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Consensus building research to identify the 'ideal' policy framework for early cancer care

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Mission Early

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Preface

This report presents the findings of an Expert Consensus study conducted to establish agreement on the key components of an 'ideal' policy framework for early cancer care. Early cancer care refers to the full spectrum of actions aimed at ensuring that cancer is detected, diagnosed and treated as promptly as possible – ideally at its earliest and most curable stages. Facilitating timely entry into the care pathway is essential to improving patient outcomes and survival, decreasing cancer mortality and reducing the overall cancer burden.

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- Dr. Cary Adams, Chief Executive Officer, Union for International Cancer Control
- Dr. Nicoleta Antone, Head of Breast Cancer Centre, Institute of Oncology 'Ion Chiricuta'
- Antonella Cardone, Chief Executive Officer, Cancer Patients Europe
- Eduardo Pisani, Chief Executive Officer, All.Can International
- Alexander Roediger, Associate Vice-President, Global Lead Oncology Policy, MSD

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Summary

This report, prepared for Mission Early by RAND Europe, presents findings from a global Expert Consensus study aimed at defining the key components of an 'ideal' policy framework for early cancer care. Early cancer care refers to efforts across the cancer pathway – from education and screening through diagnosis and timely treatment – that enable cancers to be detected and treated at their most curable stages and in a timely manner. The study sought to identify policy components that can make early cancer care more accessible, equitable and sustainable worldwide.

The challenge and its significance

Despite scientific progress in cancer detection and therapy, cancer remains one of the leading causes of death globally, accounting for nearly 10 million deaths each year. Many cancers are preventable or curable if detected early, yet substantial disparities persist between and within countries in access to timely diagnosis and treatment. Early cancer care policies often operate in isolation, resulting in fragmentation and inefficiencies. While several international organisations – the World Health Organization (WHO), the Organisation for Economic Co-operation and Development (OECD), the European Commission (EC), and Union for International Cancer Control (UICC) – have called for stronger national cancer control plans, implementation remains inconsistent. Low- and middle-income countries (LMIC) and regions with weaker health systems face particularly severe challenges.

Recognising this gap, Mission Early commissioned RAND Europe to identify consensus among global cancer policy experts on what an integrated, evidence-informed and equitable policy framework for early cancer care should look like. The framework is intended to help governments, funders and health policymakers align national efforts in prevention, detection, diagnosis and treatment. This study follows on from a preceding study by Mission Early that aimed to create a measurement framework to identify and analyse best-performing regions for early cancer care (screening and treatment) across OECD countries.

Study approach

The research employed a three-phase Expert Consensus approach, supported by Mission Early's Advisory Group. The study combined quantitative ratings of policy priorities with qualitative deliberation and validation through workshops.

1. **Phase 1. Idea Generation**: Thirty-two cancer policy experts from several countries (Australia, Colombia, Germany, Italy, Japan, Mexico, the Netherlands, Romania, Rwanda, the United Kingdom and the United States) identified existing and potential policy components for early cancer care.

2. **Phase 2. Expert Consensus Panel (Rounds 1 to 3):** Using RAND's ExpertLens™ platform, participants rated each proposed policy component for its importance and feasibility and discussed their reasoning anonymously (17 participants in Round 1, 11 in Round 2 – four of whom actively posted comments – and six in Round 3).
3. **Phase 3. Validation Workshops**: In-person and online workshops refined the study's findings and tested the proposed framework's applicability across regions (with a total of 20 participants across all workshops).

These methods yielded both quantitative consensus data and qualitative insights on implementation barriers and enablers on different policy components.

Key findings

Experts identified 10 core policy components necessary for an effective early cancer care framework, grouped across the main stages of the care pathway:

- **Education and Engagement**: Public Education and Community Empowerment were identified as foundational to building health literacy, trust in health systems and early health-seeking behaviour.
- **Early Detection and Screening**: Expanding Screening programmes and promoting Detection Innovation (such as AI-assisted imaging or blood-based testing) were considered key to improving early detection but must be grounded in evidence and equity.
- **Early Diagnosis**: Primary Care Capacity and Diagnostic Innovation were seen as enablers for timely identification and referral. Robust referral networks and trained staff reduce delays.
- **Early Treatment**: Care Coordination was described as an essential component to ensure timely transition between diagnosis and treatment, improving continuity and patient experience.
- **Cross-cutting elements**: Data Infrastructure, Real-world Evidence and Incentivisation Structures were considered building blocks to underpin system performance, accountability and sustainability.

Experts rated these components as important, though feasibility varied. Public Education and Community Empowerment were considered both highly important and feasible. Primary Care Capacity, Data Infrastructure and Care Coordination were rated highly important but moderately feasible, reflecting persistent challenges in funding, governance and workforce capacity. Technological components such as Detection and Diagnostic Innovation scored similarly high on perceived importance but faced questions of cost-effectiveness and accessibility. Incentivisation Structures and Real-world Evidence systems were regarded as beneficial but comparatively difficult to implement effectively due to different contexts in specific systems.

The proposed early cancer care policy framework

Drawing on this expert input, RAND Europe synthesised this Expert Consensus into an integrative policy framework that positions early cancer care as a continuum of interlinked domains rather than disconnected interventions. This policy framework consists of five overarching domains with accompanying policy components:

1. **Education and Engagement – Encompassing Public Education and Community Empowerment.** Strengthening public and community awareness, co-creating culturally relevant campaigns, and sustaining multi-year investment in health literacy.
2. **Early Detection and Screening – Encompassing Detection Innovation and Expanding Screening**. Scaling equitable screening programmes with validated innovations and linking them to primary care and treatment capacity.
3. **Early Diagnosis – Encompassing Diagnostic Innovation and Primary Care Capacity.** Expanding trained primary care networks, rationalising referrals and embedding diagnostic technologies in everyday practice.
4. **Early Treatment – Encompassing Care Coordination and Access to Treatment.** Ensuring coordinated, multidisciplinary care and timely access to quality therapies.
5. **Infrastructure and Health System Strengthening – Encompassing Data and Real-world Evidence, Incentivisation Structures, Workforce and Capacity and Health Systems Strengthening.** Building resilient data systems, workforce capacity and governance structures to enable all other domains.

Each domain is supported by detailed implementation considerations, including the need for political commitment, long-term financing, appropriate regulatory adaptation and continuous evaluation.

Implications for policy

The framework emphasises that early cancer care must shift from isolated interventions towards cohesive system design. Policymakers should embed equity, accountability and prevention into cancer control plans, ensuring that early detection efforts translate into effective treatment. Core recommendations include:

- Integrate early cancer care priorities into national cancer control and universal health coverage strategies.
- Rebalance funding from late-stage treatment towards prevention and primary-care-based diagnosis.
- Strengthen workforce training, referral systems and intersectoral collaboration across health, education and finance sectors.
- Invest in interoperable data and evidence platforms to inform adaptive policy.
- Design incentive mechanisms carefully, to support equity and long-term outcomes rather than short-term metrics.
- Build public trust through inclusive, co-created education and communication strategies.

The framework offers a flexible tool for policymakers to contextualise and implement early cancer care within their own systems and resource constraints.

Limitations and areas for future research

While expert engagement provided rich insight, participation was modest, particularly from LMIC, limiting generalisability especially to low- and middle-income settings. A key limitation of the study was the limited engagement and availability of policy experts during data collection. Therefore, future research should further test the framework's applicability in diverse settings, conduct comparative implementation studies, and explore the economic and behavioural dimensions of early cancer care. Additional evidence on the cost-effectiveness of technological innovations (such as AI diagnostics and multi-cancer detection) and cultural approaches to community engagement would strengthen planning and impact assessment. Despite these limitations, the multi-phase design and Validation Workshops helped ensure relevant insights guided the design of the policy framework.

Conclusions

Advancing early cancer care requires a unified, system-wide policy approach built on collaboration, equity and sustained investment. This study presents an evidence-informed framework defining early cancer care as an integrated continuum, linking education, detection, diagnosis, treatment and system strengthening, supported by coherent governance and resilient health system capacity. The feasibility of implementing early cancer care policies is context dependent, and depends on leadership, policy alignment and adaptability, with cross-cutting enablers such as robust data systems, workforce capacity and strong primary care identified as essential pillars. The framework provides a practical foundation for guiding national policy dialogue and fostering long-term, equitable and patient-centred progress through coordinated action rather than isolated interventions.

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Abbreviations

ACS	American Cancer Society
API	Application programming interfaces
CDC	Centre for Disease Control
CERGAS	Centre for Research on Health and Social Care
CRCCP	Colorectal Cancer Control Program
DNA	Deoxyribonucleic acid
EC	European Commission
ESMO	European Society for Medical Oncology
HCP	Healthcare professional
HPV	Human papillomavirus
HTA	Health technology assessment
IQR	Inter-quartile ranges
LMIC	Low- and middle-income countries
NCD	Non-communicable disease
NGO	Non-governmental organisation
NHS	National Health Service
MCED	Multi-cancer early detection
OECD	Organisation for Economic Co-operation and Development
PHC	Primary healthcare
PROM	Patient reported outcome measure
RCT	Randomised control trial
RWE	Real-world evidence
UICC	Union for International Cancer Control
UK	United Kingdom

UN	United Nations
WHO	World Health Organization

1. Introduction

1.1. Early cancer care

Despite major advances in cancer diagnostics and treatment, cancer remains one of the leading causes of mortality worldwide. Cancer accounted for nearly one in six deaths, or nearly 10 million deaths, worldwide in 2020 (WHO 2025). Furthermore, it is reported that in the Organisation for Economic Co-operation and Development (OECD), 11 people are diagnosed with cancer every 11 minutes, costing the member states 449 billion euros every year (OECD 2024). Many cancers are preventable, and many others curable when detected early and treated appropriately (Dychangco 2022).

In line with the World Health Organization's (WHO) definition (CERGAS and SDA Bocconi School of Management 2024), early cancer care consists of two major components: early detection and early treatment. Early detection includes education (health literacy) to recognise potential symptoms and health-seeking behaviours, participation in screening programmes, and early diagnosis. Screening programmes usually cover nationally commissioned programmes aimed at identifying unrecognised (or pre-clinical) cancer or pre-cancerous lesions within an apparently healthy target population (Mission Early 2024). Additionally, early diagnosis is defined as the early identification of cancer in patients who have symptoms. The other component of early cancer care is early treatment, consisting of timely access to treatment and ensuring that patients enter the cancer treatment pathway as early as possible. Therefore, early cancer care is essential to improving patient outcomes, increasing survival rates, reducing the overall cancer burden, and serving as a cornerstone of effective cancer control. Early cancer care can significantly enhance the effectiveness of treatments, improve the patient outcomes, and reduce the financial burden of medical expenses. Likewise, early cancer care can address disparities in cancer outcomes and health inequalities. Therefore, comprehensive strategies are necessary to improve access to early cancer care and maximise its benefits (WHO 2025; American Cancer Society 2024; Whitaker 2020).

Effective cancer control calls for coordinated global collaboration among experts to address its multifaceted and complex challenges, with initiatives from international organisations to define what is needed to control cancer. There are calls for access to early detection and early treatment, and a collective policy framework, as well as improved awareness (better education), better access to care and more research and investment. In 2023, Mission Early commissioned the Centre for Research on Health and Social Care (CERGAS) at SDA Bocconi in Milan to conduct the 'Lavender' Policy Environment for Early Cancer Care Report, which identified the OECD countries with policy environments most conducive to early cancer care, defining indicators of successful policies, showcasing best practices, and assessing the necessary conditions for replicability in other geographies. The Lavender Report was commissioned in the context of Mission Early's objective to enhance early cancer care worldwide and following the report, Mission Early put together a Best Practice Policy Handbook for Early Cancer Care later in 2024. The scope of the Lavender Report focused on breast, cervical and colorectal cancers, based on the availability of data accessible across countries of study and because these cancers have well-established programmes and guidelines in early cancer care, allowing for more effective analysis (CERGAS and SDA Bocconi School of Management 2024; Mission Early 2024).

The Lavender Report introduced the term 'Lavender zones' to refer to 'a national or regional context in which recommendations and calls to action in early cancer care are successfully transformed into effective policies, significantly improving patient outcomes' (CERGAS and SDA Bocconi School of Management 2024). The Lavender Report identified three components essential to creating an effective early cancer care environment: comprehensiveness, continuity and timeliness. Comprehensiveness involves the governance and inclusion of all stakeholders to ensure coordination for cancer control plans, as well as the involvement of patients and citizens in their health through health literacy interventions. Continuity means the right balance between decentralisation and integration, adapted to each nation's institutional and geographic circumstances, to ultimately ensure patients receive timely access to diagnostic and treatment services. Timeliness strategies involve the entire healthcare system of a country in cancer detection, developing patient-centred care and using tools to update and train care systems (such as monitoring systems) (CERGAS and SDA Bocconi School of Management 2024). The Mission Early report outlines further policy recommendations – particularly for European policymakers – for health literacy, early detection, early diagnosis and early treatment (Mission Early 2024).

