

Global Summary Brief

# Oncology Financing: Key Findings from a Landscaping of Public Financing for Cancer Across Six Countries

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BREAKING NEW GROUND

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## EXECUTIVE SUMMARY

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### Context

- **Cancer is a growing contributor to the global disease burden, with cases projected to increase as populations age and average life expectancy increases around the world.** Cancer is the second most common cause of death in high-income countries (HIC) and is becoming a pressing concern in low and middle-income countries (LMIC).<sup>i</sup>
- **The “silver tsunami of cancer,” a phrase coined by researchers in the United States, is a poignant metaphor for the challenges that many health systems will face in terms of managing higher caseloads and the health needs of survivors, many of whom will also have costly and complex co-morbidities.**<sup>ii</sup> Countries must grapple with how to finance equitable access to new and innovative – and often costly – cancer therapies while also ensuring sufficient funding for prevention programs, integrated care models, and palliative and rehabilitative care.
- **This brief summarizes findings from six country profiles studying the oncology financing situation in Argentina, Brazil, the Philippines, Serbia, Spain, and Sweden.** This brief and the profiles offer insights into how health systems can sustainably and equitably leverage public sector resources to provide comprehensive and high-quality oncology care, including access to new technologies and therapies.

### Oncology Financing Situation

- **Oncology financing patterns do not necessarily reflect income level or level of overall health spending.** Sweden is a high-income country that spends relatively generously on health overall (11% of GDP in 2018), yet cancer-specific expenditures account for only 3.7% of total health expenditures. In the same year, Spain spent around 8.9% of GDP on health and 4.9% on cancer costs.<sup>iii</sup>
- **Public funding for oncology care is insufficient in the countries we studied, with decentralization creating fragmentation along the oncology continuum, contributing to equity gaps in access and outcomes.**
  - In the Philippines, only 40% of cancer care is publicly funded, with the rest covered by out-of-pocket payments and voluntary insurance.
  - In Brazil, equity in the delivery of oncology services is under pressure as differences in local resources and purchasing arrangements are significant, with the health care delivery system being increasingly reliant on state and local revenue-raising capacity.
  - In both Spain and Sweden, regional responsibility for health care is a challenge in governance and nation-wide implementation of cancer strategies, guidelines, new cost-effective therapies, and clinical practices.
  - In Argentina, fragmented financing impacts uncoordinated health information management, high administrative costs, duplication of health service functions in one area and lack in another, and access gaps between wealthier urban provinces and poorer, rural areas.

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## Oncology Financing Challenges

- **The six country profiles illustrate several challenges: insufficient budget headroom for innovative oncology technologies; the need to optimize the whole health system's oncology continuum; lack of adequate data to support informed decision-making; and lack of interoperability and coordination across national, regional, and local levels.**
  - **Across the profiles, we found that there is a lack of country-based evidence supporting the need for increased budget headroom for cancer.** If funds are mobilized and spent on increasing investment in evidence generation for cancer decision-making, such as data collection and information management, the political decision needed to increase investment in cancer may be more achievable.
  - **There is an imminent need to optimize health systems to ensure that allocated funds generate the best possible outcome for the patients.** Countries would benefit from updating purchasing and procurement systems, modernizing reimbursement procedures, and investing in integrated health information management systems that align to global best practices in value-driven health care delivery.
  - **How a country approaches health system governance directly impacts oncology care.** The profiles found that the decision of centralized versus decentralized organization comes with both challenges and opportunities and must occasionally be evaluated and potentially adjusted based on optimal care delivery for patients.

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## Oncology Financing Opportunities

- **Countries should increase investment in prevention and early detection to reduce avoidable morbidity and mortality and improve survival rates.** Accelerating rollouts of updated and new treatment protocols and rapid access to medicine in clinical practice also provides considerable gains in cancer survival.
  - **Shifting to innovative oncology treatment has both health and economic benefits, reducing duration of illness and productivity losses.** Governments can ensure swift and adequate access by applying health technology assessment frameworks and regulations that support the rational use of resources while also increasing overall resources for integrated oncology care.
  - **At the clinical level, greater provider autonomy and flexibility can increase efficiency and patient-centered cancer care.** Greater flexibility and autonomy for clinical managers will potentially enable more rational use of funds, allowing for potential reallocation to underfunded areas like rehabilitation or palliative care.
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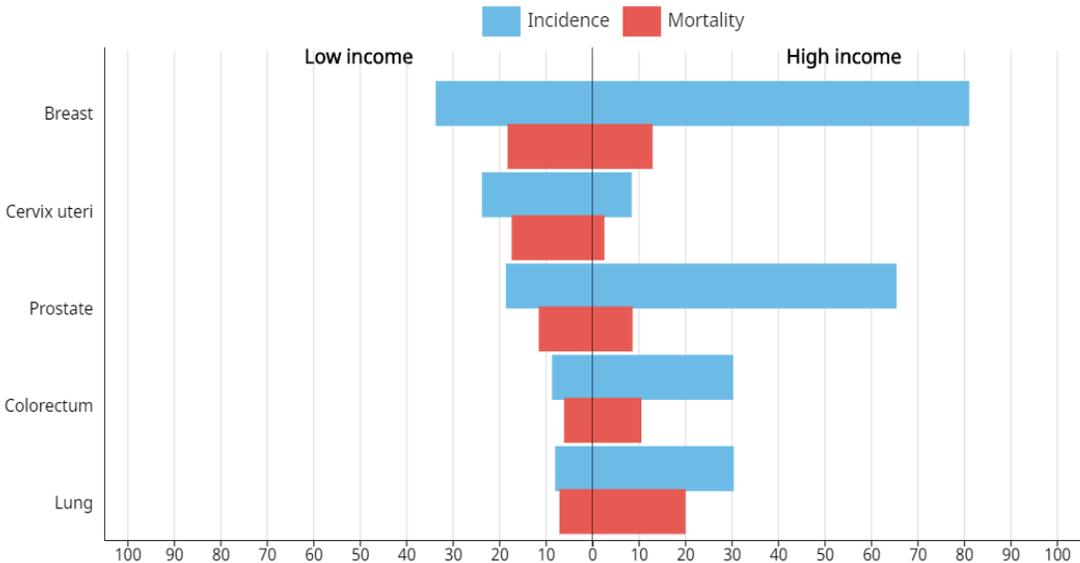
# OVERVIEW

