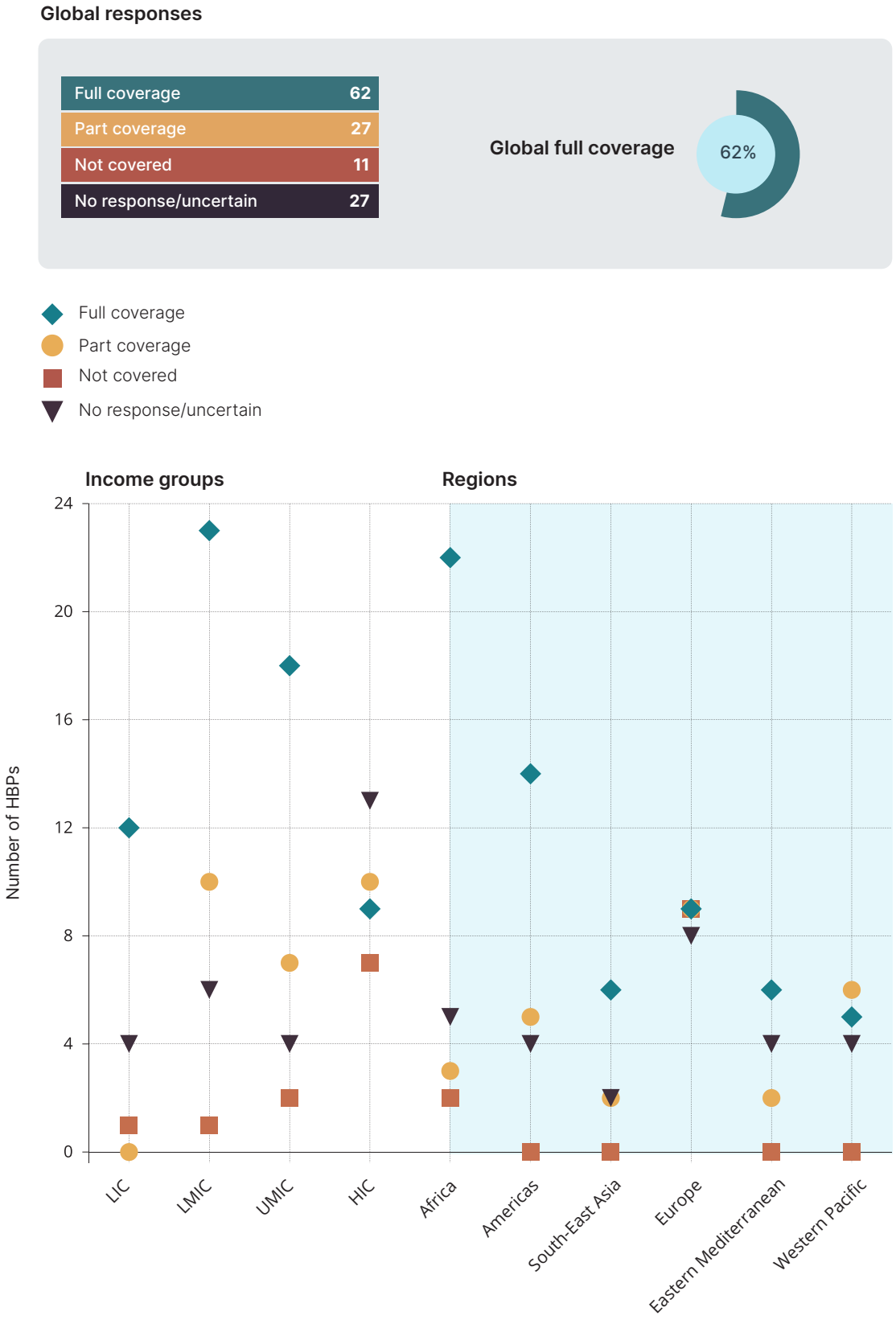
Fig. 37. Full financial coverage (%) of Acetylsalicylic acid (Aspirin) in countries' largest public-sector HBPs, by WHO region and World Bank income group.



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 38. Inclusion and financial coverage of Acetylsalicylic acid (Aspirin) in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Cisplatin

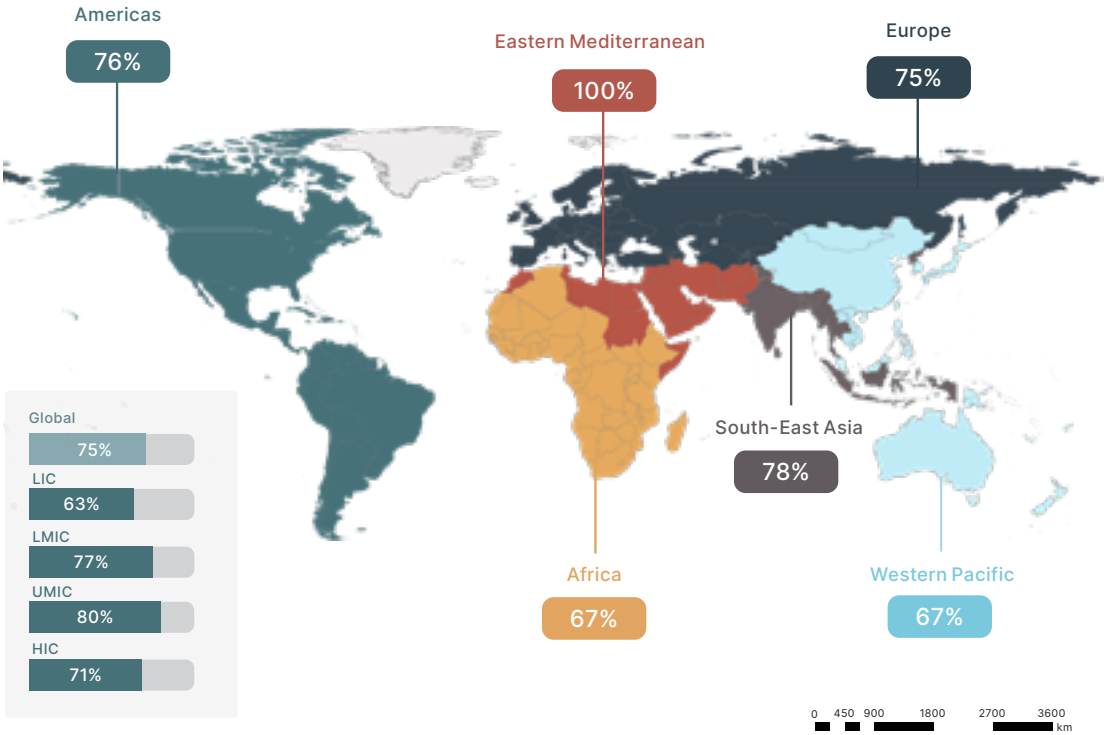
A cytotoxic alkylating agent, cisplatin acts by initiating the death of cancer cells through the formation of DNA adducts, which prevents DNA repair. It is given intravenously as part of the chemotherapy regimens for the treatment of a wide range of cancers, including those of the testicles, bladder, ovaries, and bone.

Full coverage of cisplatin in HBPs was reported by 75% of all respondents. Cisplatin was the medicine most likely to be covered to some degree by all respondent countries (93%). Full-coverage inclusion was highest among respondents in the Eastern Mediterranean Region (100%) and lowest among those in the African and Western Pacific Regions (both 67%) (Fig. 39).

All the respondents in the Americas, Eastern Mediterranean and Western Pacific Regions reported coverage of cisplatin to some degree in their HBPs. Those in the South-East Asia Region (78%) were shown to be least likely to cover cisplatin in any capacity in their largest public-sector HBPs.

There was an increase in the rates for full coverage of cisplatin across the first three income groups, the lowest being in the LIC group (63%), increasing in the LMIC group (77%) and peaking in the UMIC group (80%). A drop was seen in the HIC group (71%). A similar trend was observed when looking at the inclusion rates for some degree of coverage, which increased gradually across the LIC group (75%) and the LMIC group (88%) to peak in the UMIC group (100%), before dropping in the HIC group (95%) (Fig. 40).