Following the 'Lavender' Policy Environment for Early Cancer Care Report and The Best Practice Policy Handbook for Early Cancer Care, Mission Early has commissioned RAND Europe to define the key components and characteristics of what constitutes an 'ideal' policy framework for early cancer care, using Expert Consensus research methods. In this study, we focus on different regions and countries (Europe: Italy, Germany, Romania, United Kingdom (UK); America: United States, Mexico, Colombia; Africa: Rwanda; Australasia: Australia and Japan) to inform our analysis.

In the following sections, existing policy structures on early cancer care, as promoted by global stakeholders and policies in the different countries of study, provide a context for this study and justification for the need for a common policy framework. This section also provides the aim and scope of the study.

1.2. Existing policies on early cancer care

International key stakeholders and organisations, such as the WHO, the OECD and the European Commission, have underscored the importance of early cancer care and the need to consider strategies to improve public awareness of symptoms, enhance referral practices, address barriers in access to health services, and expand research to understand cancers (McCormack and Aggarwal 2021). In 2017, the WHO passed a resolution on global cancer control that urged governments to draft national strategies in cancer prevention and control (WHO 2017). This resolution outlines to member states the importance of a national cancer control plan focused on equity and access to guide the provision of high-quality, resource-appropriate services. It also lists four other recommendations focused on reducing risk factors for cancer through policies and programmes (e.g. imposing higher taxes on tobacco and alcohol – in accordance with the WHO Framework Convention on Tobacco Control – (FCTC 2003)); improving access to timely diagnosis and treatment by strengthening health systems at national and local levels; optimising existing human resources and anticipating future needs for prevention and control by focusing on workforce development and training needs and retention and development strategies and opportunities; and improving data to inform policy decision making by developing and maintaining cancer registries, surveillance strategies and rigorous monitoring and evaluation frameworks. These recommendations have provided a global basis for strengthening cancer control, with many relevant elements for early cancer care. They emphasise the need for integrated, evidence-based strategies that align national priorities with equity, sustainability and long-term health system resilience.

More recently, at the end of 2025, the United Nations (UN) and world leaders released a declaration on non-communicable diseases (NCD). The declaration focuses on prevention and control of NCD and promotion of mental health and well-being, with a focus on equity and integration. Regarding cancer, it states that they will work to 'prevent and control cancers by promoting early access to affordable diagnostics, including cancer staging, screening, treatment and care, as well as vaccines that lower the risk of cancer, as part of a comprehensive approach to prevention and control, taking into account national contexts and regional cooperation', emphasising the worldwide cancer burden and ways to tackle it, which include access to early cancer care (United Nations 2025). Overall, it calls for member states to create health-promoting environments through action across governments; strengthen primary healthcare and mobilise adequate and sustainable financing; strengthen governance and support research; and strengthen data and public health surveillance, monitor progress and promote accountability. The UN declaration reinforces the global commitment to advancing early cancer care as a key component of NCD control, emphasising the shared responsibility of governments and international actors to translate these goals into actionable and equitable policies.

At the same time, the Union for International Cancer Control (UICC) released the World Cancer Declaration, providing a shared vision and framework for 'collective action in cancer control'. The UICC Declaration is composed of five global targets, including diagnosing 60 per cent of cancers worldwide at an early stage by 2035 (UICC 2025), and five areas for action: planning and implementing comprehensive national cancer control plans; establishing and strengthening robust cancer data systems and reliable, high-quality data for informed decision making, resource allocation and performance monitoring; increasing investment in cancer research and innovation to accelerate development and equitable uptake of prevention, early detection, and treatment solutions; scaling up education, training and continuous professional development to build and sustain a skilled cancer workforce; and actively engaging individuals and communities in the design, implementation and evaluation of cancer control efforts. These priorities reinforce early cancer care as a core component of global cancer control efforts, recognising that earlier detection and timely diagnosis are essential to improving survival and reducing the burden of disease. By emphasising innovation, workforce capacity, community engagement and strong data systems, the UICC Declaration reinforces the need for coordinated policies that enable equitable and effective early cancer care worldwide.

Additionally, in the Europe's Beating Cancer Plan, the European Commission recommends better diagnosis and management for improved life expectancy and quality of life, as well as more rigorous policy action to reduce the care costs and societal burden of disease in EU member states. The European Commission calls for investment in comprehensive, high-quality cancer registries to facilitate identifying eligibility for screening programmes, and therefore improve the provision of early cancer detection and treatment (see Section 1.2.1 for details on the Europe's Beating Cancer Plan) (European Commission 2021). These recommendations also reinforce the role of early cancer care within broader European health priorities, highlighting how robust data systems and coordinated policy action can drive both improved outcomes and sustainable health system performance.

These global and regional initiatives underscore the growing international consensus that early cancer care is fundamental to achieving cancer control. They emphasise the importance of integrating prevention, early detection, diagnosis, and treatment through policies that are evidence-based, data-driven, and grounded in health system strengthening. These initiatives reinforce early cancer care as a public health imperative but also provide guiding principles for national governments to adapt to local realities. Ultimately, this shared global vision highlights that progress in early cancer care will depend on sustained collaboration, policy coherence, and long-term investment across all levels of healthcare systems.

The following sections provide an overview of policies in the different regions and countries covered in this study as background on how early cancer care is being addressed in these contexts.

1.2.1. Europe

Europe's Beating Cancer Plan (COM(2021)44 of 3.2.2021) sets out a roadmap for policy action towards cancer control in the European Union. This built on earlier European actions on cancer, driven in particular by evidence of disparities in cancer outcomes and the scope to address them from the EUROCARE studies (De Angelis et al. 2014). Europe's Beating Cancer Plan was launched in 2021 and remains a top priority in the healthcare agenda. The plan capitalises on prevention, early detection and treatment. It also aims to improve the quality of life of cancer patients and cancer survivors. For cancer prevention and early detection, the European Beating Cancer Plan seeks to address risk factors by improving health literacy, and by improving access to preventive measures for cancers caused by infections through vaccination (e.g. human papillomavirus (HPV) vaccination). Approaches to improving early cancer care include initiatives to improve screening uptake and provide equal access to cancer treatment, especially cancer medicines. Likewise, the Cancer Inequalities Registry was set up to track trends and disparities among member states in cancer screening, treatment and survival rate (European Commission 2021). Through different approaches and priorities, the European Beating Cancer Plan directly advances early cancer care by linking prevention, screening and equitable access to diagnosis and treatment under a unified framework. Its focus on reducing inequalities, strengthening data systems and promoting evidence-based screening reflects a comprehensive approach that positions early cancer care within a long-term strategy for cancer control, while improved population-based screening reflects a comprehensive approach that positions early cancer care as a strategy for cancer control and improved population health.

Shortly after Europe rolled out its cancer plan, the 2024 Mission Early Policy Handbook identified Italy (alongside Denmark and the Netherlands) as having the best policy practice for early cancer care. Italy has been identified as a Lavender zone (see Section 1.1), meaning that the country was able to turn its cancer plans and policies into action for effective early cancer care (CERGAS and SDA Bocconi School of Management 2024). In 2023, Italy released and adopted its National Oncology Plan, which focused on prevention and treatment with specific recommendations for screening, and strengthening surveillance and research for novel diagnosis and treatment methods. The Mission Early handbook noted that while it is too soon to see the full impact of Italy’s plan, its efficient rollout in a national and regional context provides lessons for more fragmented systems (Mission Early 2024).

Germany’s National Cancer Plan was released in 2008, and focused on four pillars: developing cancer screening; improving structural aspects of oncology care and quality assurance; ensuring effective oncological treatment (with an initial focus on drug therapy); and strengthening patient orientation in cancer care (OECD 2025a). In 2024, Germany reviewed some of its policies to make prevention a new priority, for example by extending the age limit for breast cancer screening to 75 years (from 69) (OECD 2025a; German Cancer Aid and DKFZ 2025; Studienportal Brustkrebs 2024).

In the context of Europe’s Beating Cancer Plan, Romania developed a National Plan for Beating Cancer (2023-2030) (Planul Național de Combatere a Cancerului), which was passed in 2022. The plan aims to establish an integrated, patient-centred cancer care pathway that ensures coordinated, multidisciplinary prevention, diagnosis, treatment and support. Its overarching goals are to strengthen cancer prevention and early detection, improve access to high-quality and innovative therapies, enhance clinical practice and quality of life, and align national efforts with European standards and networks (OECD 2025b; European Observatory on Health Systems and Policies 2022).

In 2019, the UK launched its National Health Service (NHS) Long Term Plan. The NHS cancer programme led delivery of the Long-Term Plan for cancer, focusing on earlier and faster diagnosis, personalised care and support, operational performance (e.g. of patient records), improving treatment and workforce tools and training, and governance and collaboration (NHS England 2019; NHS 2019). In 2025, after the launch of the NHS 10 year plan, the government began developing a new national cancer plan, which will align with the 10 year plan and focus on prevention; early diagnosis; improving patient pathways, treatment, support after cancer, research and innovation; tackling health inequalities; and improving outcomes for rarer types of cancers (DHSC 2025; MacMillan Cancer Support 2025).

Along with the European Beating Cancer Plan and national policies, European countries have implemented well-established national cancer plans. These are aimed at improving early cancer care and health outcomes through better screening and diagnosis tools and programmes, and more funding and research for continued improvements of treatments and diagnosis. Some challenges remain – such as in Italy, where health literacy is not sufficient and a fragmented system interrupts smooth patient pathways (Mission Early 2024). In the UK, health inequalities continue to affect cancer patients: Cancer research UK reported that cancer death rates in 2025 were nearly 60 per cent higher for people living in the UK’s most deprived areas compared with the least deprived, with around 28,400 cancer deaths each year linked to socioeconomic inequality (Warnock 2025). Countries must overcome these challenges to ensure equitable access to cancer care for everyone.

1.2.2. North America and Latin America

In the North American region, the United States’s National Comprehensive Cancer Control Programme aims to support persons with cancer to have a full and active life, and to address the entire cancer continuum, from prevention through early detection and treatment, to survivorship and research. Several programmes and schemes have been implemented to improve cancer screening. The American Cancer Society (ACS) provides detailed guidelines for cancer screening, including recommendations on test intervals for breast, cervical, colorectal and lung cancer. Federal programmes implemented by the Centres for Disease Control and Prevention (CDC), such as the National Breast and Cervical Cancer Early Detection Program (NBCEDP) and the Colorectal Cancer Control Program (CRCCP), also aim to enhance prevention measures and early detection.

In Latin America, Mexico released a three-year National Cancer Control Plan in 2021. It aimed to improve cancer education, prevention and rate reduction, and to develop better diagnosis and treatment (Padilla-Raygoza et al. 2020; International Cancer Control Partnership 2021). No new cancer plan has been drafted since 2024; however, the country developed a National Health Compact in 2025 to guide health reform, which aims to put health at the centre of the country's agenda. One of its 2027-2030 objectives is to improve health outcomes and universal access to quality of care for non-communicable diseases such as cancer. Among the Health Compact's overall goals is to consolidate a modern, integrated and equitable health system (World Bank Group, n.d.; Government of Mexico 2025).

Like Mexico, Colombia does not currently have an updated cancer plan but is guided by an overall health plan. In 2012, Colombia launched its National Cancer Control Plan, a 10-year plan aimed at reducing the prevalence of modifiable risk factors for cancer, reducing preventable cancer deaths by improving early detection and quality of care, improving quality of life for cancer patients and survivors, guaranteeing the generation, availability and use of knowledge and information for decision making, and strengthening the management of skills and capacity of human resources for cancer control (Novartis and UICC 2021). In 2022, when the cancer plan was due to conclude, Colombia released its 10-Year Public Health Plan (2022-2031). The plan aims to schedule health days in the extramural setting for care, screening and information activities that focus on the early detection of cancer care and other NCDs, such as cardiovascular diseases (Ministerio de Salud y Protección Social 2022). Health days facilitate access to individual and collective health services – such as referrals, health education, screenings or vaccinations – by bringing them closer to the communities that need them.