This brief offers a global perspective on how health systems can sustainably and equitably leverage public sector resources to provide comprehensive and high-quality oncology care, including access to new technologies and therapies. It draws on a landscape review of oncology financing experiences in six countries around the world: Argentina, Brazil, Philippines, Serbia, Spain, and Sweden. The country profiles were developed by health systems experts and informed by interviews with over 100 clinical specialists, researchers, patient advocates, and policymakers in the oncology field. The brief can be used to inform the policy dialogue on how public financing for oncology can be used more effectively and efficiently, and how equity challenges might be addressed.

The total burden of cancer globally is expected to increase from 19.3 million new cases in 2020 to 30.2 million in 2040 (56%), and from 10.0 to 16.3 million deaths (63%) in the same time span.<sup>iv</sup> While total cancer incidence in HICs is expected to increase by 29.5% by 2040, the rise is projected to be almost double that rate (68.4%) in LMICs, a function of population and epidemiological dynamics. Many HICs are facing a future of net population decline with a higher proportion of individuals in the 65+ years age bracket. On the other end of the income spectrum, low-income countries (LICs) and LMICs are both expanding in population size and experiencing overall longer average life expectancies, creating a scenario under which cancer burdens are likely to increase significantly.<sup>v</sup>

Wide differences in resource availability and policy prioritization influence how effectively countries approach cancer control. Cervical cancer deaths have dramatically fallen in HICs over recent years thanks to wide access to human papillomavirus (HPV) vaccines and national screening and secondary prevention programs. Despite being highly preventable, cervical cancer is a major killer in LICs where access to prevention tools is low due to resource availability and limited policy attention.<sup>vi</sup> Estimated breast cancer incidence in LICs is almost 2.5 times lower than in HICs, but mortality rates per case are much higher (Figure 1).

Figure 1. The burden of cancer is significant and growing, but varies by income level