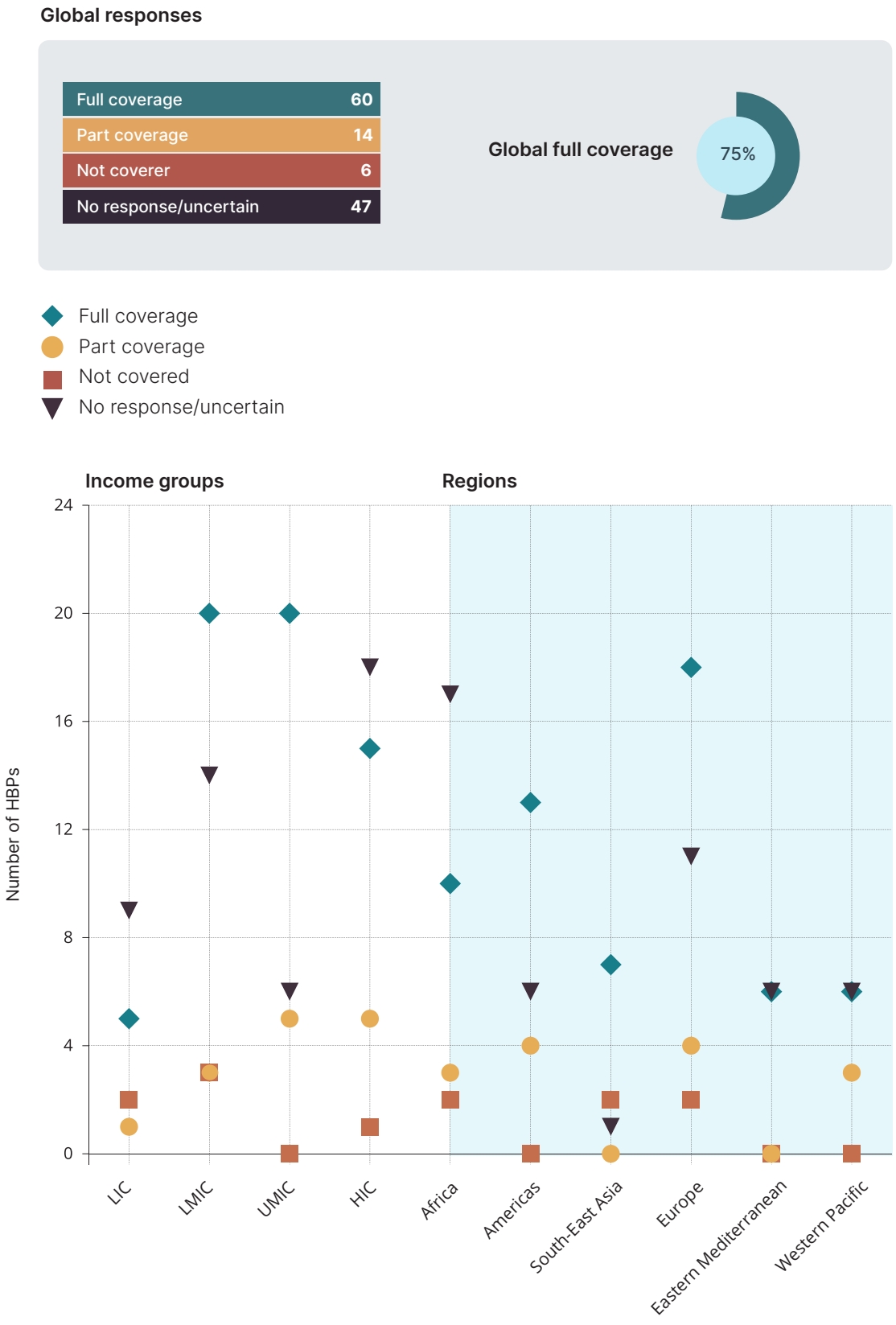
Fig. 39. Full financial coverage (%) of cisplatin in countries' largest public-sector HBPs, by WHO region and World Bank income group



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 40. Inclusion and financial coverage of cisplatin in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

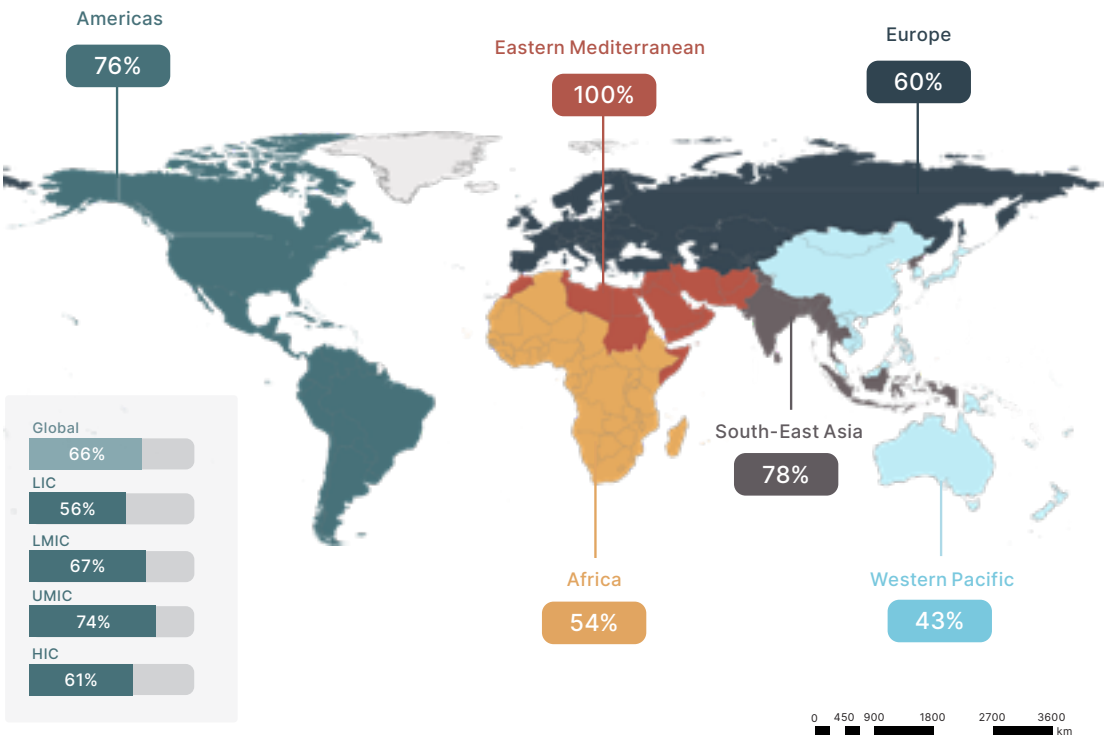
Asparaginase

A cytotoxic enzyme, asparaginase induces starvation of the essential amino acid asparagine in cancer cells by catalyzing its degradation into ammonia and aspartate. It is administered intravenously or intramuscularly to treat ALL.

Full coverage of asparaginase was reported by 66% of all countries, increasing to 82% when some degree of coverage was included. The Western Pacific Region had the lowest rate for full coverage of asparaginase (43%) and was the only region where less than half of the countries provided it. With universal coverage, the Eastern Mediterranean Region had the highest rate (100%). Coverage of asparaginase in any capacity was highest in the Americas and Eastern Mediterranean Regions with universal coverage, and lowest in the European Region (65%) (Fig. 41).

The trends for full coverage and some degree of coverage of asparaginase were similar across income groups, increasing across the first three groups and then showing a reduction in the HIC group. For full coverage, the LIC group had the lowest inclusion rate (56%), which increased in the LMIC group (67%), and peaked in the UMIC group (74%), before dropping to below the global average in the HIC group (61%). Similarly, for some degree of coverage, the LIC group had the lowest inclusion rate (67%), which increased in the LMIC group (76%), and peaked in the UMIC group (96%), before dropping to below the global average in the HIC group (78%) (Fig. 42).