The level of policy framework available in the Americas varies between countries. The United States has a well-established cancer programme and other organisations to support different aspects of cancer care, while in Mexico and Colombia, the cancer plans have become outdated, but cancer remains on the radar in national health plans.

1.2.3. Africa

The WHO African Region (WHO-AFRO) highlights that prevention – by avoiding risk factors and implementing prevention programmes – as well as early detection and early treatment programmes, are key to cancer control. WHO-AFRO calls for better early diagnosis through education in health-seeking behaviour, access to care and clinical evaluations, and improved access to screening (specifically screening programmes such as visual inspection with acetic acid for cervical cancer in low-income settings, HPV testing, mammography screenings, etc.). WHO-AFRO also stresses the importance of correct cancer treatment, supportive palliative care and psychosocial support to improve patients' quality of life (WHO African Region 2025).

Rwanda developed a National Cancer Control Plan for 2020-2024 with objectives to reduce cancer mortality and morbidity through prevention of risk factors, early detection, access to quality diagnosis, treatment and care (Republic of Rwanda Ministry of Health 2020). With this cancer plan expiring, Rwanda is in the process of launching a new National Cancer Control Plan for 2025-2029 with a specific focus on eliminating cervical cancer (Haskins 2025). In this context, the Ministry of Health released an Accelerated Plan for Elimination of Cervical Cancer in Rwanda (2024-2027) that includes six strategic objectives: strengthening the coordination of cervical care and governance; strengthening prevention through awareness, education and vaccination; increasing screening coverage; improving access to diagnosis and treatment to reach 90 per cent of women with identified cervical cancer to receive treatment; enhancing, monitoring, evaluation and research; and promoting multisectoral collaboration and partnerships to create strategies for the sustainable financing of cervical cancer elimination (Republic of Rwanda Ministry of Health 2025; Haskins 2025).

1.2.4. Australasia

In response to increased cancer prevalence in the West Pacific Region, the WHO West Pacific region has stressed the importance, cost-effectiveness and societal benefits of prevention and early detection (WHO West Pacific Region 2026). Aligned with WHO’s global strategy in cervical cancer elimination (WHO, n.d., 2020), in 2023 the Western Pacific region released its strategic framework for the comprehensive prevention and control of cervical cancer in the Western Pacific Region (2023-2030) (WHO West Pacific Region 2023).

In 2025, Australia was declared on track to become the first country to eliminate cervical cancer by 2035 as it moves closer to meeting the WHO Cervical Cancer Elimination Initiative targets (WHO, n.d.; Centre for Research Excellence in Cervical Cancer Control 2025). One of the main reasons for this has been screening programmes, such as self-collect option taken up by many women (including some who had never been screened); the government-funded ‘Own It’ campaign to raise awareness of prevention and screening methods (White 2025); and the switch from the Pap tests to cervical screening (Canfell et al. 2025).

Australia has been able to achieve this because of its robust 10-year national cancer plan, established in 2023. The plan aims, in part, to maximise cancer prevention and early detection, enhance consumer experience, and set up a strong workforce to transform delivery of care (Australian Government and Cancer Australia 2023). According to the Cancer Australia 2024-2025 Annual report, delivery of the plan one year on (2024) was on track (Australian Government and Cancer Australia 2025).

Japan has no official national cancer plan. However, its 2007 Cancer Control Act assigns responsibility for cancer control measures to the government, local authorities, insurers, medical professionals and patients (Matsumoto et al. 2025; Ministry of Health, Labour and Welfare of Japan, n.d.). The act enabled creation of the Basic Plan to Promote Cancer Control Programs covering the period 2007-2011 and provided a model to develop Prefectural Plans to Promote Cancer Control Programs. These programmes covered promotion of prevention, early discovery, even distribution of cancer treatment and cancer research. The government approved an update to this plan in 2012, but no further update was provided (Ministry of Health, Labour and Welfare of Japan, n.d.; Monden 2013).

Cancer policy in the West Pacific region varies between countries: Australia has an up-to-date and effective plan while Japan has outdated acts that need to be revised to guide policy. This, along with the previous reviews of other countries in different regions, highlights the need for a common and cohesive policy framework on early cancer care.

1.3. Aim and scope of this study: the need for a common policy framework on early cancer care

Early cancer care is widely recognised as a key component in cancer control (OECD 2024). While many countries have introduced national cancer plans or updated regulatory frameworks, implementation of early detection and prevention strategies continues to vary widely. In some settings, such as Italy, the United States and Australia, strong governance structures, clear diagnostic pathways and robust screening programmes have enabled earlier diagnosis. In others, like Rwanda and Colombia, fragmented systems, uneven resources, insufficient investment in primary care, and gaps in workforce or infrastructure, have hindered progress. These regional and national disparities mean access to timely diagnosis and high-quality early cancer care is still far from equitable.

Detecting and diagnosing cancer earlier significantly improves health outcomes, reduces treatment complexity and lowers long-term system costs (WHO 2025). Countries that have implemented comprehensive and cohesive policy structures and plans on cancer control, and standardised referral protocols, national monitoring systems or coordinated cancer networks, demonstrate what is possible when policies are well aligned. However, designing such policies is inherently complex. Cancer strategies and policies must consider comprehensive frameworks, including key policy components that foster early cancer care, as well as provisions that address barriers to the implementation of these policy components and early cancer care access. This requires engagement from multiple stakeholders and mechanisms to ensure consistency across different levels of a health system, underscoring the need for a shared and cohesive policy framework to guide countries in strengthening early cancer care in a coherent and evidence-informed way. Establishing common principles and identifying the key enablers of success – such as clear care pathways, strong data systems, coordinated governance and equitable access to screening – can help countries move beyond isolated initiatives towards more sustainable, system-wide improvements.

A cohesive early cancer care policy framework has the potential to deliver health, social and economic benefits by improving how health systems introduce patients into the healthcare pathway as early as possible. From a health and outcomes perspective, such a framework could allow cancers to be detected at more treatable stages, thus improving survival rates, reducing treatment complexity, and enhancing patients' quality of life. Detecting and treating cancer early reduces the need for costly late-stage therapies and hospitalisations, generating substantial long-term economic benefits for health systems. Improving prevention and early diagnosis reduces productivity losses related to premature mortality and long-term disability, benefiting both households and economies. A policy framework for early cancer care can support cancer control and reduce the human and economic burden of cancer.

The Mission Early initiative therefore seeks to identify the key pillars of a policy environment to promote early cancer care. In its previous research (as outlined above), the initiative developed an index to measure the suitability of policy environments for early cancer care across Europe, the UK and the United States.

This initial study identified the key domains within a policy environment that enable early cancer care, and highlighted countries with the strongest policy foundations, drawing insights from their best practices.

Building on these findings, the current study aimed to define the essential components and characteristics of an ‘ideal’ policy framework for early cancer care from a policy perspective, using consensus-building research methods. Specifically, this study sought to gather expert perspectives on effective early cancer care strategies, examine relevant policy approaches and interventions, and establish consensus on the core elements and implementation strategies that can underpin an optimal policy framework for early cancer care.

To identify relevant experts, and to give continuity to Mission Early’s previous work, we consulted with the Advisory Group and Expert Advisors on the geographical scope for this study. We aimed to include countries from all regions of the world and with different levels of income. In agreement with Mission Early, we included 10 countries with some of the most advanced policy environment for early cancer care, as well as countries with less advanced early cancer care environments. The countries included in our scope are Australia, Colombia, Germany, Italy, Japan, Mexico, Romania, Rwanda, the UK and the United States.

Furthermore, Mission Early’s previous study investigated certain cancer types with early detection interventions and established programmes and guidelines. To give continuity to the research, we included early cancer care provisions for breast, cervical and colorectal cancer; in consultation with the Advisory Group and agreement with Mission Early, we also included lung cancer.

Additionally, to inform a policy framework for early cancer care and to build upon Mission Early’s first study (CERGAS and SDA Bocconi School of Management 2024; Mission Early 2024), we considered the policy areas reported and explored in the first study, which had also been identified in cancer initiatives as core elements in early cancer care. These dimensions include health literacy, early detection (including screening), early diagnosis and early treatment.

2. Methodological approach

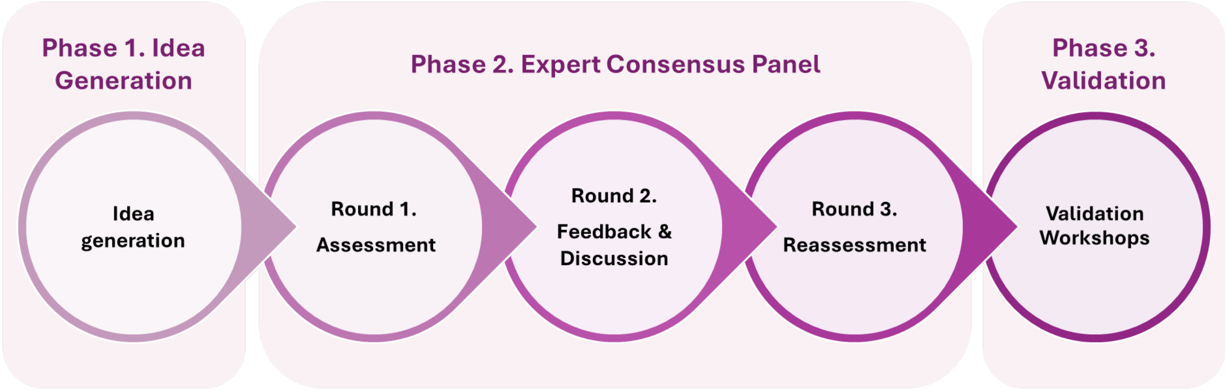
Building on Mission Early's previous research – the Lavender Report (CERGAS and SDA Bocconi School of Management 2024) – this study focused on defining key components and characteristics as the building blocks of a framework on early cancer care from a policy perspective, using consensus-building research methods. This section presents the study design and methodological approach to gathering expert perspectives on early cancer care and reaching consensus on key policy domains, and components of a policy framework.

2.1. Study design

The study followed an Expert Consensus research design. This approach is frequently used in policy analysis and health services research to understand the views of experts and measure levels of consensus among expert participants (Dalal et al. 2011). It is based on a mixed-methods approach to data collection, where levels of agreement are quantified and the reasons consensus was, or was not, reached are analysed thematically (Dalal et al. 2011).

The design and the implementation of the study was supported and consulted with members of Mission Early's Advisory Group. This study had the following phases:

Figure 1: Study design



- Phase 1: The initial phase focused on Idea Generation, where a preliminary questionnaire to cancer policy experts from a range of selected countries was employed to understand views on existing and potential early cancer care policy strategies. Expert views and perspectives in this preliminary round were analysed using a thematic approach to generate a selection of policy strategies on which Expert

Consensus would be assessed regarding their importance to a policy framework and their feasibility to implement in real-world practice.

- Phase 2: The second phase consisted of the three rounds of the Expert Consensus Panel (Rounds 1 to 3) conducted using ExpertLens^{TM}, a web-based platform developed by RAND to facilitate Expert Consensus Panel processes. ExpertLens^{TM} provides several advantages by enabling participants to 'consider, individually and as a group, options for setting priorities related to a specific topic or explore agreement among the group members on a given issue', aiming to let participants 'make decisions based on a combination of their personal or professional experience; accurate information; their personal and societal values; and the exchanges they have with others who relate different perspectives and experiences.' (Dalal et al. 2011).
- Phase 3: The third phase consisted of Validation Workshops held at different stages of the study – one after the Round 1 and two Validation Workshops after the conclusion of the consensus panel (after Round 3). These workshops included a range of experts representing different disciplines (clinicians, public health professionals, patient advocates and researchers) relevant to cancer policy. These Validation Workshops evaluated the findings of the previous stages and developed final recommendations for a policy framework on early cancer care.

2.2. Stakeholder mapping and engagement

To ensure a comprehensive and balanced panel, we initially conducted a stakeholder mapping exercise, identifying key domains relevant to early cancer care policy. Stakeholders included individuals with professional expertise in cancer policy, clinical practice, public health, patient advocacy and health systems research.

The aim of the panel was to provide perspectives on and experiences of current policies and initiatives on early cancer care and build on these to provide insight into the components necessary to build an ideal policy framework for early cancer care in an international policy context. The selection of panel contributors followed comprehensive stakeholder mapping. The sampling strategy for panellists sought to ensure a diversity of relevant professional perspectives and disciplines, as well as covering the geographic scope of this study.