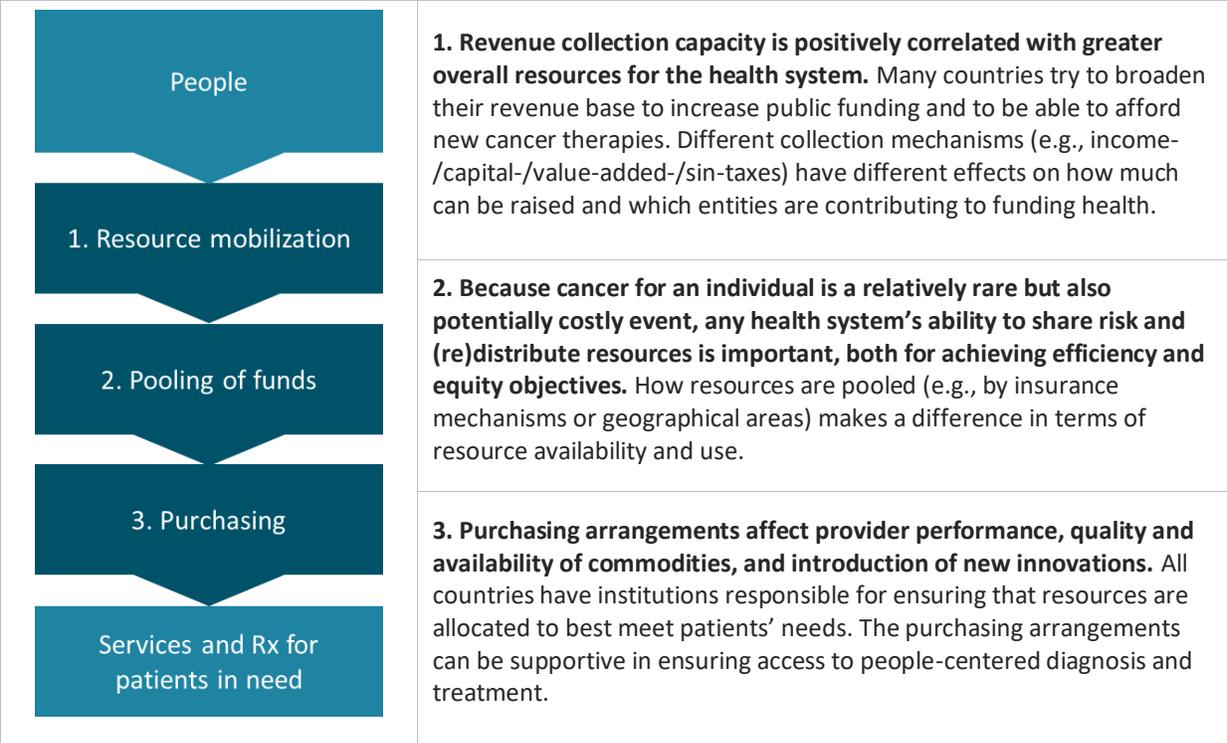


Source: IARC 2020

The WHO has called upon all countries to improve cancer control efforts, noting that “it is beyond time to accelerate global cancer control, through prevention, diagnosis, treatment and management, palliative care and surveillance.” (WHO 2020). In March 2021, the European Commission released “Europe’s Beating Cancer Plan,” which outlines a strategy for the entire European Union for controlling cancer as a region.<sup>vii</sup> While in principle most countries have adopted a national cancer control strategy, in practice there is a lot of variation in the performance of oncology programs and every country has room for improvement, particularly in terms of early diagnosis and access to innovative therapies.<sup>viii</sup>

**The organization of country health financing systems has implications for the level of resources allocated to cancer patients and their access to treatment and medicines.** While health system organization is a function of the history and context of each specific country, financing plays an important role in determining the level and quality of cancer care, and how access to care is promoted from both an efficiency and equity perspective. Figure 2 provides further context for how financing policy can influence oncology program performance.

**Figure 2. How health systems organization and financing influences the oncology program**



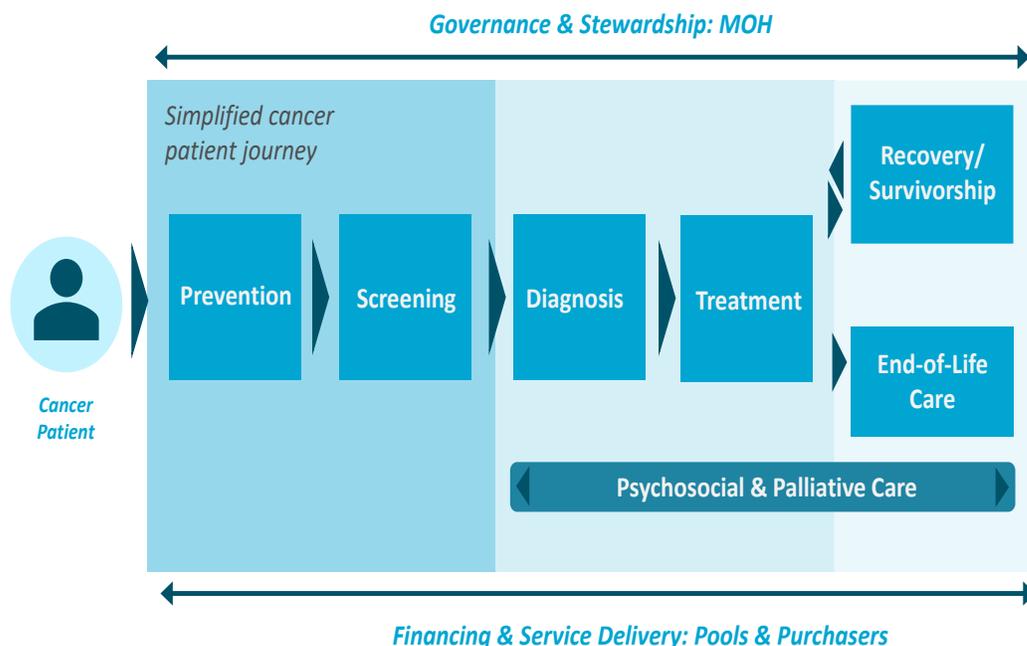
Source: Adapted from (Kutzin 2001)

## ONCOLOGY FINANCING: KEY FINDINGS

While there is no global normative benchmark for how much constitutes *enough* resources for cancer, choices about to what degree public resources for oncology are mobilized and allocated have implications for how effectively cancer care can be provided to the population. As we found in our cross-country landscape and in the global literature, the range of public expenditure on health, relative to GDP, runs from 5.3% in LICs to 11.5%<sup>1</sup> in HICs.<sup>ix</sup> The absolute resources available for health care vary even more, which means many cancer therapies are unaffordable for most cancer patients in LICs. In HICs, which in general can afford costly but effective therapies, the resource envelope differs substantially. Among high-income European countries, the average direct costs of cancer range from 3.7% of total health expenditure (Sweden) to 7.1% (France and Hungary).<sup>x</sup>

This section of the brief showcases country experiences with how financing supports or creates challenges across an idealized oncology ‘continuum’ (Figure 3). Further details on how the sources, organization, and use of public resources for oncology are provided in each country profile, which are available on ThinkWell’s [website](#).