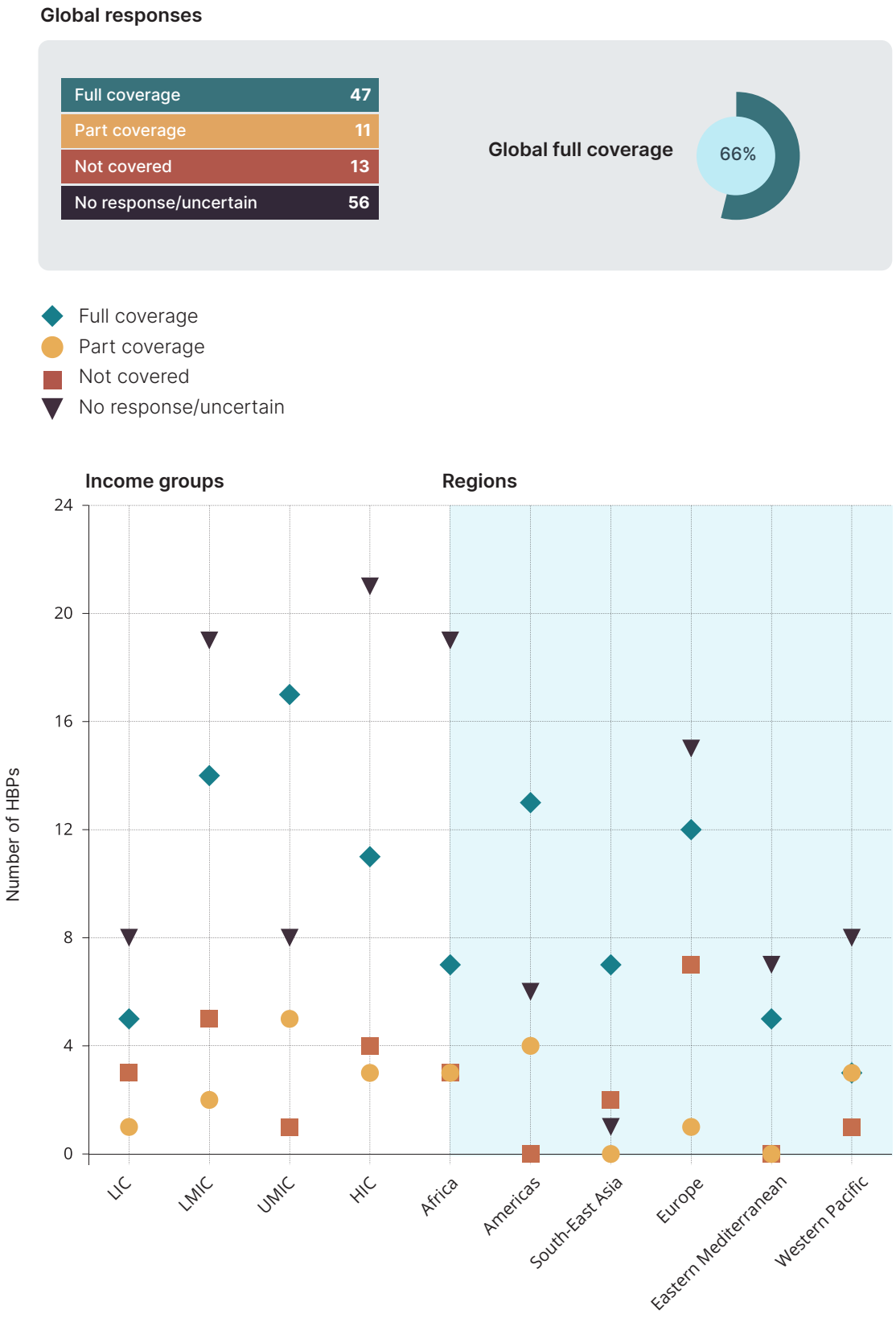
Fig. 41. Full financial coverage (%) of asparaginase in countries' largest public-sector HBPs, by WHO region and World Bank income group.



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 42. Inclusion and financial coverage of Asparaginase in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

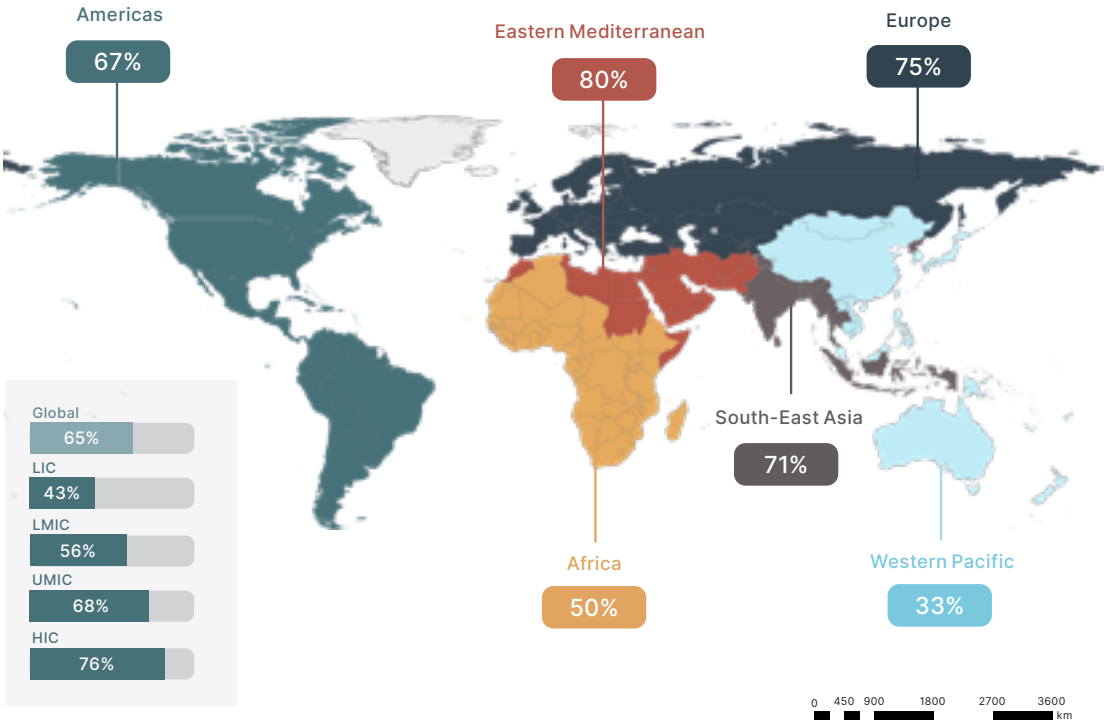
Erlotinib

A type of targeted therapy, erlotinib inhibits the tyrosine kinase activity specifically associated with EGFR, preventing phosphorylation and intracellular cascade signalling. Erlotinib is administered as an oral tablet for the treatment of NSCLC with activating mutations in the EGFR gene.

Erlotinib was reported as being fully covered by 65% of the respondent countries and covered to some degree by 79%. The highest rates for full coverage of erlotinib in HBPs were found in the Eastern Mediterranean Region (80%), and the lowest in the Western Pacific Region (33%). For some degree of coverage, the rates were highest in the European and Western Pacific Regions (both 83%), and lowest in the South-East Asia Region (71%) (Fig. 43).

The rates for full and some degree of coverage with erlotinib correlated positively with income groupings. Those for full coverage increased relatively steadily from 43% in the LIC group to 56% in the LMIC group and 68% in the UMIC group, reaching the highest inclusion rate in the HIC group (76%). The inclusion rates for some degree of coverage increased steadily from the 57% in the LIC group to 63% in the LMIC group, to 84% in the UMIC group, before reaching the highest inclusion rate in the HIC group (95%) (Fig. 44).