For the selection of panel participants, relevant institutions and stakeholders were identified through a stakeholder mapping process using a multi-method stakeholder identification strategy. First, an online/desktop search was undertaken to scope for relevant policy documents, cancer plans, academic literature, grey literature (government sites, non-governmental organisations (NGOs), professional associations) and social media (LinkedIn) to look for authors and other stakeholders relevant in cancer control and early cancer care. The searches started with the name of the country followed by 'cancer plan'; 'early cancer care'; 'current cancer policy'. Stakeholders were identified via various websites, such as national health departments/ministries, patient advocacy groups, online reports from government and non-government sources, and professional associations.

In addition, snowball sampling was conducted, scoping for relevant organisation colleagues, co-authors and LinkedIn connections. Finally, in every invitation email, each stakeholder was prompted to share the study with any relevant colleague, which resulted in some emails being shared within organisations and new stakeholders being identified.

Personal and professional networks were also leveraged for stakeholder mapping, with invitations to participate in the study shared with the Advisory Group and colleagues from previous collaborations. The study invitation was additionally disseminated through personal LinkedIn pages and other wider professional networks.

In total, 238 stakeholders from 107 organisations were identified and contacted. The identified stakeholder types included healthcare professionals (HCP), health economics professionals, health technology assessment (HTA) experts, public health experts, healthcare or cancer policy experts, and patient advocates. The organisations were a mix of regional, national and international government institutions, non-profit charities such as cancer advocacy groups, patient and professional associations, and universities. Table 1 and Annex A provide further details.

Table 1: Number of organisations and stakeholders identified, by country

Country	Organisation (n=)	Experts (n=)	Types of stakeholders
Australia	14	31	All
Colombia	8	17	Healthcare and cancer policy, Health economics, Public health, HCP, Patient advocacy
Germany	14	26	Healthcare and cancer policy, Health economics, Public health, HCP, Patient advocacy
Italy	11	14	Public health, HCP, Patient advocacy
Japan	9	22	Health Economics, HTA, HCP, Patient advocacy groups, Public health
Mexico	13	30	Healthcare and cancer policy, HTA, Public health, HCP, Patient advocacy
Romania	10	19	Healthcare and cancer policy, Public health, HCP, Patient advocacy
Rwanda	5	14	Healthcare and cancer policy, Public health, HCP, Patient advocacy
UK	11	32	Healthcare and cancer policy, Health economics, HCP, Patient advocacy
United States	10	27	Healthcare and cancer policy, Health economics, Public health, HCP, Patient advocacy
Europe	1	5	Patient advocacy
Global	1	1	Healthcare/Patient advocacy
Total	107	238	-

HCP – healthcare professionals; HTA – health technology assessment experts

Initial recruitment and engagement with experts took a targeted approach. The research team contacted experts via publicly available email addresses on their affiliated professional organisations or institutional websites. Invitation emails contained a link to the study's privacy notice, participant information sheet and informed consent form, as well a secure link to the Idea Generation questionnaire. Only those consenting to participate could access and complete the initial survey. This approach was designed to optimise transparency and compliance with General Data Protection Regulation (GDPR) legislation. Phase 1 served to build a pool of experts for the Expert Panel as well as for data collection (as explained in Section 2.3.1). Due to the number of experts consenting to participate in the study (52 experts, further details available in Section 3.2), all experts who responded to the Idea Generation questionnaire (Phase 1) were considered and invited to the Expert Consensus Panel (Phase 2).

Validation Workshops were held after the Expert Consensus Panel. Experts who took part in the workshops were identified via the stakeholder mapping previously done and recruited via email. Experts who took part in the workshop after Round 1 were engaged via Mission Early and attended the workshop in person. Experts who took part in the workshops after Round 3 were sent an initial invitation email and were given a choice of two separate dates and times. Those confirming preference and attendance were sent an invitation link to a Microsoft Teams virtual meeting by email.

2.3. Data collection

As outlined in Figure 1, the study followed three phases of stakeholder engagement to collect data on policy components of a policy framework and assessing their importances and implementation feasibility. This section provides details of how data was collected throughout the different phases of the study.

2.3.1. Phase 1. Idea Generation

This panel utilised a preliminary round focused on Idea Generation, where cancer policy experts provided their views on current early cancer care policies and strategies with the most potential for future use in the early cancer care pathway. These insights formed the basis of the content for the following rounds of the panel (Rounds 1 to 3 through ExpertLens^{TM}). To develop the tools for preliminary data collection, the research team conducted a targeted review the findings and recommendations of the Lavender Report (CERGAS and SDA Bocconi School of Management 2024). Draft survey items were developed to capture a broad range of perspectives and were reviewed for clarity, comprehensiveness and relevance by the study's Advisory Group and quality assurance reviewers. Their feedback helped to ensure that key topics and themes were addressed appropriately, and to refine the wording and structure of the questions. In addition, the survey underwent light piloting within the research team to check for usability, logical flow and timing, with minor revisions made accordingly.

The Idea Generation questionnaire was sent to participants in July 2025 using Smart Survey, a web-based survey platform. The questionnaire was open to participants for a month and closed in August 2025. The questionnaire included open-ended questions designed to elicit participants' perspectives on the key policy components and essential characteristics of an optimal early cancer care policy framework. Participants were prompted to consider examples of existing initiatives in addition to novel or untested policy ideas. Questions were set generally across the whole early cancer care trajectory, rather than focusing on specific stages, to allow for a greater range of responses. A further set of open-ended responses considered barriers and facilitators for the implementation of the identified policy initiatives or ideas. Respondents were also asked several demographic questions relating to their areas of expertise, experience in the cancer policy field, and primary country of professional activity (further details of the Idea Generation Questionnaire are available in Annex B).

The results of Phase 1 were analysed and used to develop the different policy components that were assessed in the Expert Consensus Panel (Phase 2, Round 1 to Round 3). Details on the analysis of findings of Phase 1 are detailed in Section 2.4.

2.3.2. Phase 2. Expert Consensus Panel

Round 1: Rating of policy components

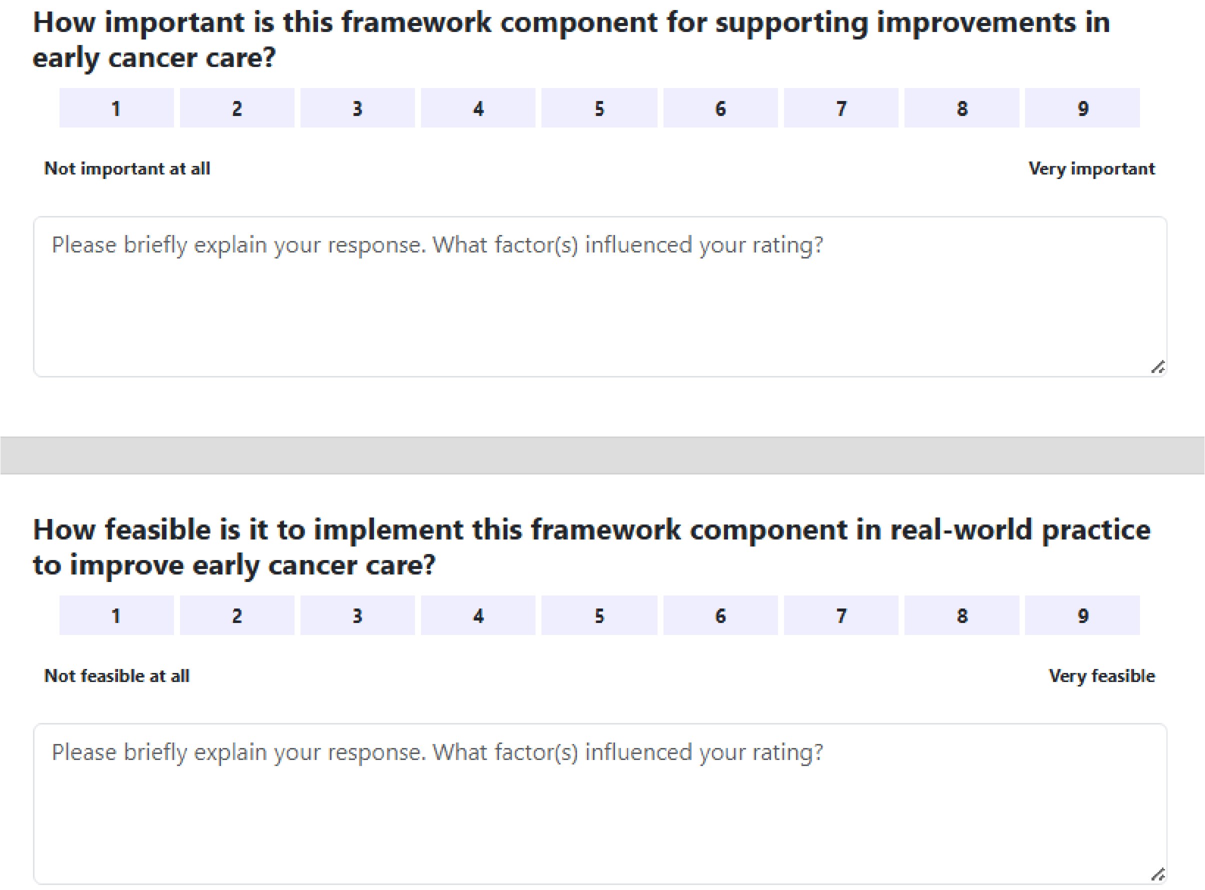
RAND's proprietary platform ExpertLens^{TM} was used as the platform to facilitate the Expert Consensus Panel, due to its several advantages for structured expert engagement, particularly in online and geographically dispersed contexts. Its design supports anonymous, asynchronous, iterative rounds of feedback and rating, helping to minimise groupthink and bias while enabling experts from diverse locations to participate efficiently. ExpertLens^{TM} also includes integrated tools for qualitative and quantitative data collection and analysis, streamlining the analytic process and ensuring transparency of panel ratings, explanation and deliberation (Khodyakov et al. 2023; RAND, n.d.).

In Round 1, participants reviewed early cancer care policy components drafted from the analysis of Phase 1 and rated their importance and feasibility. Importance was defined as the degree to which a component is essential for improving early cancer care outcomes, encompassing potential impact, relevance to current challenges, and contribution to the overall policy framework. Feasibility was defined as the degree to which a component can realistically be implemented, given current resources, infrastructure, stakeholder support, and potential barriers and facilitators. Participants were asked to consider the international dimension of the framework and take variation of implementation between countries and contexts into account. Relevant background information from the Idea Generation questionnaire (Phase 1) responses such as implementation considerations were described for each potential policy strategy to support participants' interpretation of their importance and feasibility. The Round 1 policy components that were assessed and accompanying instructions to participants regarding how to interpret questions relating to importance and feasibility of each potential policy strategy can be found in Annex C.

Participants used nine-point Likert rating scales for both criteria. Scores of 1 to 3 indicate low importance or feasibility (1st tertile), scores of 4 to 6 indicate medium importance or feasibility (2nd tertile), and scores of 7 to 9 indicate high importance or feasibility (3rd tertile). In Figure 2, an example of this rating is provided.

Participants were also encouraged to provide explanations for all rating responses. Explanations formed the basis for engaging in discussion in Round 2 by providing rationale and interpretation for ratings of each policy strategy. All rating responses and explanations were fully anonymous, and the round was open for three weeks. Analysis and synthesis of findings of Round 1 are detailed in Section 2.4.

Figure 2: Screenshot of the rating questions asked in the Round 1 and Round 3 rating exercise



How important is this framework component for supporting improvements in early cancer care?

Please briefly explain your response. What factor(s) influenced your rating?

How feasible is it to implement this framework component in real-world practice to improve early cancer care?