Figure 3. Idealized Oncology Continuum in a Country Setting<sup>xi</sup>



Adapted from: Rubin et al, 2015

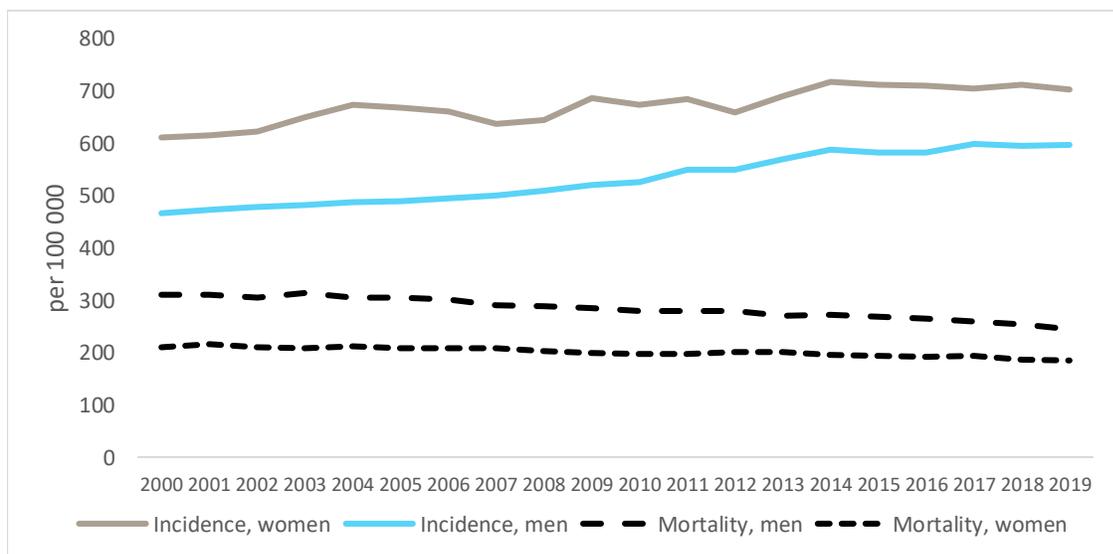
<sup>1</sup> 2018 data, population weighted averages.

## Prevention & Screening

**While most countries prioritize prevention strategies at a national level, the resources made available to support prevention and the effectiveness of prevention programs is variable.** The Philippines exhibits high rates of smoking and alcohol use yet overall public investment in prevention is low. Argentina has a strong national policy objective in its national cancer strategy to promote prevention activities; but as a highly decentralized health system, uneven distribution of financial resources across the provinces contributes to suboptimal performance of prevention strategies.

**Screening and effective primary care can detect cancer at early stages, and thereby improve survival rates.** Accelerating rollouts of updated and new treatment protocols and rapid access to medicine in clinical practice also provides considerable gains in cancer survival. In some HICs, cancer has become a chronic condition for large groups of patients. Ever more people survive their cancer diagnosis (see the example from Sweden in Figure 4) due to substantial public investment in screening, diagnosis, and treatment.

**Figure 4. Cancer incidence and mortality development in Sweden, all sites, 2000 to 2019**

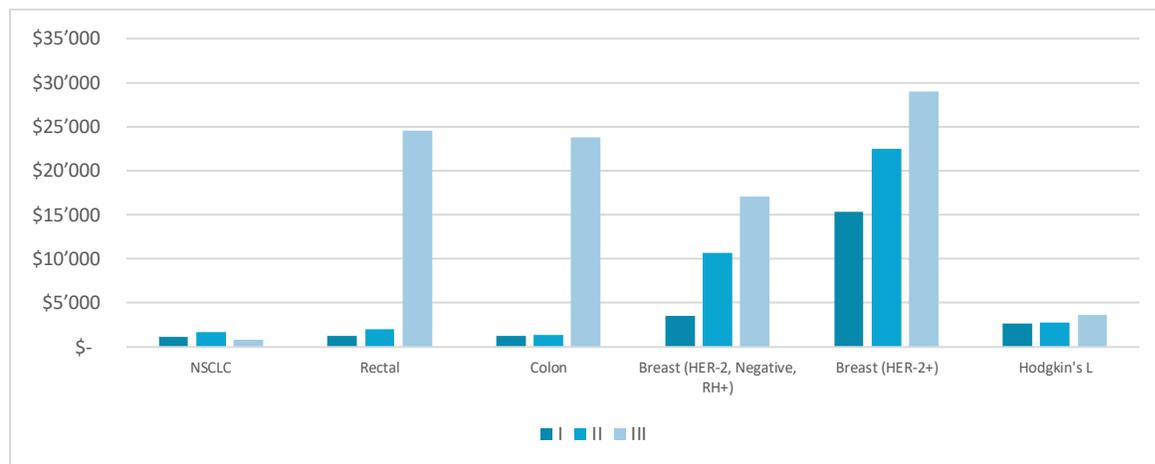


Source: Swedish cancer registry and Swedish cause of death registry

## Diagnosis & Treatment

**High-income countries, which are generally better resourced and have more advanced cancer care available, performed better in terms of early diagnosis and treatment than MICs.** HICs do still experience some challenges in performing early diagnosis. As highlighted in the Sweden profile, waiting times for treatment initiation are used as an implicit rationing system. In Brazil, we found that delays in consultations and low use of colonoscopy contribute to many late-stage diagnoses with substantial treatment cost implications (Figure 5). Even when survival is not negatively affected, treatment delays can lead to high personal and societal costs in the form of suffering and lower productivity.