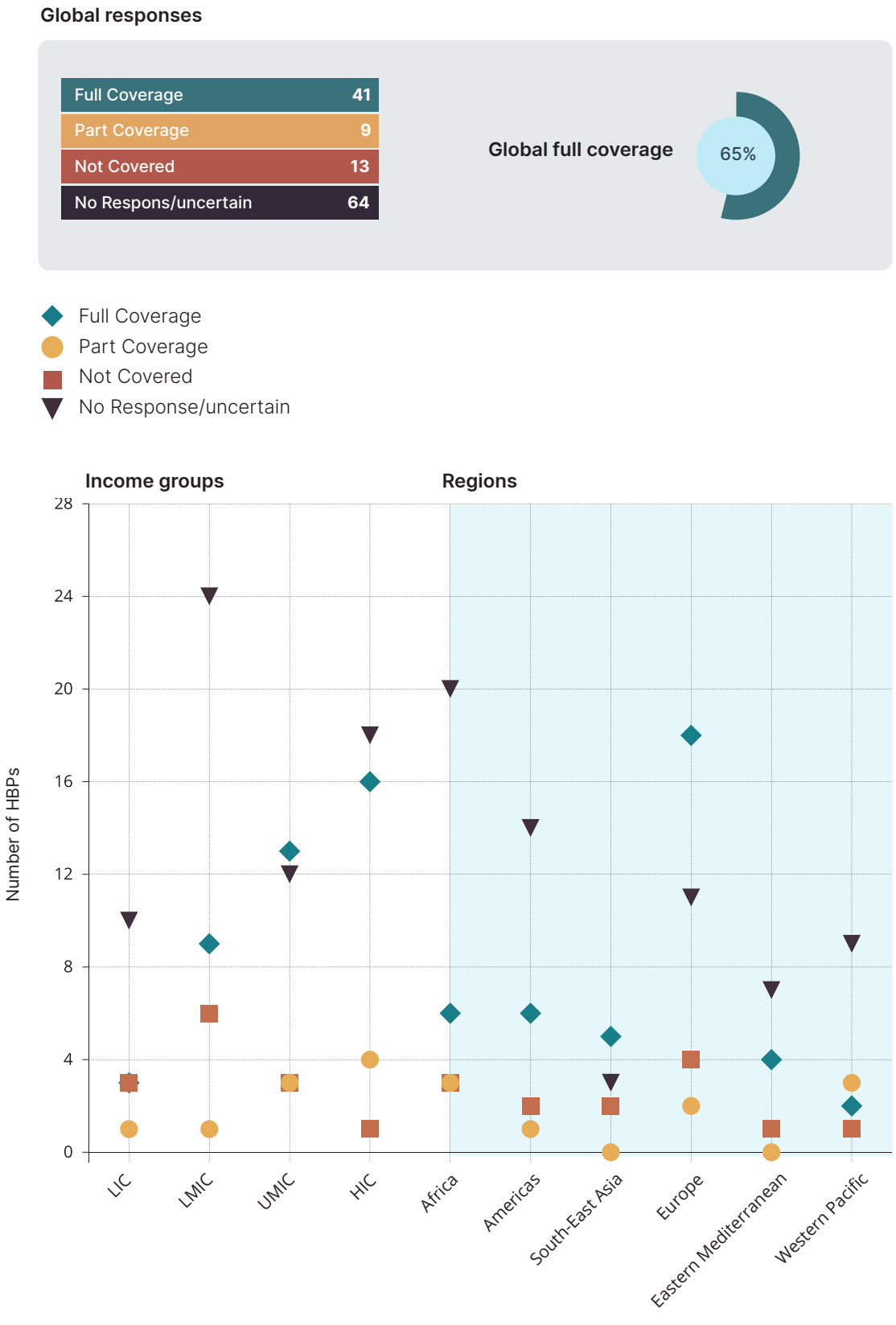
Fig. 43. Full financial coverage (%) of Erlotinib in countries' largest public-sector HBPs, by WHO region and World Bank income group.



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 44. Inclusion and financial coverage of Erlotinib in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

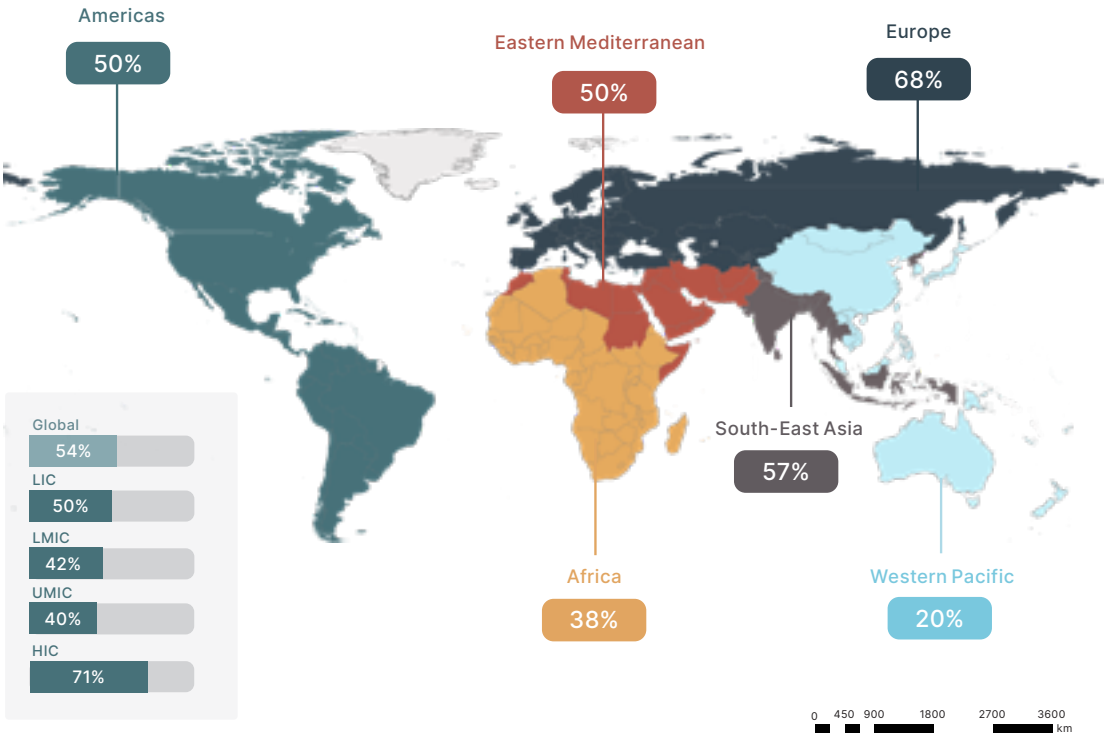
Nivolumab

As a monoclonal antibody, nivolumab is a form of immunotherapy. It inhibits the cancer from pathologically suppressing the immune system, allowing it to recognize and attack cancer cells. It is given intravenously for the treatment of NSCLC, gliomas, and pancreatic cancer.

Nivolumab was shown to be the medicine least likely to be either fully covered or covered to some degree; full coverage was indicated by only 54% of the respondent countries, and some degree of coverage by only 69%. The highest inclusion rates for full coverage were found in the European Region (68%) and the lowest in the Western Pacific Region (20%). Some degree of coverage was also highest in the European Region (82%); it was lowest in the Americas and Eastern Mediterranean Regions (both 50%) (Fig. 45).

Full coverage of nivolumab did not seem to be correlated with income grouping. A cluster was seen, comprising the LIC, LMIC, and UMIC groups (50%, 42% and 40%, respectively). The HIC group had a much higher inclusion rate (71%) and was the only income group where full coverage was indicated by most of the countries. A general positive trend appeared when looking at the correlation between income groups and some degree of coverage. The LIC and LMIC groups had the same inclusion rate (50%), which increased in the UMIC group (60%) and spiked in the HIC group (90%). No respondents from the LIC group were seen to provide some degree of coverage of Nivolumab (Fig. 46).