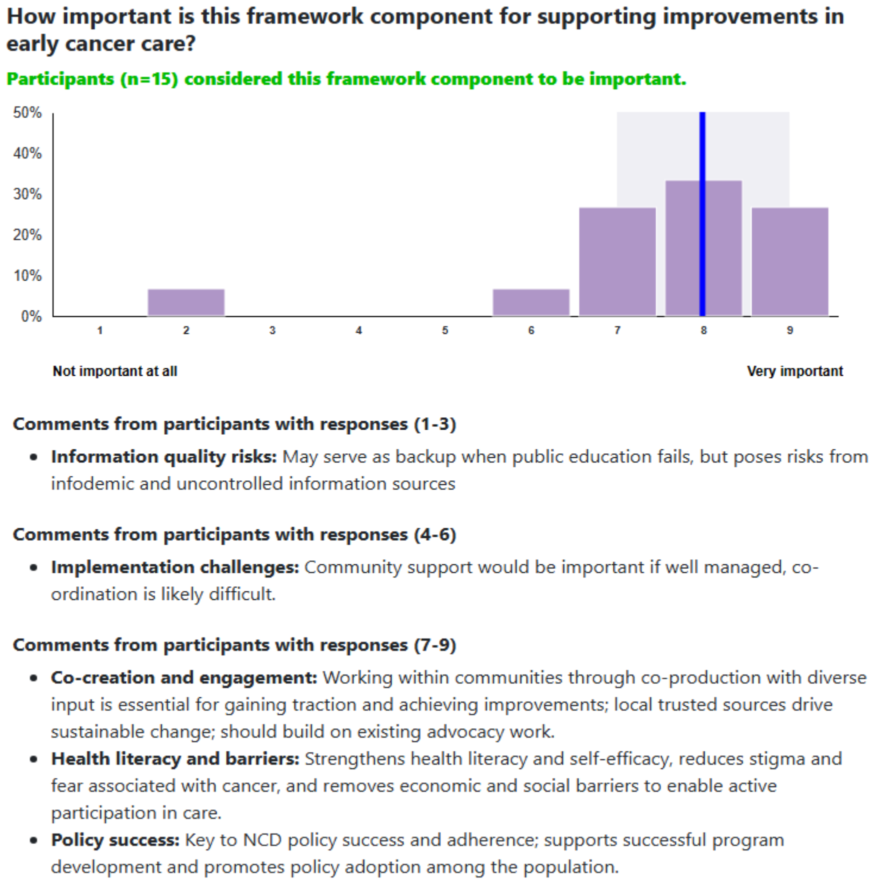
Please briefly explain your response. What factor(s) influenced your rating?

Round 2: Deliberation and discussion

ExpertLens^{TM} automatically calculates participant ratings and levels of agreement after Round 1. The platform determines levels of agreement by calculating the median rating score and distribution of individual responses and visually displays the results using colour-coded charts. Participants can see whether levels of agreement for each question have been reached by looking at colour-coded statements shown on the charts that also include the distribution of responses, the median response, the inter-quartile range (IQR), and participant’s own response (Figure 3). See Section 2.4 for additional details.

In addition, we grouped explanations for ratings provided in Round 1 by tertile of responses to the rating questions and analysed them thematically with the support of a large language model (LLM) used by RAND (OpenAI, GPT-4). Themes generated by the LLM analysis of the textual data were reviewed and modified by the research team and posted next to each rating tertile (i.e. 1-3, 4-6 and 7-9) to help participants understand the overall rationale for participants’ choices of rating score for each policy component. Themes within each response tertile were presented as a bullet points, followed by more detailed descriptions of each theme. Figure 3 shows how the comments from Round 1 were thematised and presented in a summary for each policy component. ExpertLens^{TM} users could also view all individual (anonymous) comments that were made during Round 1 for each policy component.

Figure 3: Screenshot of Round 2 summary information seen by participants for each of the 10 policy framework components



How important is this framework component for supporting improvements in early cancer care?

Participants (n=15) considered this framework component to be important.

Comments from participants with responses (1-3)

- **Information quality risks:** May serve as backup when public education fails, but poses risks from infodemic and uncontrolled information sources

Comments from participants with responses (4-6)

- **Implementation challenges:** Community support would be important if well managed, co-ordination is likely difficult.

Comments from participants with responses (7-9)

- **Co-creation and engagement:** Working within communities through co-production with diverse input is essential for gaining traction and achieving improvements; local trusted sources drive sustainable change; should build on existing advocacy work.
- **Health literacy and barriers:** Strengthens health literacy and self-efficacy, reduces stigma and fear associated with cancer, and removes economic and social barriers to enable active participation in care.
- **Policy success:** Key to NCD policy success and adherence; supports successful program development and promotes policy adoption among the population.

During Round 2, participants were asked to review the results of Round 1 and discuss them with other Expert Consensus Panel participants. Participants were invited to review how their own Round 1 responses compared to those of other experts. Throughout Round 2, participants received digests to their registered email addresses every two days, which highlighted recent discussion activity among participants, aiming to encourage further engagement in the discussion.

The opportunity to review the level of agreement on each policy strategy's perceived importance and feasibility allowed participants to reflect on their interpretations and engage in an anonymous, asynchronous, moderated discussion about the challenges and opportunities associated with different policy strategy. Discussion points could be raised by participants relating to any policy component that had a dedicated discussion board. Participants could also comment directly on the rationale provided for specific ratings by participants in Round 1, as well as react to specific rationales using the 'like' button function. In the discussion of responses, the research team – acting as panel moderators – encouraged participants to further share their perspectives, prompted conversations that provided additional insights, and responded to specific areas of disagreement among the panel.

Round 2 was open for 12 days. Further details on the analysis of Round 2 are provided in Section 2.4.

Round 3: Re-rating

In Round 3, participants were able to review Round 2 discussions, their own original ratings, and the group’s summary rating statistics. Participants were invited to reflect on their original ratings from Round 1 and adjust their ratings for any of the policy strategies if they wished. Round 3 allowed participants to consider the discussions with other experts that happened in Round 2 to support any adjustment (if needed) of their initial ratings. This process is central to Expert Consensus Panel methodology for promoting informed convergence (Khodyakov et al. 2023), while respecting individual judgement.

As in Round 1, participants were encouraged to articulate the reasoning behind any adjustments they made to their ratings after reviewing group feedback and discussion results from Round 2 and the round was open for three weeks. Details on the analysis and synthesis of Round 3 is provided in Section 2.4.

2.3.3. Phase 3. Validation Workshops

Validation Workshops were held after Rounds 1 and 3 of the Expert Consensus Panel. The findings of the panel were presented, and participants were asked to give feedback on the different policy components to build an ‘ideal’ policy framework for early cancer care and discuss the feasibility of implementing these policy components. A first workshop took place after Round 1 in person, in Berlin on 17 October 2025. After Round 3 two final workshops then took place virtually via Microsoft Teams on 19 and 21 January 2026, to validate the findings of the Expert Consensus Panel. The workshops invited experts on early cancer care to discuss the results of the panel and provide input on how to improve implementation feasibility, and further insights for developing a policy framework for early cancer care.

The research team presented the outcomes and key learnings from the Expert Consensus Panel, including identified policy components, ranked by their importance and feasibility according to experts, and levels of consensus agreed for each component. Workshop participants then discussed recommendations for further research and policy practice, how to improve feasibility of each policy component, and how to address barriers and leverage enablers. The research team moderated the discussion to ensure all aspects of the framework were adequately discussed by the participants. The workshops were recorded, and observational notes were taken throughout to capture participant perspectives on the final framework and its potential for implementation in real-world early cancer care policy.

2.4. Data analysis and synthesis

This section outlines the analytical approach applied to the data collected across each phase of the study, encompassing the preliminary survey (Phase 1), the three iterative ExpertLens^{TM} panel rounds (Phase 2, Rounds 1 to 3), and the final Validation Workshops (Phase 3). At each stage, data analysis was undertaken with the dual purpose of informing subsequent phases and refining early cancer care policy components and key considerations for their implementation. The ExpertLens^{TM} platform facilitated collection and integration of both quantitative (ratings) and qualitative (explanations, discussion commentary) data, supporting a mixed methods approach to understanding Expert Consensus. This mixed methods approach integrated systematic qualitative thematic analysis with quantitative evaluation of Expert Consensus to facilitate a robust understanding of expert perspectives and priorities. Our analytic process was structured as follows.

2.4.1. Qualitative data analysis

Phase 1. Idea Generation:

The analysis of preliminary input provided by the experts in Phase 1 was used to develop the 10 policy components presented to the panel and their accompanying background information. The proposed policy components as written for the expert panel are shown in Annex B.

Responses from the Idea Generation questionnaire were thematically analysed to identify and categorise early cancer care policy strategies for subsequent panel rounds. Both deductive and inductive coding approaches were used: initial open coding was followed by theme development guided by the Mission Early handbook (Mission Early 2024) with iterative refinement based on continued engagement with the data. Responses on implementation enablers and barriers were coded alongside strategy themes to provide relevant contextual details.

After reaching agreement within the research team, each suggested strategy from Phase 1 was mapped to one or more overarching policy component types, with regular review to ensure accuracy and credibility.

To refine the set of policy strategies for evaluation in Phase 2 (Rounds 1 to 3), implementation considerations provided were systematically mapped by respondents in the preliminary questionnaire to the initially identified early cancer care policy components. For many responses, the link to a specific policy component was straightforward; however, some required more interpretive analysis to accurately map the consideration to the relevant component. Once mapped, implementation considerations were thematically analysed and grouped into categories such as challenges, enablers and opportunities, employing a light-touch yet systematic approach.

Through this process, policy components with the most related insights were identified, which supported the prioritisation of policy component types for inclusion in the set of 10 policy components presented in the subsequent rating and deliberation rounds. The resulting thematic analysis informed the development of standardised contextual summaries for each policy component, providing experts with balanced and comprehensive background information to support informed interpretation and assessment during the rating phases. The coding and analysis of implementation considerations, which formed the basis for refinement, were supported by NVivo software to ensure systematic data organisation.

Phase 2. Rounds 1 to 3:

Qualitative data generated from explanations of ratings and online discussion were analysed thematically to identify key rationales for judgments of importance and feasibility, as well as recurrent barriers and facilitators for implementation. The qualitative analysis of ExpertLens^{TM} data (explanations of rating choices, discussion comments and responses) also served to better understand how and why the proposed strategies might or might not be important for an early cancer care policy framework, and to identify potential barriers and facilitators for such strategies' implementation in healthcare or health policy practice.

In this process, initial theme identification was assisted by the ExpertLens^{TM} LLM, which was used to generate draft summaries of recurring ideas within the textual data. These preliminary themes were subsequently cross checked by manual review of participant responses to ensure consistency and contextual accuracy. This approach was intended to support a systematic and transparent analysis of the qualitative data.

Phase 3. Validation Workshops:

Notes taken during the workshop and recordings were used to thematically analyse the data generated. The insights provided by participants were cross checked against the recording to draw out themes and rationale for identifying enablers and barriers to implementation of the various policy components. The identification and manual review of these themes aided in the systematic write-up and summary of the workshop findings.

2.4.2. Quantitative data analysis

Throughout the study, only Phase 2 – more specifically during Round 1 and Round 3 – collected quantitative data: ratings of importance and feasibility for each policy component. In this section, details on the analytical approach to quantitative data are provided.

To determine the extent of agreement among the experts on the importance and feasibility of each policy component in Round 1 and Round 3, the rating data was first analysed for each rating question.

Quantitative analysis consisted of descriptive analysis of panellists' ratings. These scores were used as prompts for qualitative discussions in the Validation Workshops. Ratings from Rounds 1 and 3 were analysed via ExpertLens^{TM} software, which automatically generates median ratings and Inter-Quartile Range (IQR). Median ratings were used to interpret the overall rating of each policy component, with median ratings of 1-3 indicating low importance or feasibility (1st tertile), 4-6 indicating medium importance or feasibility (2nd tertile), and 7-9 indicating high importance or feasibility (3rd tertile). IQRs were reported to further understand distribution of ratings. To facilitate comparison of rating dispersion across rounds and strategies, distribution of responses was visualised with boxplots for each strategy and round, which are also automatically generated by ExpertLens^{TM}.

A rank-ordered list of strategies was generated based on median scores for both criteria. Where ties occurred, feasibility was treated as a secondary criterion for ranking.

2.4.3. Synthesis

Following the completion of all data collection and analysis of all study phases, a comprehensive synthesis stage was undertaken to triangulate the findings and converge on a set of policy domains and components to constitute a model for a policy framework on early cancer care. Insights from the preliminary survey (Phase 1, Idea Generation), ExpertLens^{TM} panel discussions and ratings (Phase 2, Expert Consensus Panel), and Validation Workshops (Phase 3) were systematically compared and integrated. This process allowed the research team to identify points of consensus, clarify areas of divergence or uncertainty, and ensure that the most salient policy components and considerations highlighted by the panel were clearly reported. Synthesis involved reviewing and mapping themes and priorities emerging from each phase onto one another, with careful attention to patterns of agreement and justification provided by participants.

3. Findings

This section provides the overall findings of this study. In each section below the main findings of each phase of the Expert Consensus Panel study are described. First, the findings of the Idea Generation round (Phase 1) are presented. Phase 1 allowed for the initial identification of policy components that were assessed in the following rounds. The findings of each round of the Expert Consensus Panel (Round 1, Round 2 and Round 3, Phase 2) are then outlined, reporting the quantitative and qualitative findings based on the ratings and rationale provided by the participants in the panel through ExpertLens^{TM}. Finally, the key findings from the insights and perspectives shared by experts participating in the Validation Workshops (Phase 3) are described.