**Figure 5: Cancer treatment costs by type and stage in Brazil**



Source: Observatório de Oncologia (2016) in Brazil.

**At the clinical level, greater provider autonomy and flexibility can increase efficiency and patient-centered cancer care.** Increasing flexibility in hospital budgets and empowering oncologists and medical professionals in the use of resources can support higher degrees of individualized treatment. Greater flexibility and autonomy for clinical managers will potentially enable more rational use of funds. Allowing new priorities in the budget formulation process may also enable increased allocation to rehabilitation, which will require greater policy attention as survival rates increase and cancer becomes a chronic condition. In Sweden, several regions are shifting funding of hospital services away from case-based payments to larger elements of global budgets. Key informants in Sweden confirmed that this shift is supported by clinicians, as it gives them more power over treatment recommendations based on the individual patient’s needs.

### Governance & Stewardship

**Universal access to cost-effective prevention and treatment can be accelerated by systematically applying evidence.** New and innovative cancer therapies are introduced every year. Some of these can be costly, but governments can ensure swift and adequate access by applying health technology assessment frameworks and regulations that support the rational use of resources.

**Few countries have invested enough in harnessing health information systems to guide policy decisions, allocate resources, and leverage innovation.** The growing opportunities in data hold enormous potential for health systems to become more effective in providing cancer care (Box 1). Many countries have worked to improve and integrate health information systems, and evidence about how to systematically collect and use data for oncology

#### Box 1. Serbia’s Untapped Potential to Use Data and Evidence for Improved Cancer Control

Serbia’s national cancer registry is hampered by the country’s fragmented and outdated data system and holds limited information about disease stage, essential diagnoses, intervention time points, and applied therapies. In addition, data collection still heavily relies on paper forms. As a result, analysis of important data such as survival rates and quality benchmarking of facilities are hampered.

In 2014, the Institute of Public Health took over responsibility for the register and new legislation intended to modernize data collection was passed. The Ministry of Health has recently taken further steps to improve the register as part of the National Cancer Management Plan 2020-22. With support from the World Bank, new quality indicators are soon to be published regularly. These new initiatives have the potential to transform how oncology care is financed and delivered in Serbia.

research and care has been around for decades. Still, many countries do not take advantage of the opportunities that are emerging in this space.

### Recovery & Survivorship

**Despite HICs like Sweden and Spain integrating rehabilitative and palliative oncology care into the care model, many of these services (e.g. supportive care for activities of daily living, transportation, psychosocial care) go beyond what might fit under a traditional definition of health care.** The financing arrangements are thus more diffuse. In Sweden, municipalities have a wide responsibility for prevention and rehabilitative care and estimates suggest that municipalities in Sweden spend large amounts on support to cancer patients. Municipal community services are approved and commissioned based on needs for support in daily activities. Therefore, disease-specific data on how much is spent by local authorities for community services are very sparse. Spain has a distinct palliative care strategy, focused on investing in the latest end-of-life treatments as well as financing treatments that include psychological, social counseling, and palliative drugs. The goal is to promote a holistic service both for patients and their family members, at every level of care. Palliative care guidelines are focused on reaching all patients in end-of-life phase or very advanced phase. These set explicit organizational models for palliative care, coordinating all services, and promoting bioethical principles<sup>xii</sup>In the MIC we studied, palliative care was not a significant financing category although it was called out to varying degrees in national cancer strategies.

## CONCLUSIONS & LIMITATIONS

**As the country profiles demonstrate, most oncology financing challenges can be divided into two broad categories: either issues stem from an insufficient level of total funds, or sub-optimal use of existing funds (i.e., inefficiency).** While the former requires solutions that solve for more total funding, the latter is a problem of allocation and optimization within the health system. The six country profiles highlight several challenges that fall within this framework: insufficient budget headroom for new technologies; the need for optimization of the whole health system's care delivery pathway; lack of adequate data to support informed decision-making; and lack of interoperability and coordination across national, regional, and local level. A summary table of the country-specific policy options to address the core financing challenges can be found in Annex A.

**The impact of COVID-19 on oncology financing and access to cancer care requires a strong policy response.** Austerity in public funding because of the pandemic does not seem to be an immediate direct threat to cancer care. Instead, across the globe, effects on both supply and demand of care delivery are visible. In Spain, up to 21% of patients have experienced delays or cancellations of treatments. Sweden on the other hand has not seen any substantial decrease in treatment but drop offs have been seen in screening rates.<sup>xiii</sup> In the Philippines, a recent review of PhilHealth claims data showed sharp declines in government hospital claims at the beginning of the pandemic.<sup>xiv</sup> Declines in primary care visits are seen globally which will require targeted efforts to catch up with early detection when the spread of the virus is contained.<sup>xv</sup>

**The COVID-19 pandemic is affecting health systems in delivering effective cancer care while indirectly contributing to risk behaviors that may have long-term effects on cancer burden.**<sup>xvi,xvii</sup> Additional to the pandemic's direct impact on service delivery, rates of unhealthy behaviors – tobacco use, alcohol consumption, sedentary lifestyles, poor nutrition – increased in many countries in 2020. A study from the RAND Corporation estimated that heavy alcohol use (measured by the number of drinks consumed per day) increased by 41% among women during the 2020 stay-at-home period in the US compared with the previous period in 2019.<sup>xviii</sup> A Spanish study found a 26% increase in the level of high-risk behaviors among study participants who had experienced some degree of isolation or confinement due to

pandemic control measures.<sup>xix</sup> In Italy, the lockdown increased cigarette consumption by 9.1%.<sup>xx</sup> The health impact of these increases is yet to be seen, but given the causal links between high-risk behaviors and cancer incidence, it is possible that the future burden of cancer will be even higher than currently projected.