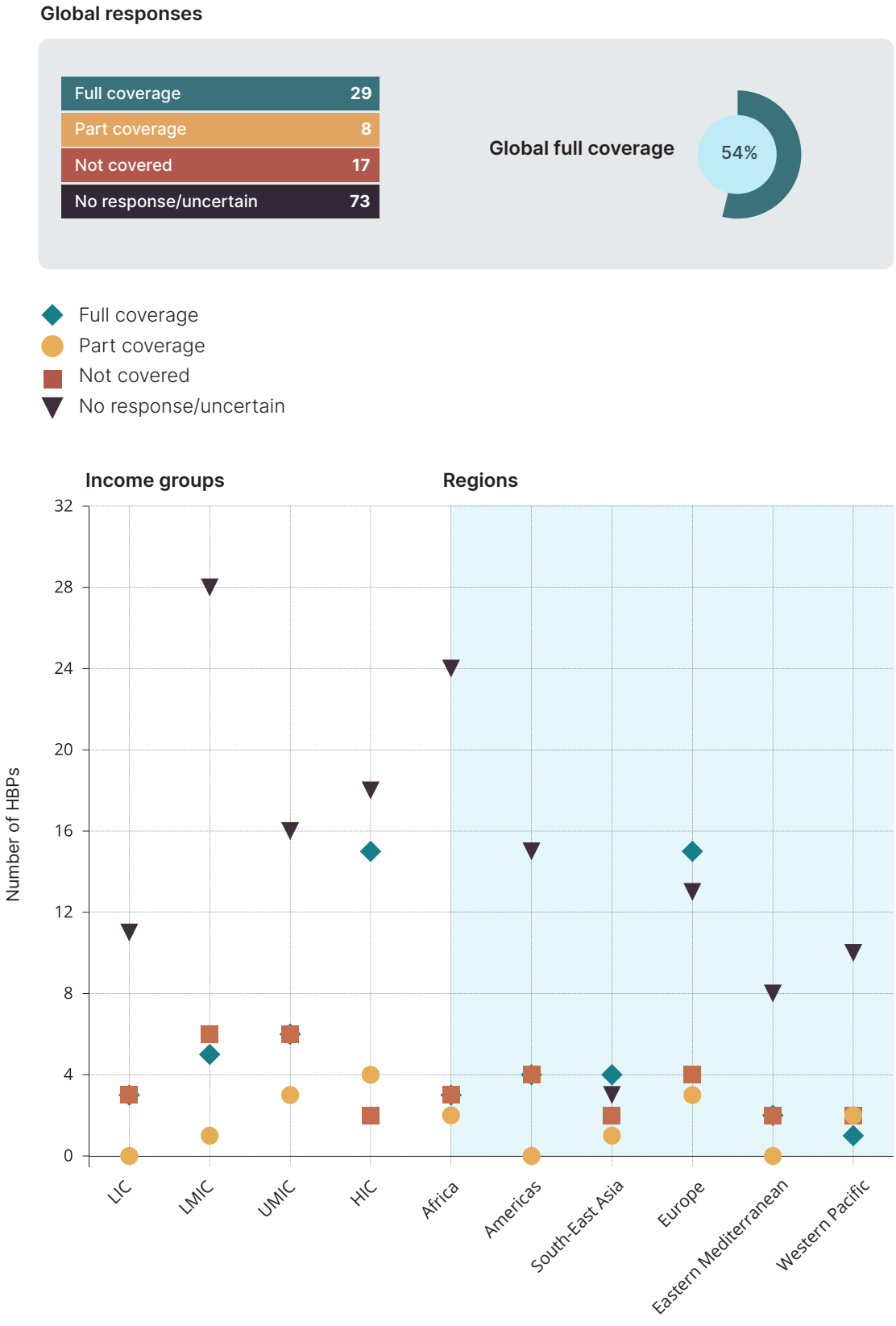
Fig. 45. Full financial coverage (%) of Nivolumab in countries' largest public-sector HBPs, by WHO region and World Bank income group



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 46. Inclusion and financial coverage of Nivolumab in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

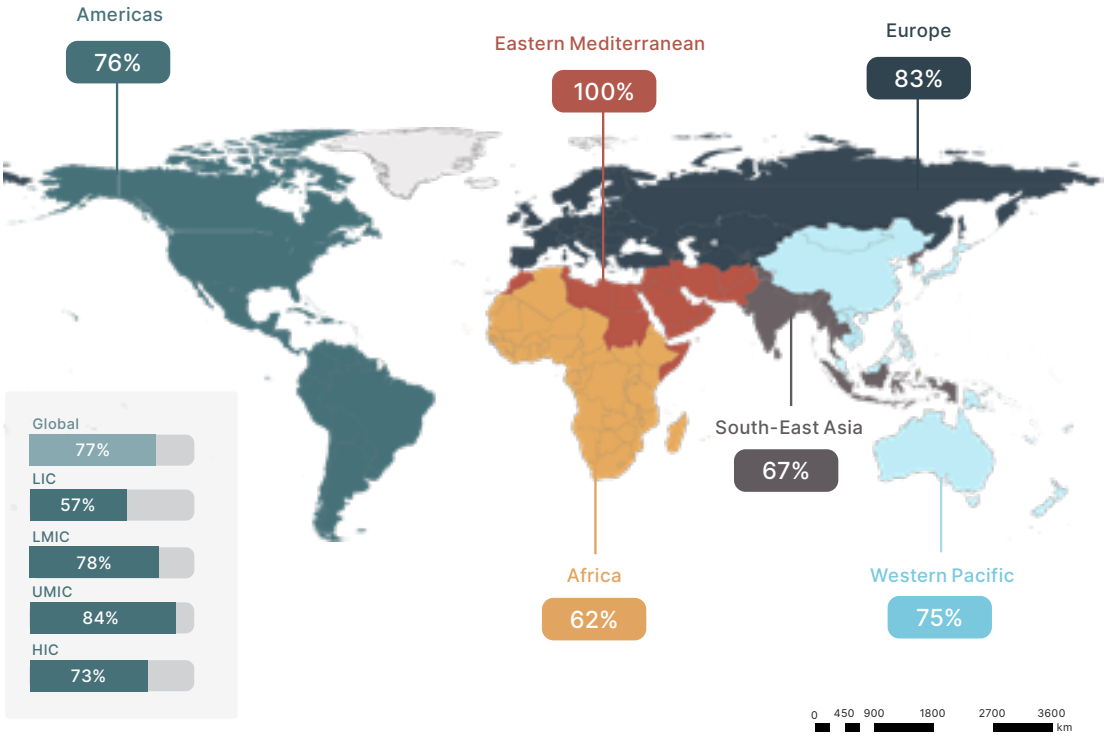
Cyclophosphamide

Another cytotoxic alkylating agent, cyclophosphamide acts by adducting DNA, similarly to cisplatin. It is used in the treatment of a wide range of malignant conditions, including breast cancer, lung cancer, ALL, and non-Hodgkin lymphoma.

With 77% of the countries indicating full coverage, cyclophosphamide was seen to share the position of the medicine most likely to be fully covered, along with mercaptopurine. Coverage of cyclophosphamide to some degree was indicated by 90% of all respondents. Full coverage was highest in the Eastern Mediterranean Region (100%) and lowest in the African Region (62%). The coverage of cyclophosphamide to some degree was universal in the Americas, Eastern Mediterranean and Western Pacific Regions (all 100%), and lowest in the African Region (77%) (Fig. 47).

For both full coverage and coverage to some degree of cyclophosphamide, the inclusion rates increased across the first three income groups and then showed a decline in the HIC group. Full coverage was seen to be lowest in the LIC group (57%), to increase in the LMIC group (78%), and the UMIC group (84%), then drop in the HIC group (73%). In the LIC group, the inclusion rates for full coverage and coverage to some degree were the same (57%), indicating that none of the LIC respondents provided partial coverage of cyclophosphamide. Coverage to some degree increased in the LMIC group (87%), while in the UMIC group coverage to some degree was 100%. The rate for some degree of coverage dropped in the HIC group (91%) (Fig. 48).