3.1. Phase 1. Idea Generation

Phase 1 of this study was used for generation of ideas and exploration of expert perspectives on policies and strategies that support early cancer care. This round also focused on exploring implementation considerations for these policies (e.g. measurement challenges, barriers and enabling factors in the policy system or healthcare environment, experience with similar initiatives in other settings). These perspectives and experiences on policies allowed for the identification of potential policy components for a framework on early cancer care.

A total of 52 individuals responded to the initial survey questionnaire by responding to at least one demographic question. Of these, 32 individuals provided full answers to all the Idea Generation questions and were subsequently included in the initial analysis of policy components. The breakdown of experts contributing to Phase 1 is shown below (Table 2), in terms of years of experience and area of expertise/stakeholder group relevant to cancer policy, and in Figure 4 we present the country or regional location to which their expertise is most relevant.

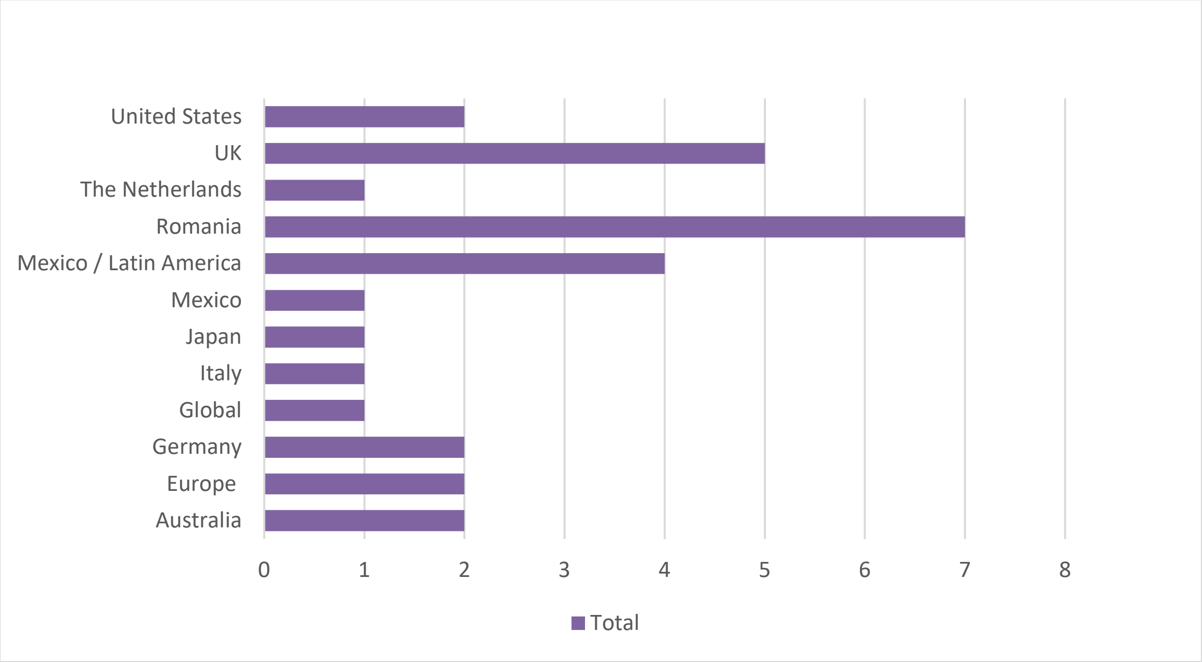
Table 2: Idea Generation respondent overview, by type of stakeholder and years of experience

	How many years of professional experience do you have relevant to cancer care/policy?					
Which stakeholder group do you most closely affiliate with?		0-10 years	10-15 years	15-20 years	20+ years	Totals
	Clinician/HCP	2	2	3	4	11 39.3%
	Researcher (medical/ epidemiological)	1	1	0	2	4 14.3%
	Policy advisor/consultant	0	1	0	2	3 10.7%
	Policy officer/Policy maker	0	1	2	0	3 10.7%
	Other*	3	1	1	1	6 17.9%
	Total	6	6	6	9	27 100%**

*Other stakeholders specified: medical charity representative, HTA, pathologist, charity sector, global NGO, evidence-based health information manager.

** 5 of 32 respondents did not answer the question about their stakeholder group.

Figure 4: Country of origin and Region where expertise is most relevant



Note: Due to the recruitment approach of inviting experts via LinkedIn, several participants from outside the intended country scope, including those representing the Netherlands, European, and global organisations, were also included.

3.1.1. Policy components

From 32 individuals who fully answered the preliminary questionnaire, a total of 132 coded responses were identified as suggested policy components or strategies. Many were overlapping and were ultimately grouped into broader categories during the analytic coding and mapping process, resulting in several distinct policy components. These policy components are shown in Table 3 below. This includes examples of proposed strategies by respondents that were mapped to each type. Descriptions of the policy strategy types, which are also shown in the table, were iteratively refined throughout the mapping process.

The category of policy component most identified was Detection Innovation, with 20 individual mentions. This category refers to the incorporation of innovative detection technologies, such as novel imaging approaches and biopsies, including research to establish their clinical- and cost-effectiveness, to improve efficiencies and to add value to traditional cancer detection methods. A recurrent example were policies related to the use of multi-cancer early detection (MCED) platforms. This strategy type overlapped in scope with Expanding Screening where innovative screening methods were suggested, for example with the use of home-based testing kits. Expanding Screening was the fourth most referenced strategy type, behind Public Education and Care Pathway Coordination. As well as being identified in several responses as a potential strategy, many respondents noted that Data Infrastructure is an important implementation consideration across many policy intervention areas. Improving data systems was seen as crucial to creating more effective and integrated monitoring and surveillance of cancer burden and care trajectories.

Additionally, implementation considerations identified through Phase 1 consist of a range of technical, governance, financial and organisational/institutional aspects. For the more innovation-focused strategy types, research and evaluation to establish the clinical- and cost-effectiveness, and value for money of innovative technologies and delivery models, was seen as paramount to real-world implementation. Action to address the effects of novel policy implementation on potential health inequalities and disparities – including the potential to exacerbate such inequities through policy intervention – was seen by many experts as a critical cross-cutting theme through most strategies' implementation. A focus on developing co-creative approaches and community-driven initiatives was considered a key route to the success of a range of various policy strategies, for example those focused on public and health professional education, screening, detection and access to treatment, particularly in relation to underserved communities.

Table 3: Identified types of early cancer care policy strategies, frequency and thematic analysis of Idea Generation questionnaire responses

Policy strategy type emerged from Idea Generation responses	Count of potential strategies mapped to this policy strategy type	Identified policy components from survey responses	Description of policy strategy type (key themes identified from survey responses)
Data Infrastructure	8	More effective and consistent data across the country, provided in real time across each stage of the cancer pathway Implementing national cancer registries	*Establishing interoperable digital infrastructure across health systems and services to support clinical follow-up and patient traceability and to improve monitoring*
Strengthen Primary Care Capacity and access	8	Strengthen the capacity of primary-level care for the timely detection and referral of suspected cancer cases More direct access diagnostics for primary care along with support to use them	*Strengthening Primary Care Capacity to reduce diagnostic delays, improve timeliness of clinical referrals of suspected cases, and improve overall continuity across the cancer care pathway*
Public Education	13	Further engaging survivors, social media, other messaging strategies to improve education, screening and early treatment National and regional awareness campaigns	*Expanding public education campaigns and targeted initiatives to raise awareness among high-risk and underserved populations about cancer risk factors and prevention, early symptoms and available services such as screening programmes*
Expanding Screening	11	Screening programmes included in National Cancer Control Plan, formally mandated, with standardised eligibility, invitations and reimbursement Stratified screening programmes (risk-specific early cancer care)	*Expanding cancer screening programmes and implementing innovative approaches to reach high-risk and marginalised populations, increase the reach and effectiveness of cancer screening, and improve screening equity, uptake and outcomes*

Detection Innovation	16	Incorporating innovative technologies, such as HPV self-sampling and the use of AI in imaging, AI-based screening Further development of MCED platforms	*Incorporating innovative detection technologies, including research to establish their clinical- and cost-effectiveness, to improve efficiencies and to add value to traditional cancer detection methods*
Care pathway coordination	14	Care networks like Tumour Boards to reinforce coordination between teams and hospitals. Use of patient navigators to help people with cancer understand and complex diagnostic and treatment pathways	*Enhancing care coordination pathways across the cancer care continuum to minimise delays between detection, diagnosis and treatment*
Diagnostic Innovation	6	Dedicated diagnostic investigation hubs Implement mobile units for rural or marginalised populations	*Integrating innovative diagnostic technologies and techniques and broaden their availability throughout healthcare systems to reduce diagnostic delays and improve access for underserved populations*
Financing and Incentivisation	5	Incorporation of geriatric oncology into treating teams and training syllabus Market shaping to decrease cost of screening (e.g. HPV DNA testing in LMIC)	*Developing incentivisation structures, such as performance-based financing mechanisms, that encourage early diagnosis and referral adherence*
Monitoring and Real-world Evidence (RWE)	6	Utilisation of national cancer registries to inform guideline updates Routine collection of patient-reported outcome measures (PROMs) to provide a) holistic information to inform care of the individual, b) aggregate data to help understand population need and unmet need	*Enhancing monitoring and surveillance by leveraging RWE and ongoing research to benchmark services, drive improvements and prioritise cost-effective interventions*
Health behaviours/prevention	2	Smoking cessation programmes and additional policies e.g. insurance to participate	*Interventions and initiatives focused on adapting behaviours to improve preventative measures and health behaviours*

Community Empowerment	8	Working with communities from within, to co-create strategies and channels for cancer awareness Further use of online tools like CancerRisk360 engaging local cancer organisations	*Empowering communities and the public to be more actively involved in cancer prevention and early detection through engagement initiatives*
Economic-financial structures	6	Market shaping to decrease cost of screening (e.g. HPV DNA testing in LMIC) Fostering public–private partnerships	*Interventions primarily focused on the financial dimension of early cancer care such as cost and reimbursement processes*
HCP training and education	5	Workforce development, investing in continuous professional education on early signs, rare presentations and patient communication Training primary care providers to recognise early warning signs, coupled with clear referral pathways and 'fast-track' diagnostic services	*Providing education and professional development to healthcare professionals to improve quality of care and associated outcomes*

Following the initial categorisation of policy component types, the mapping of implementation considerations from the Idea Generation questionnaire served two primary purposes: first to refine the policy component domains and second to support our selection of policy component types for further assessment and evaluation.

As summarised in Table 4, these findings guided the prioritisation of policy components for the rating exercises in Rounds 1 to 3. Policy components with the most related insights, including both the initial suggestion of potential policies and relevant implementation considerations, were selected for further evaluation, resulting in a refined and targeted list of 10 strategies for subsequent rounds. Contextual summaries developed through thematic analysis provided consistent background information for experts during the rating process (Phase 2, Rounds 1 to 3). These components formed the basis of Round 1, allowing experts to assess their importance within an early cancer care policy framework and their real-world feasibility. Descriptive overviews drawn from Phase 1 responses were presented in a standardised format to support interpretation and facilitate comparison. Annex B shows how these policy components and background descriptions were presented to experts participating in Rounds 1 to 3 in ExpertLens^{TM}. This approach enabled the identification of those policy components considered most relevant and actionable in the context of advancing early cancer care.