**It is challenging to disaggregate and quantify costs around specific components of the oncology continuum, as cancer care and delivery are intertwined with the overall design and organization of the health system.** To fully understand the magnitude of resource use for cancer, a disease-specific expenditure study would need to be conducted for each country, which was well beyond the scope of the exercise. Countries with national insurance programs may have public claims data that can provide some visibility into how public funds are used, while other countries report on expenditures using ICD-10 codes.<sup>2</sup> Expenditure data estimates, when available, are also retrospective, which can complicate planning based on anticipated need and future costs. Thus, the themes covered in this brief, and in more depth in the country profiles, draw from the available quantitative and qualitative evidence to present as comprehensive a picture as possible, while also acknowledging that financing data on cancer are far from systematic at the country and global levels.

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<sup>2</sup> International Statistical Classification of Diseases and Related Health Problems (ICD).  
<https://www.who.int/standards/classifications/classification-of-diseases>

## ANNEX A: SUMMARY OF COUNTRY RECOMMENDATIONS TO IMPROVE ONCOLOGY FINANCING

Country	Financing Challenge	Policy Option	Details
Argentina	Resource insufficiency	1. Expand innovative models for increasing provincial-level resources for cancer	Explore avenues for introducing novel models of funding as current resources are not sufficient for increasing access to high quality cancer medicines. In each province, the situation regarding oncology drugs is different. One region in Argentina, Mendoza has successfully implemented a sin tax on casino revenues to fund cancer care. This opens the opportunity to scale sin taxes regionally.
	Resource inefficiency	2. Increase investment in evidence for cancer decision making	Coordinate the Argentinian National Cancer Institute and provincial level authorities to work together to strengthen management, data collection, and visibility of national and provincial cancer control programs to increase public awareness. In Argentina, national level resources for health, and for cancer specifically, are limited in size and tend to be allocated based on historical means and not programmatic/future-facing priorities.
		3. Exploring new purchasing arrangements for innovative therapies	Explore different experiences with innovative contracting and purchasing arrangements and learn from other countries and arrangements about which models might work for Argentina's context.
Brazil	Resource inefficiency	1. Modernize purchasing & payment systems	Centralize procurement of high-cost oncology medicines to increase efficient use of public sector resources. To increase the ability to use resources more effectively for oncology, the reimbursement system could be updated so that compensations more accurately reflect current costs.
		2. Support innovative programs to increase access to oncology care in Brazil	Support alignment across actors in the value care chain to enable the definition and implementation of improved integrated programming. Working groups with different perspectives to build a white paper of actions and programs to bring access for oncologic patients.
	Resource insufficiency	3. Improve performance of oncology service delivery to create budget headroom	Implement value-based health care delivery and foster stronger management practices based on value and transparency. Oncology practices should be based on delivery performance since the increasing costs of care demand optimization of resource use.

<b>The Philippines</b>	Resource inefficiency	1. Improve evidence-based decision making by investing in technological infrastructure.	Invest in technological infrastructure to solve interoperability problems and digital transformation of paper-based data to build near-real time estimation of demand and supply of inputs. Explore and develop contractual obligations and (non) financial incentives to drive, re-shape and influence provider behavior in shifting to better health information systems and electronic medical records.
		2. Leverage available evidence to review cancer care benefits under PhilHealth packages and use of the Cancer Assistance Fund.	Data-sharing of all parties involved from procurement, service delivery, and monitoring of health outcomes is essential to update Z-benefits costing and appropriations for the CAF. While HTAC reviews existing benefit packages, PhilHealth can take initiative to adjust all Z-benefit packages using inflation rates of medicines/ healthcare inputs from the year they were costed.
		3. Centralize decision-making on all public cancer interventions.	Enforce active and strategic purchasing through the UHC law for DOH to be in charge of price negotiation, and the National Integrated Cancer Control Act (NICCA, published 2018), stating that the cancer council should be in charge of policymaking.
	Resource insufficiency	4. Leverage the implementation of the new Cancer Control Act (NICCA) to put oncology financing on the national agenda by strengthening public-private partnership.	Leverage the momentum of cancer focus brought by the passing of the cancer act and a UHC law to increase cancer financing throughout the continuum of care. Continuous engagement with legislators, particularly those in the committee on health as well as appropriations can ensure that the NICCA is progressing as envisioned.
<b>Serbia</b>	Resource inefficiency & insufficiency	1. Grant greater financial autonomy to public hospitals.	Enable hospitals to generate additional revenue. Greater hospital autonomy coupled with strong oversight can improve administrative efficiencies.
	Resource insufficiency	2. Introduce earmarked taxes for cancer.	Mobilize additional resources for oncology through earmarked taxes. Imposing sin taxes on tobacco and alcohol could be a way of promoting healthier behavior and reducing cancer incidence, while also raising additional revenue for cancer care. Taxing casino revenues, or 'sin tax' revenue generating schemes can generate additional financing for oncology are relatively straightforward to implement
	Resource inefficiency	3. Increase the number of cancer studies.	Promote regional collaboration for attracting additional financing in the form of clinical studies. Cancer studies are an underutilized source of financing for oncology in Serbia and in Eastern Europe in general. Besides additional financing, cancer studies would bring contextualized cost-effectiveness evidence to the decision-makers' desks. Such collaboration could contribute to building ownership of evidence at the national level and raising awareness on the importance of strategic planning and purchasing.