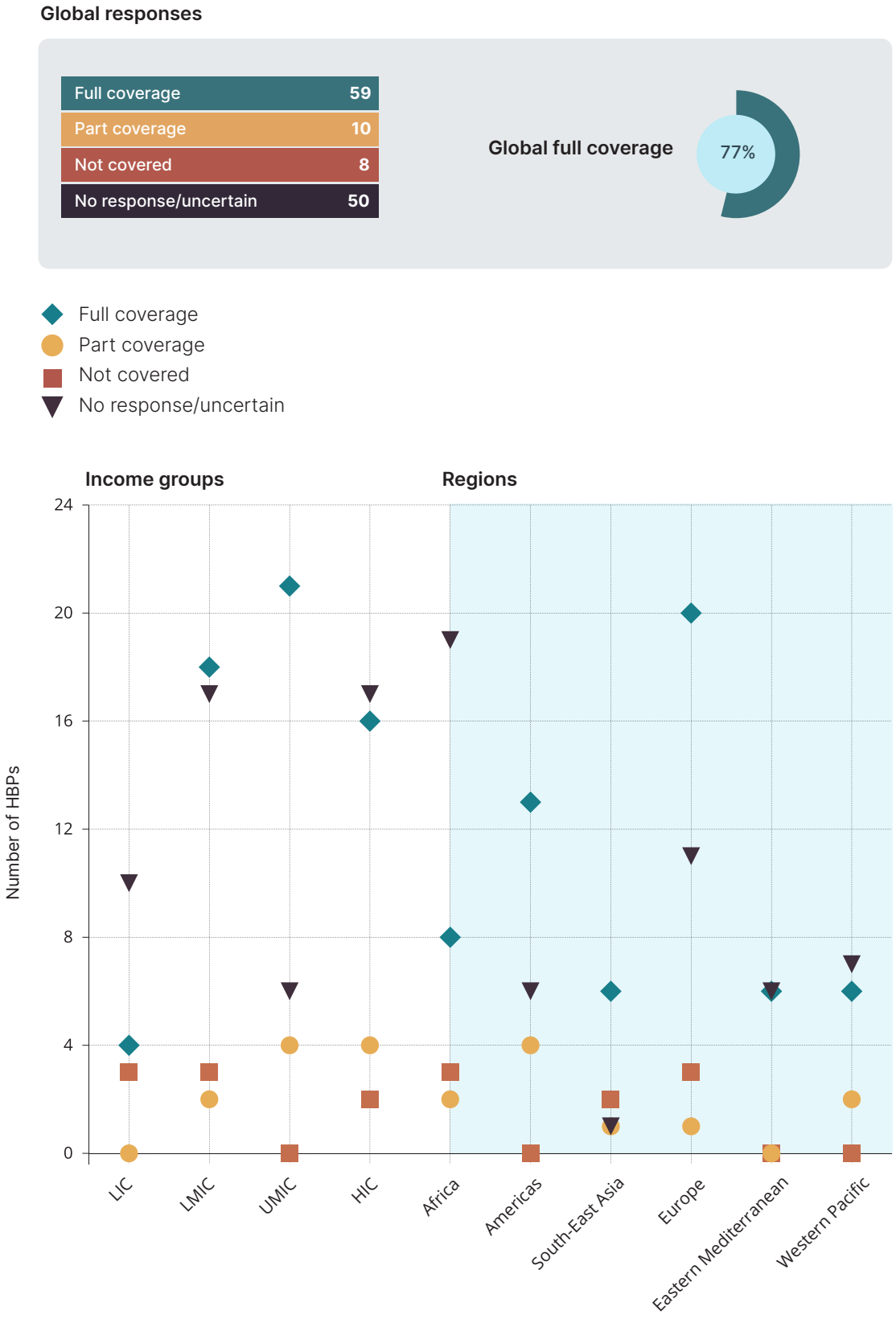
Fig. 47. Full financial coverage (%) of cyclophosphamide in countries' largest public-sector HBPs, by WHO region and World Bank income group.



World Health Organization

Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 48. Inclusion and financial coverage of cyclophosphamide in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

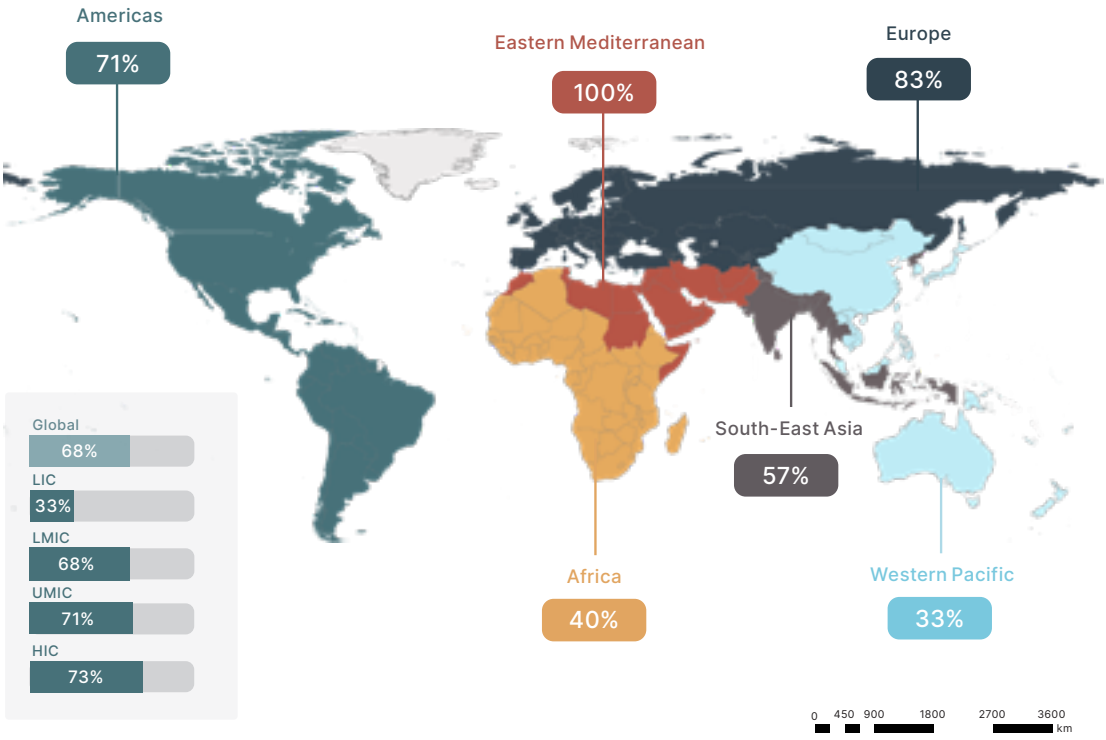
Filgrastim

Filgastrim is a support medicine used to treat neutropenia, which may develop during cancer treatment. It does so by stimulating the production and maturation of neutrophils by binding itself to the granulocyte-colony stimulating factor (G-CSF) receptor. It is administered intravenously or subcutaneously.

Filgrastim was reported by 68% of the respondents as being fully covered in HBPs, and by 85% to be covered to some degree. The highest rates of full coverage were found in the Eastern-Mediterranean Region (100%) and the lowest in the Western Pacific Region (33%). Coverage to some degree was highest in the Eastern Mediterranean Region (100%) and lowest in the African Region (60%).