Table 4: Implementation considerations (for policy component selected for Phase 2) identified and analysed from Phase 1 responses

Policy component	Identified implementation enablers/challenges	Identified implementation opportunities
Data Infrastructure	Interoperable electronic health records and other data sources such as cancer registries, enabling information flow between primary care and specialists Efficient linkage should enable real-time decision making	Increasing roll-out of single shared digital record
Strengthen Primary Care Capacity and access	A legal and regulatory framework enabling task sharing, collaborative prescribing and decentralised diagnostic services Training and certification programmes for primary care teams	
Public Education	Further research on optimal messaging through social media, how to incentivise education/screening through social media	Working with communities from within, to co-create strategies and channels for cancer awareness
Expanding screening programmes	Research and evaluation to establish the clinical- and cost-effectiveness of interventions Addressing infrastructure and accessibility – screening centres and mobile units should be available across regions, especially rural areas	Including screening in national basic health insurance packages with dedicated reimbursement to increase uptake

Detection Innovation	Partnerships between institution (government), academic institutions and hospitals, patient advocacy and industry to develop innovative solutions (e.g. mobile screening units, AI diagnostics) Equitable access to potentially expensive technology	
Care and treatment pathways	Institutional coordination across levels of care, to ensure timely follow-up from screening through treatment Fragmentation between different healthcare system levels and providers	
Diagnostic Innovation	Level of support from clear regulatory frameworks Partnerships between institution (government), academic institutions and hospitals, patient advocacy and industry to develop innovative solutions Equitable access to potentially expensive technology solutions (e.g. mobile screening units, AI diagnostics)	Pilot programmes (with catalytic funding) to build evidence basis of leveraging technology solutions
Financing and incentivisation	Align funding and allocation strategies with national cancer plans and ensure sustainable financing and inter-institutional coordination	
Monitoring and Real-world Evidence	PROM platforms need to be tested and integrated into existing clinical systems, increasing patient comfort with digital tools and digital assessments such as PROMs Overcoming system focus on academic research rather than RWE	Leveraging RWE generated within public health services to update clinical guidelines and prioritise cost-effective early-stage interventions
Community Empowerment	Intersectoral collaboration (e.g. ministries of health, education and social services) and partnerships with civil society Challenge: mistrust among marginalised and underserved communities	Partnering with NGOs and community networks

3.2. Phase 2. Expert Consensus Panel

This section provides the findings of the Expert Consensus Panel carried out through ExpertLens^{TM} (Phase 2). The findings reflect experts' perception of the importance and feasibility of the (pre-identified) 10 policy components for a policy framework on early cancer. In the sections that follow, we present the main findings from each round, highlighting the ratings of each policy component accompanied by the rationale and additional input provided by the participants, and the extent to which expert ratings changed between Rounds 1 and 3.

Initially, 52 experts who provided their consent in Phase 1 to be contacted again for the remaining of the study were invited to Rounds 1 to 3 hosted on ExpertLens^{TM} (Phase 2 of this study). Of 52 experts invited, 17 consented to participate in the Expert Panel rounds (Round 1 to Round 3) through ExpertLens^{TM}. Further details of the geographical coverage and types of stakeholders engaged in Round 1 can be seen in Table 5 below. Of these, 16 participated in Round 1, and 14 answered all 20 Round 1 rating questions. In Round 2, 11 participants reviewed Round 1 results, and four provided at least one discussion comment or response in the discussion. Further details of the geographical coverage and types of stakeholders engaged in Round 2 can be seen in Table 6 below. Finally, six participants contributed to Round 3, with four answering all 20 re-rating questions and providing rationale for their ratings. Further details of the geographical coverage and types of stakeholders that engaged in Round 3 can be seen in Table 7 below.

Table 5: Geographical coverage and stakeholder type of participants engaged in Round 1

Geographical coverage	Type of stakeholder
UK	Researcher
Mexico	Researcher/Public health expert
Mexico	Researcher
Europe	Researcher (policy)
Mexico	Healthcare policy expert/HTA
US	HCP
UK	Patient advocate
Europe (Netherlands)	Healthcare policy expert
UK	HCP
Australia	Healthcare policy expert
Mexico	HTA
UK	HCP
US	Researcher (policy)
Global/South Africa	Public health professional
Germany	Patient advocate
Romania	HCP
Italy	Researcher

HCP – healthcare professionals; HTA – health technology assessment experts

Table 6: Geographical coverage and stakeholder type of participants engaged in Round 2

Geographical coverage	Type of stakeholder
Mexico	Researcher/Public health professional
UK	Researcher
Italy	Researcher
UK	HCP

HCP – healthcare professionals

Table 7: Geographical coverage and stakeholder type of participants engaged in Round 3

Geographical coverage	Type of stakeholder
UK	Patient advocate
Australia	Healthcare policy expert
UK	Researcher
UK	HCP
UK	HCP
Mexico	HTA

HCP – healthcare professionals; HTA – health technology assessment experts

Figure 5 below provides the general overview of findings of the Expert Consensus Panel. The figure presents the ratings for Round 1 and Round 3. Participants rated how important and feasible they perceived each policy component for building a policy framework for early cancer care. There was consensus among the participants that all the policy components were important. Findings show that eight policy components were rated within the 3rd tertile, suggesting that participants considered these components as important. The ratings of the other two policy components fall in the 2nd tertile (RWE and Incentivisation Structures) suggesting that these components were considered of medium importance.

Participants also rated the implementation feasibility of each policy component, and the consensus on this was rated mostly on the 2nd tertile, meaning medium feasibility for implementation. Participants considered that some policy components were more feasible than others, for example – Public Education and Community Engagement were considered more feasible than the other policy components.

Figure 5: Overview of panel ratings in Round 1 and Round 3 by importance and feasibility

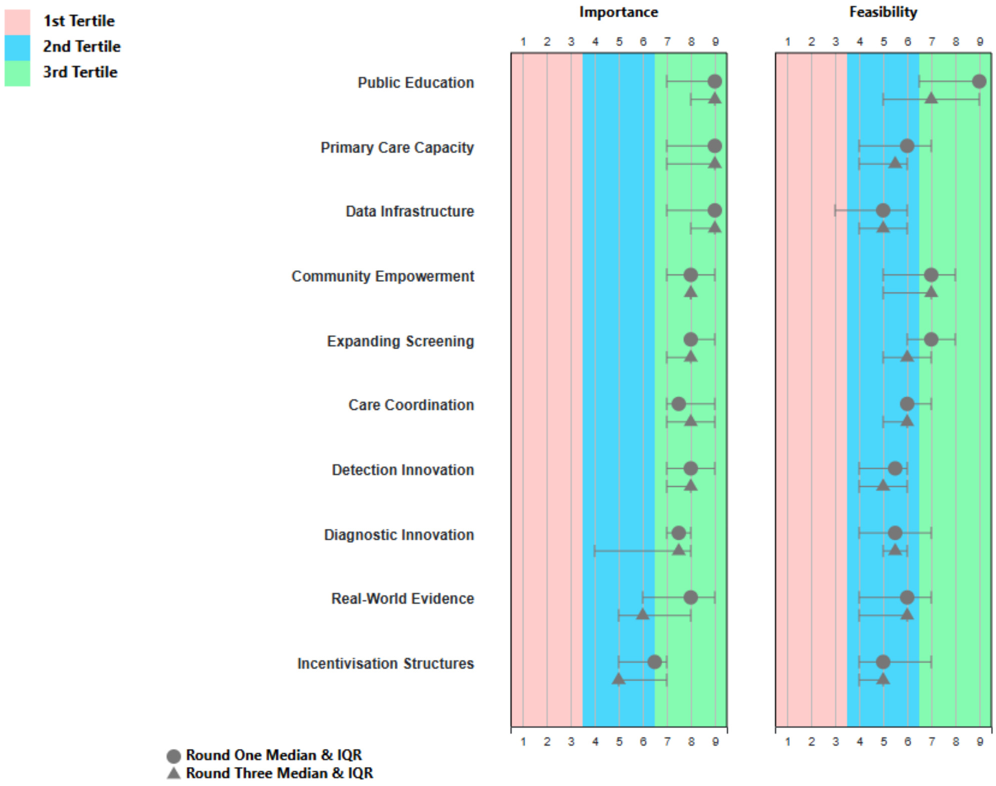


Table 8 below provides further details and the quantitative analysis of median ratings, how they changed from Round 1 to Round 3, and the overall rank of each policy strategy according to importance. Most policy components scored the same or marginally lower on both importance and feasibility in Round 1 compared with Round 3. Most policy components were considered of high importance, while few were rated as feasible and most (seven components) were considered of medium feasibility. Expanding Screening was rated as high importance and high feasibility in Round 1 but shifted to medium feasibility in Round 3 (7.0 to 6.0). Both Real-world Evidence and Incentivisation Structures were rated high importance and medium feasibility in Round 1 but shifted to medium importance in Round 3 (8.0 to 6.0, and 6.5 to 5.0, respectively). These shifts suggest a more cautious assessment of certain components as discussions progressed, reflecting participants' growing focus on the feasibility if implementing these components in real practice. Overall, the absence of low ratings indicates acknowledgment that all components were considered important in early cancer care.

Based on the overall findings, policy components were grouped according to their ratings into three categories:

1. **Strategies with high importance and feasibility**
   a. Public Education
   b. Community Empowerment
2. **Strategies with high importance and medium feasibility**

   a. Detection Innovation
   b. Expanding Screening
   c. Diagnostic Innovation
   d. Primary Care Capacity
   e. Care Coordination
   f. Data Infrastructure

3. **Strategies with medium importance and medium feasibility**
   a. Real-world Evidence
   b. Incentivisation Structures

Overall, these findings show the participants’ perceptions of the relative importance and feasibility of the policy strategies, suggesting a level of agreement within the panel. More details on the findings of each round of the Expert Consensus Panel and wider rationale for the ratings for these policy components are further explained in the following sections of this report (Sections 3.2.1 to 3.2.3).

Table 8: Overview of ranking of policy strategies for Rounds 1 and 3 and analytical sample (rankings based on importance criterion)

Round 1 ranked by median value (interquartile range)				Round 3 ranked by median value (interquartile range)			
Rank	**Policy strategy**	**Importance (Median [IQR], n)**	**Feasibility (Median [IQR], n)**	**Rank**	**Policy strategy**	**Importance (Median [IQR], n)**	**Feasibility (Median [IQR], n)**
1	Public Education	9.0 (7.0-9.0), 14	9.0 (6.5-9.0), 12	1	Public Education	9.0 (8.0-9.0), 5	7.0 (5.0-9.0), 6
2	Primary Care Capacity	9.0 (7.0-9.0), 15	6.0 (4.0-7.0), 13	2	Primary Care Capacity	9.0 (7.0-9.0), 5	5.5 (4.0-6.0), 6
3	Data Infrastructure	9.0 (7.0-9.0), 15	5.0 (3.0-6.0), 14	3	Data Infrastructure	9.0 (8.0-9.0), 5	5.0 (4.0-6.0), 5
4	Community Empowerment	8.0 (8.0-9.0), 15	7.0 (5.0-8.0), 13	4	Community Empowerment	8.0 (8.0-8.0), 6	7.0 (5.0-7.0), 6
5	Expanding Screening	8.0 (8.0-9.0), 15	7.0 (6.0-8.0), 14	5	Expanding Screening	8.0 (7.0-8.0), 5	6.0 (5.0-7.0), 6
6	Real-world Evidence	8.0 (6.0-9.0), 15	6.0 (4.0-7.0), 14	6	Care Coordination	8.0 (7.0-9.0), 6	6.0 (5.0-6.0), 6
7	Detection Innovation	8.0 (7.0-9.0), 15	5.5 (4.0-6.0), 14	7	Detection Innovation	8.0 (7.0-8.0), 6	5.0 (4.0-6.0), 6

8	Care Coordination	7.5 (7.0-9.0), 16	6.0 (6.0-7.0), 14	8	Diagnostic Innovation	7.5 (7.0-8.0), 6	5.5 (5.0-6.0), 4
9	Diagnostic Innovation	7.5 (7.0-8.0), 14	5.5 (4.0-7.0), 14	9	Real-world Evidence	6.0 (5.0-8.0), 6	6.0 (4.0-6.0), 6
10	Incentivisation Structures	6.5 (5.0-7.0), 14	5.0 (4.0-7.0), 14	10	Incentivisation Structures	5.0 (5.0-7.0), 6	5.0 (4.0-5.0), 6

IQR – inter-quartile range

3.2.1. Round 1

In Round 1, 16 participants rated the proposed statements (policy components): Primacy Care Capacity, Data Infrastructure, RWE, Detection and Diagnostic Innovation, Care Coordination, Incentivisation Structures, Public Engagement, Community Empowerment and Expanding Screening. Each component was rated for importance (its perceived value in improving outcomes across the cancer pathway) and feasibility (the practicality of implementing it within health systems) and provided rationale for their ratings.

As described below for each policy component, the findings show that there is a level of consensus on the importance of the different policy components. However, when rating against the feasibility of these domains, the level of agreement varied. Most policy components were rated as important (3rd tertile), particularly Public Education, Primary Care Capacity and Data Infrastructure. Feasibility ratings, however, showed more divergence, where most components were rated with medium feasibility (2nd tertile), suggesting that they were viewed as challenging to implement. Overall, these results highlight a shared recognition of components that are important for improving early cancer care, while underscoring that feasibility for implementation across different contexts can face challenges. In the following sections we present the ratings and summary of the rationale for these ratings for each policy domain. We provide an overall summary of the findings and then a summary of the rationale for each rating – importance and feasibility.