		4. Build the evidence base.	Build an evidence base to strengthen the MOH and National Health Insurance Fund's planning units' capacity to make financing cost-efficient instead of basing it on historical expenditure trends.
Spain	Resource insufficiency	1. Strengthen alignment with decision-makers to expand budget for oncology and prove the value (cost-effectiveness) of innovative therapies.	Conduct and publish studies showing the savings in indirect costs of longer survival, impact of increased contributions to social security, lower direct costs. On a macro level, the use of cost-effectiveness as a decision-making tool should be enhanced jointly with fiscal reforms. There is an option to work with national and regional stakeholders to increase dialogue for enhancement of fiscal space for oncology and, more importantly, to show the value of its drugs with cost-effectiveness and burden of disease studies.
		2. Adopt more flexibility in oncology financing based on the results to improve effectiveness of oncology treatments.	Improve flexibility of financing and link it to results. Adopt centralized innovative financing mechanisms, such as strategic purchasing, to benefit acquiring of biomarkers and innovative therapies. As important purchasers in the system, hospitals and hospital pharmacies will also benefit from more strategic approaches to budget that will create space for oncology innovations within a specific hospital pharmacy budget. Pharmacies can optimize their current use of information systems and prediction techniques to inform budgeting processes.
		3. Target distribution of funding towards the whole care continuum.	Shift towards a more holistic, patient-centered approach to care, and redistribute resources across the continuum to support underfinanced functions. There is an option to engage with AECC and GEPAC to support community advocacy and decision-making process and enhancement of funding for screening programs.
		4. Leverage patient and oncology associations to improve equity and prioritization.	Enhance patient advocacy group participation in promoting oncology spending expansion. Encouraging patient participation in crafting national and sub-national oncology strategies is key to creating a patient-centered system. Moreover, patients should be included as early as in the basic R&D activities, as well as evaluating therapeutical innovation and care process
Sweden	Resource insufficiency	1. Increases additional public resources for oncology medicines.	Engage political players to increase cancer budgets. While the share of cancer-specific spending has not increased over time, the relative increase caused by the introduction of effective but expensive treatment options, has been offset by a reduction in inpatient service costs. Efficiency gains in hospitals have likely reached their maximum, and reallocation of resources from other areas of care is unlikely. More resources for cancer care will therefore require additional funding, although this is largely a political choice.

	2. Move more functions to the national level.	Shift the main responsibility from the regional and local levels to national level. In several important aspects, the governance of cancer care has been nationalized during the last 10 years. Still, the national level works mainly normatively and implementation on regional and facility levels are discretionary. Regional and hospital resource decisions are outputs of local political processes and clinical facility priorities, making adaptation and implementation of national priorities scattered and piecemeal. National responsibility to fund critical functions, e.g., expensive but cost-effective oncology medicines, would increase equity and the ability to fund innovative medicine.
Resource inefficiency	3. Increase the use of regional and clinical performance success stories through stronger national governance and accountability regulation.	Create regulatory mechanisms to hold regional administrations accountable for cancer care outcomes. In clinical practice, Sweden is characterized by considerable differences— with no one clinic or region top performing across all areas of oncology. The RCCs give cancer visibility in the overall governance structure of the Swedish health system, but they serve multiple clients and thereby interests.
	4. Increase flexibility in hospital budgets and empower medical professionals in decisions about the rational use of resources in individualized treatment.	Bring into focus the cost implications of how pharmaceuticals are reimbursed, as they constitute an increasingly large share of treatment and costs in modern cancer care. In Sweden, global budgets are ascendant and there is momentum for moving away from case-based payments. Per key informants, this shift may stem from a desire among clinicians fatigued with registration requirements for all interventions, even beyond what is medically justified, and a temporary shift caused by major reconstructions of hospitals in large regions.