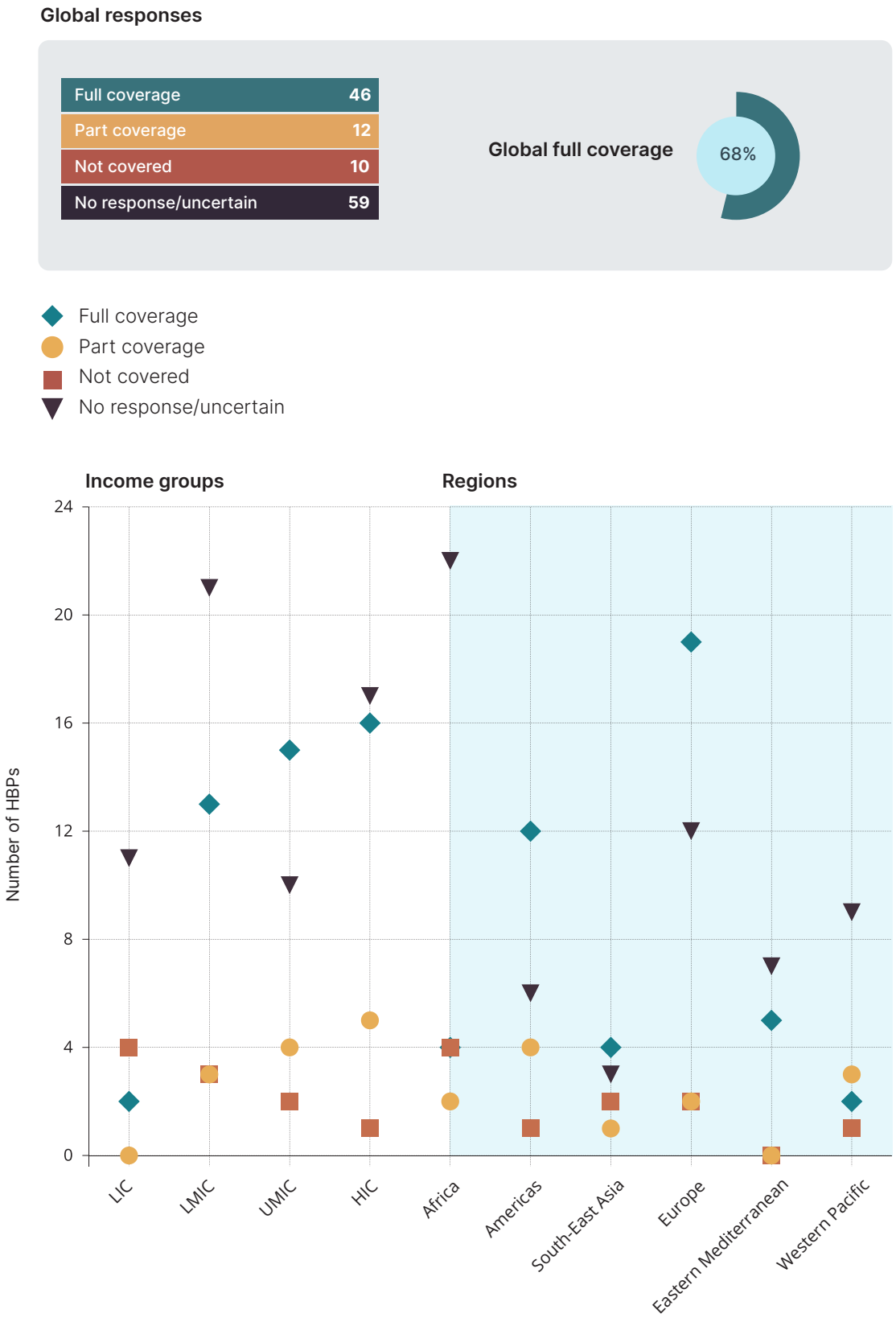
There was a positive trend between income group and the inclusion rates for full coverage or some degree of coverage of filgrastim. The rates for full and some degree of coverage were constant in the LIC group (33%), indicating that no respondents in this group included partial coverage. With respect to both full and some degree of coverage, the LIC group was an outlier, with inclusion rates far below those in other groups. The rates for full coverage in the LMIC group (68%) were more than double those in the LIC group; those in the UMIC and HIC groups (71% and 73%, respectively) were slightly higher (Fig. 49). The inclusion rates for some degree of coverage showed an even greater gap between the LIC and LMIC groups (84%), and they continued to show a steady increase in the UMIC and HIC groups (90% and 95%, respectively) (Fig. 50).

Fig. 49. Full financial coverage (%) of filgrastim in countries' largest public-sector HBPs, by WHO region and World Bank income group.



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 50. Inclusion and financial coverage of filgrastim in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

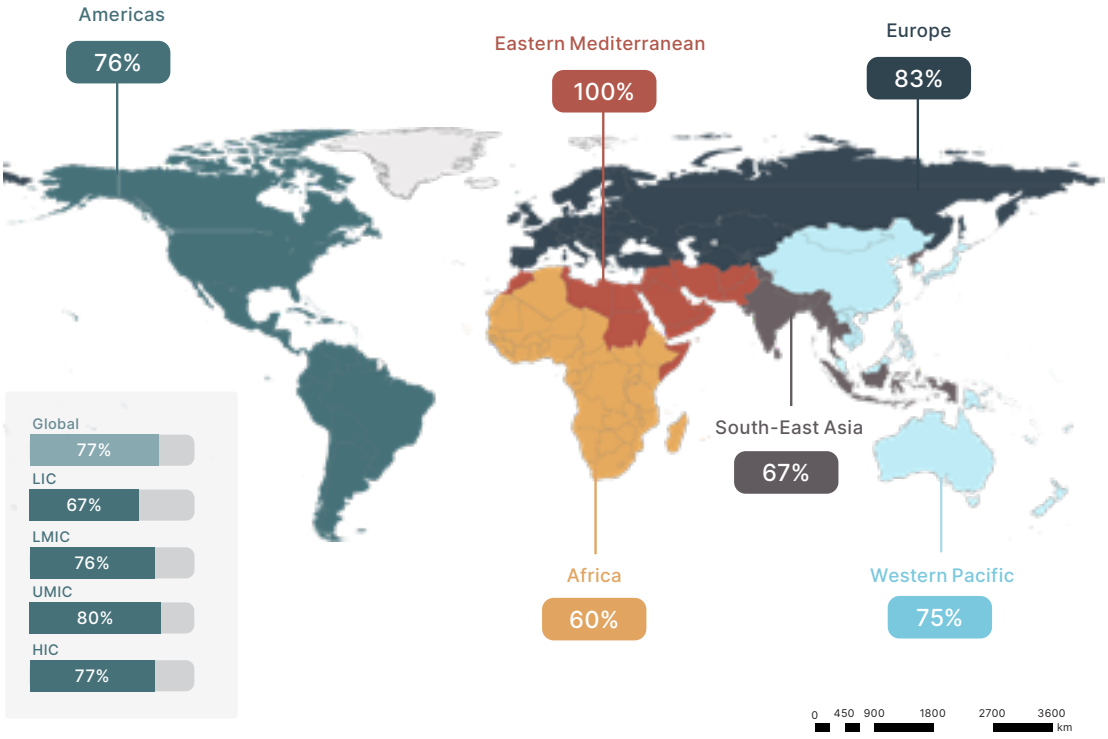
Mercaptopurine

Mercaptopurine is an antiproliferative purine antagonist, which inhibits the production of purine nucleotides and limits DNA synthesis. It is taken orally in tablet form as part of ALL treatment.

As with cyclophosphamide, mercaptopurine had the greatest likelihood of being fully covered in HBPs (77%). Coverage to some degree was indicated by 91% of the respondents globally. The inclusion rates for full coverage were highest in the Eastern Mediterranean Region (100%) and lowest in the African Region (60%). Respondents in the Eastern Mediterranean (100%) and Western Pacific Regions (100%) reported universal coverage of mercaptopurine to some degree in their HBPs. Coverage to some degree was lowest in the South-East Asia Region (78%).

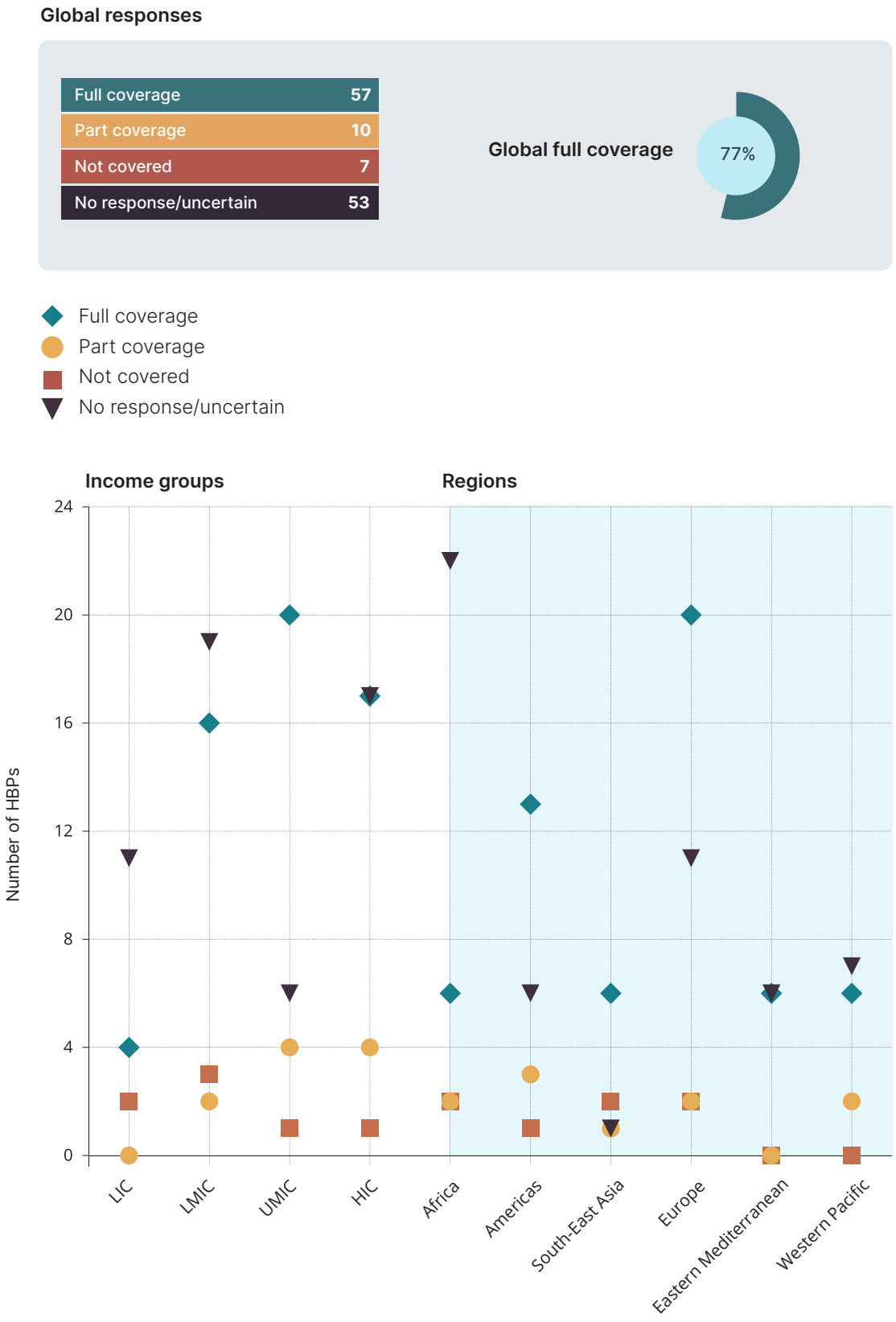
There was a general positive correlation between income group and the rates for full coverage of mercaptopurine in the first three groups: 67% in the LIC group (lowest), and 76% and 80%, respectively, in the LMIC and UMIC groups. The rate for full coverage in the HIC group was 77% (Fig. 51). The same applied to the inclusion of mercaptopurine to some degree: 67% in the LIC group (lowest) with no countries offering partial coverage, 86% in the LMIC group, and 96% and 95%, respectively in the UMIC and HIC groups (Fig. 52).

Fig. 51. Full financial coverage (%) of mercaptopurine in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Fig. 52. Inclusion and financial coverage of mercaptopurine in countries' largest public-sector HBPs, by WHO region and World Bank income group



Notes: LIC = low-income country, LMIC = lower-middle income country, UMIC = upper-middle income country, HIC = high income country.

Conclusions

There are three immediate opportunities for improving the scope and impact of HBP development.

The first opportunity relates to focusing more on prioritization and ensuring the best use of the limited resources available to produce the greatest health gains. Currently, there is evidence of a lag in the adoption of WHO global recommendations on cancer and palliative care in HBP. This is seen by the large proportion of LIC and LMIC countries (50% and 65%, respectively) that reported the inclusion of mammographic breast-cancer screening in their largest public-sector HBPs, which is not supported by current WHO recommendations, while inclusion of essential palliative-care services remains low. Several factors may constrain priority setting among cancer-care services in HBP, including but not limited to the availability of the technical capacity to deliver the priority services, and to their cultural or social acceptability, or alignment with wider health or political priorities.

The second opportunity involves providing coverage for a combination of similar services that share resources. For example, only 33% of LICs and 80% of LMICs that include breast or cervical surgery include lung surgery as well. These may be favorable areas in which to target capacity-building through the inclusion in HBPs of combinations of services, as the infrastructure, equipment and skilled personnel needed for all of them are probably the same. As a result, the provision of training and equipment may be enough to expand care services at a lower cost and in a shorter time.

The third opportunity would be to focus more on policy coherence (e.g., screening needs to include diagnosis and treatment) and adapt interventions to current best practice (e.g., by using HPV testing rather than VIA testing). Globally, 76% of the countries that screen for cervical cancer continue to provide both HPV and VIA testing. When only one test is included, there is strong preference for VIA. In the UMIC and LMIC groups, the inclusion of VIA testing in HBPs was four and seven times more, respectively, than HPV testing, and none of the countries in the LIC group offered coverage for HPV testing only.

The findings highlighted in this report identify some of the critical challenges and disparities that exist in cancer care globally. As more countries advance toward the shared goal of UHC and the reduction of premature mortality, it necessary that cancer-care services be progressively included in public-sector HBPs. Doing so could act as a strong signal of the countries' intentions to provide comprehensive HBPs for their citizens and beneficiaries. It could also rally stakeholders and implementing partners to work together towards providing these services and reducing inequalities. Such strategic investments can deliver on the full potential of better cancer outcomes for all.

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Annex. Section of the health-benefits survey questionnaire related to cancer, palliative care and medicines

139 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Cancer screening

Cervical cancer screening with VIA	Cervical cancer screening with HPV test	Screening mammography for breast cancer	Screening FIT, FOBT or endoscopy for colorectal cancer
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

140 Please add your comment in the box below

Please write your answer here:

141 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Breast cancer

Modified radical mastectomy	Trastuzumab for adiuvant or metastatic breast cancer, (HER2 testing + treatment)	Radiotherapy for breast conservation	Breast reconstruction after mastectomy
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

142 Please add your comment in the box below

Please write your answer here:

143 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Cervical cancer

Radical hysterectomy	Radiotherapy (including brachyterapy for curative cervical cancer	Advanced radiotherapy technique (IMRT, IGRT, image-guided brachyterapy	PET/CT for staging of cervical cancer
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

144 Please add your comment in the box below

Please write your answer here:

145 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Lung cancer

Surgery for lung cancer (wedge, resection, lobesctomy)	Adjuvant radiotherapy for lung cancer	Targeted therapy (EGFR mutation inhibitor) for metastatic lungs, cancer (EGFR testing + treatment)	Immuno-therapy for metastatic lung cancer
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

146 Please add your comment in the box below

Please write your answer here:

147 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Acute lymphoid leukemia

Immunohistoric staining for morphologic diagnos of childhood cancers	Outpatient (ambulatory) chemotherapy (for less intensive treatment phases), (First line agents for ALL)	Extremity/ocular prostheses TKI for +Ph ALL (testing + treatment)	Stem cell transplantation
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

148 Please add your comment in the box below

Please write your answer here:

123 For the listed condition group, kindly indicate which of the interventions are covered in the health benefit package for the identified scheme. Please check all that apply.

Lung cancer

Morphine and other opioids	Home based palliative care	Psychological, social and spiritual care including breavement support	Inpatient hospice care
☐	☐	☐	☐

- Select all the interventions that are included in your benefit package.
- If possible, please list any relevant coverage conditions/medical indications in the comment box provided

124 Please add your comment in the box below

Please write your answer here:

Medicines

	Fully covered	Partially covered	Not covered	Uncertain
Misoprostol	◯	◯	◯	◯
Combinations of mifepristone and misoprostol, including individualor combipack presentations	◯	◯	◯	◯
Fluconazole and Nystatin	◯	◯	◯	◯
Levothyroxine	◯	◯	◯	◯
Cisplatin	◯	◯	◯	◯
Asparaginase	◯	◯	◯	◯
Erlotinib	◯	◯	◯	◯
Nivolumab	◯	◯	◯	◯
Cyclophosphamide	◯	◯	◯	◯
Filgastrim	◯	◯	◯	◯
Mercaptopurine	◯	◯	◯	◯

- Fully covered - The medication is covered in the health benefit package and provided free at point of care.
- Partially covered - The medication is covered in the health benefit package with a cost sharing mechanism such as a co-payment* or co-insurance*
- Not covered- The medication is not covered in the health benefit package

Final Comments and Authorization

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