## REFERENCES

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- <sup>i</sup> Global Cancer Observatory, IARC. 2020. <https://gco.iarc.fr/tomorrow/en/dataviz/bars?mode=population>. Accessed 1 June 2021.
- <sup>ii</sup> Bluethmann, Shirley M., Angela B. Mariotto, and Julia H. Rowland. "Anticipating the 'Silver Tsunami': Prevalence Trajectories and Comorbidity Burden among Older Cancer Survivors in the United States." *Cancer Epidemiology Biomarkers & Prevention* 25, no. 7 (July 2016): 1029–36. <https://doi.org/10.1158/1055-9965.EPI-16-0133>.
- <sup>iii</sup> Hofmarcher, Thomas, Peter Lindgren, Nils Wilking, and Bengt Jönsson. "The Cost of Cancer in Europe 2018." *European Journal of Cancer* 129 (April 2020): 41–49. <https://doi.org/10.1016/j.ejca.2020.01.011>.
- <sup>iv</sup> Global Cancer Observatory, IARC. 2020. <https://gco.iarc.fr/tomorrow/en/dataviz/bars?mode=population>. Accessed 1 June 2021.
- <sup>v</sup> Global Cancer Observatory, IARC. 2020. <https://gco.iarc.fr/tomorrow/en/dataviz/bars?mode=population>. Accessed 1 June 2021.
- <sup>vi</sup> Jedy-Agba, Elima, Valerie McCormack, and Clement Adebamowo. "Stage at Diagnosis of Breast Cancer in Sub-Saharan Africa: A Systematic Review and Meta-Analysis," 2017, 25.
- <sup>vii</sup> European Commission. 2021. Europe's Beating Cancer Plan. [https://ec.europa.eu/health/sites/default/files/non\\_communicable\\_diseases/docs/eu\\_cancer-plan\\_en.pdf](https://ec.europa.eu/health/sites/default/files/non_communicable_diseases/docs/eu_cancer-plan_en.pdf). Accessed 7 June 2021.
- <sup>viii</sup> The Economist Intelligence Unit. 2019. Cancer Preparedness Around The World: National Readiness for a Global Epidemic. [https://worldcancerinitiative.economist.com/pdf/Cancer\\_preparedness\\_around\\_the\\_world.pdf](https://worldcancerinitiative.economist.com/pdf/Cancer_preparedness_around_the_world.pdf). Accessed on 24 May 2021.
- <sup>ix</sup> World Health Organization. 2019. Global Health Expenditure Database. <https://apps.who.int/nha/database>. Accessed on 22 May 2022.
- <sup>x</sup> Hofmarcher, Thomas, Peter Lindgren, Nils Wilking, and Bengt Jönsson. "The Cost of Cancer in Europe 2018." *European Journal of Cancer* 129 (April 2020): 41–49. <https://doi.org/10.1016/j.ejca.2020.01.011>.
- <sup>xi</sup> Rubin G, Berendsen A, Crawford SM, Domett R, Earle C, Emery J, Fahey T, Grassi L, Grunfeld E, Gupta S, Hamilton W, Hiom S, Hunter D, Lyratzopoulos G, Macleod U, Mason R, Mitchell G, Neal RD, Peake M, Roland M, Seifert B, Sisler J, Sussman J, Taplin S, Vedsted P, Voruganti T, Walter F, Wardle J, Watson E, Weller D, Wender R, Whelan J, Whitlock J, Wilkinson C, de Wit N, Zimmermann C. The expanding role of primary care in cancer control. *Lancet Oncol*. 2015 Sep;16(12):1231-72. doi: 10.1016/S1470-2045(15)00205-3. PMID: 26431866.
- <sup>xii</sup> Spanish Ministerio de Sanidad 2010.
- <sup>xiii</sup> Cancerfonden.se.
- <sup>xiv</sup> Gilbert Ulep, V, Paterno, A, Casas, L, and Walker, D. 2021. "The Hidden Health Cost of the COVID-19 Pandemic in the Philippines." Center for Global Development. <https://www.cgdev.org/blog/hidden-health-cost-covid-19-pandemic-philippines>. Accessed on 28 June 2021.
- <sup>xv</sup> OECD (2021), "Strengthening the frontline: How primary health care helps health systems adapt during the COVID 19 pandemic", OECD Policy Responses to Coronavirus (COVID-19), OECD Publishing, Paris, <https://doi.org/10.1787/9a5ae6da-en>. Accessed on 7 June 2021.
- <sup>xvi</sup> The Lancet Oncology. "COVID-19 and Cancer: 1 Year On." *The Lancet Oncology* 22, no. 4 (April 2021): 411. [https://doi.org/10.1016/S1470-2045\(21\)00148-0](https://doi.org/10.1016/S1470-2045(21)00148-0).
- <sup>xvii</sup> Richards, Mike, Michael Anderson, Paul Carter, Benjamin L. Ebert, and Elias Mossialos. "The Impact of the COVID-19 Pandemic on Cancer Care." *Nature Cancer* 1, no. 6 (June 2020): 565–67. <https://doi.org/10.1038/s43018-020-0074-y>.

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<sup>xviii</sup> Pollard MS, Tucker JS, Green HD. Changes in Adult Alcohol Use and Consequences During the COVID-19 Pandemic in the US. *JAMA Netw Open*. 2020;3(9):e2022942. doi:10.1001/jamanetworkopen.2020.22942. Accessed 20 May 2021.

<sup>xix</sup> López-Bueno Rubén, Calatayud Joaquín, Casaña José, Casajús José A., Smith Lee, Tully Mark A., Andersen Lars L., López-Sánchez Guillermo F. COVID-19 Confinement and Health Risk Behaviors in Spain. *Frontiers in Psychology*. 2020; 11: 1426. doi: 10.3389/fpsyg.2020.01426. Accessed 20 May 2021.

<sup>xx</sup> Carreras G, Lugo A, Stival C, et al. Impact of COVID-19 lockdown on smoking consumption in a large representative sample of Italian adults. *Tobacco Control*. Published Online First: 29 March 2021. doi: 10.1136/tobaccocontrol-2020-056440. Accessed 3 June 2021.