Public Education

Public Education was rated among the highest priority policy components. It is vital for prevention, early detection and building public trust. The concept of co-creation with communities emerged as the dominant success factor, with suggestions that campaigns should be locally tailored, culturally relevant and led by trusted community figures rather than delivered through top-down messaging. Effective education increases health literacy, confidence and satisfaction with health services, and can shorten the time between symptom onset and detection with diagnosis. Feasibility ratings varied more, reflecting differences in resource availability and system maturity. While recognised as cost-effective and scalable, Public Education faces barriers including public mistrust, workforce limitations and the challenge of managing misinformation amplified by digital media. Figure 6 shows the overall ratings by percentage for importance and feasibility of Public Education.

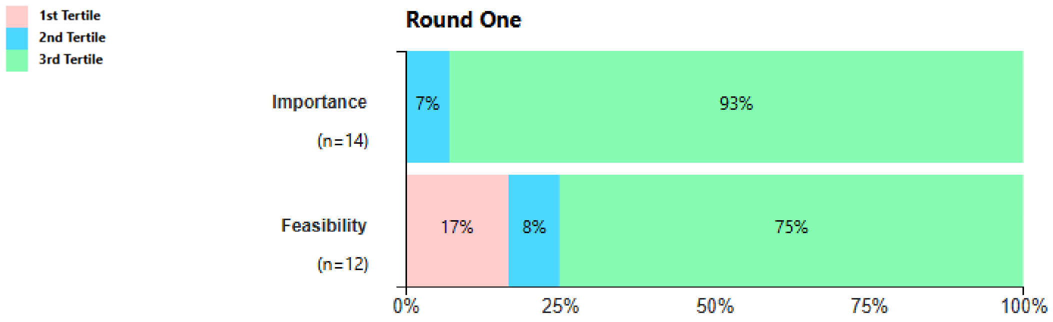
Importance: Public Education was rated as one of the most important policy components in early cancer care, with most panellists rating it as highly important (93 per cent of participants rating within the 3rd tertile; 7 per cent in 2nd tertile). Public Education is crucial, foundational and a keystone for prevention and screening. Key reasons for this include proven potential to increase awareness of risk factors, boost health literacy and motivate health-seeking behaviour, as well as to improve confidence in the health system. There is evidence from tobacco control and screening programme campaigns that well-designed educational efforts can significantly enhance prevention uptake and reduce delays in diagnosis. Co-creation, trust-building and community partnerships are essential conditions for success. Public Education not only shapes attitudes but directly influences the likelihood that individuals will participate in screening and pursue timely care.

'Absolutely vital and should be an early priority and should be led/steered by organisations who already have proven effective experience of doing this exact type of work with community groups/organisations' (Expert 21)

Feasibility: Most panellists rated Public Education as very feasible (75 per cent in the 3rd tertile), while a few rated it as moderately feasible (8 per cent in the 2nd tertile) and unfeasible (17 per cent in the 1st tertile). Implementation is highly context-dependent. Education campaigns are relatively low-cost compared to new technologies, and although there are many examples of impactful programmes and campaigns, they require substantial human resource input, cultural tailoring and multi-year investment to sustain impact. Feasibility depends on existing infrastructure, digital access and health system maturity. In low-resource environments, challenges include mistrust of authorities, low literacy and fragmented communication channels. Innovative ideas such as integrating health messaging into entertainment platforms, celebrity or survivor endorsement or gaming algorithms are potential approaches to increase public awareness, though largely untested. Overall, experts characterised Public Education as highly important and mostly feasible, but with some barriers to address; achievable through community partnerships and low-cost tools, but constrained by short funding cycles and limited workforce capacity.

'Feasibility depends on aligning communication strategies with the cultural, social, and linguistic context of each community. Training health providers and community health workers in culturally sensitive, person-cantered communication is key to overcoming barriers such as limited health literacy or public mistrust.' (Expert 26)

Figure 6: Round 1 rating by percentage for Public Education



Primary Care Capacity

Primary Care Capacity or primary healthcare (PHC) was defined as the foundation of effective cancer prevention and early detection, providing continuity from screening through survivorship. Strong primary care networks reduce delays, improve coordination and promote equity, yet face global shortages of general practitioners and diagnostic capacity. Strengthening their capacity requires investment in workforce training, telemedicine, diagnostic tools and referral systems, supported by task-shifting and community-based delivery models. Long-term sustainability depends on policy reform, financing and integration across sectors. Figure 7 shows the overall ratings by percentage in importance and feasibility of Primary Care Capacity.

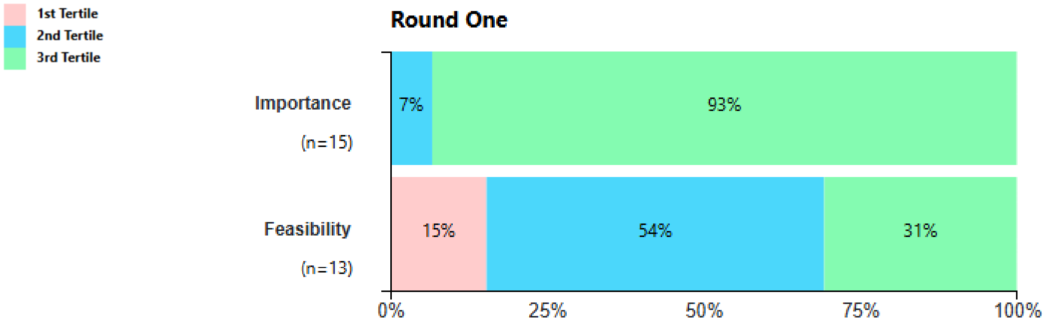
Importance: PHC was rated by most panellists (93 per cent ratings within the 3rd tertile) as important. They described PHC as the foundation of effective early cancer care and early diagnosis. PHC acts as the first point of contact for most patients, coordinating care across the continuum – from detection and referral to treatment, follow-up and survivorship. Expanding PHC capacity can reduce diagnostic delays, ensure continuity and strengthen equity by reaching marginalised populations. In universal healthcare settings, PHC networks are more established but still offer opportunities for optimisation. In LMIC, PHC physicians are often the gateway to the health system, making training, tools and timely referral pathways essential to closing diagnostic and treatment gaps. Investing in primary care yields a dual benefit – enabling earlier cancer detection and reinforcing long-term patient management. However, success depends on sufficient workforce capacity, education of primary care providers (including general practitioners and other specialists), and clarity around what 'early diagnosis' means – whether faster access, faster referral or integrating newer diagnostic technologies.

'This is a critical component to engage with primary care settings as the entry point for the detection of cancers – with education of GPs and specialists (e.g. dentists for oral cancers, gynaecologists, etc.) to ensure timely referral in case of suspicion' (Expert 32)

Feasibility: Most panellists rated expanding PHC as moderately feasible (54 per cent ratings within the 2nd tertile), while some panellist rated it as feasible (31 per cent ratings within the 3rd tertile), and a few panellists considered expanding PHC as not feasible (15 per cent ratings within the 1st tertile). Expanding Primary Care Capacity for early cancer care is challenging but achievable if supported by additional funding, task-shifting, digital technology and community engagement. In high-income settings, primary care networks are incentivised to improve early diagnosis, yet success depends on local adaptation and collaboration. A significant obstacle is the global shortage of primary care practitioners, requiring major investment in workforce growth and training. Integrated service networks, enabled by digital technologies such as electronic health records and telemedicine, can improve coordination, reduce delays and extend specialised cancer care to underserved populations. While moderately feasible, implementation calls for policy reform, sustained funding and structural adjustments to existing health programmes. In LMIC, strengthening primary care calls for building workforce capacity, ensuring diagnostic access and establishing clear referral pathways. Redirecting resources from secondary and tertiary care to community-based care is essential.

'It is easy, but not as a standalone measure. Strengthening the primary care system may also require revisiting pathways of care, clinical guidelines, or even infrastructure components.' (Expert 30)

Figure 7: Round 1 ratings by percentage for Primary Care Capacity



Data Infrastructure

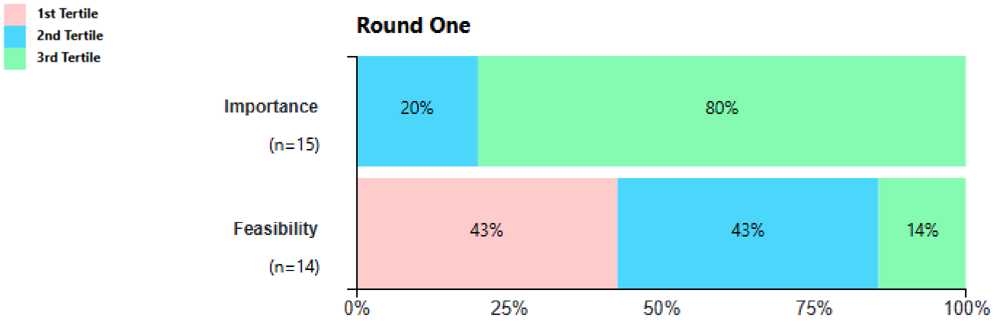
Robust, interoperable data systems are essential for real time tracking, evaluation and equitable policy design. Well managed national platforms and cancer registries support coordinated care, identify gaps and guide resource allocation. However, progress is hindered by fragmented databases, poor governance and weak digital capacity, particularly in LMIC. Achieving interoperability demands investment in infrastructure, common standards and secure information sharing. Building data ecosystems that combine clinical, population and patient reported outcomes will improve accountability, drive learning and support research translation. Figure 8 shows the overall ratings by percentage in importance and feasibility of Data Infrastructure, time tracking, evaluation and equitable policy design.

Importance: Data Infrastructure was rated by most participants as important (80 per cent in the 3rd tertile), with a few participants rating it as moderately important (20 per cent in the 2nd tertile). A robust, interoperable information system is fundamental to effective cancer prevention, early detection and treatment. National-level data platforms enable patient tracking, real-time coordination among care providers, and identification of underserved populations and gaps in care. These systems should collect and analyse clinical, epidemiological and administrative data from diagnosis through follow-up, supporting health policy planning, research and accountability. Information systems can enhance continuity of care, accelerate progress in early diagnosis, and ensure coordinated access to timely treatment. However, successful adoption depends on each country’s technological capacity and the protection of patient data in multidisciplinary care. Large data sets can be informative about the population and allow real-world data analysis that supports informed decision making. Data and information systems can allow tracking of patients and measure impact, outcomes and determine ongoing gaps.

Feasibility: The feasibility rating for Data Infrastructure slightly varied among participants. Findings show that some participants rated this component as not feasible (43 per cent in the 1st tertile), while some rated it as moderately feasible (43 per cent in the 2nd tertile) and a few rated it as very feasible (14 per cent in the 3rd tertile). Implementing interoperable health data systems remains one challenge in (early) cancer care and health reforms. Barriers include fragmented systems, outdated technology, lack of clear data standards and weak governance frameworks. The health data landscape is fragmented and needs standardised formats, application programming interfaces (API), and protocols to achieve interoperability. Data governance, cleaning and integration demand heavy investment in both technology and ongoing quality assurance. While many components of infrastructure already exist, the absence of unified identifiers and coordination across institutions prevents the creation of a seamless clinical record. It was noted that feasibility varies widely by countries: nations with strong digital connectivity can advance rapidly, while low-resource settings require substantial investment and cultural adaptation. Progress is being made through AI and federated data models, but success ultimately depends on political will, financial commitment and designing user-friendly systems that respect privacy and local realities.

'The proposal is interesting as data is a potential driver for change. However, as noted in the implementation considerations, it may be easier to implement in countries with advanced technological infrastructure. I suggest a tiered approach to select elements of Data Infrastructure according to the country's technological development.' (Expert 30)

Figure 8: Round 1 ratings by percentage for Data Infrastructure



Community Empowerment

Community Empowerment was seen to be very important, emphasising its role in health equity and trust-building. Experts agreed that meaningful engagement through co-creation with communities, partnerships with local leaders, and mobilisation of patient advocates and survivors is important for sustainable change. Empowerment reduces stigma, improves health literacy and increases adherence to screening and treatment programmes. A few low ratings highlighted risks linked to uncontrolled information sources and the challenge of coordinating dispersed communities. Consensus on feasibility was varied; respondents identified strong theoretical and ethical rationale but noted practical barriers such as cultural diversity, digital literacy gaps and inconsistent political recognition of civil society as a health actor. Figure 9 shows the overall ratings by percentage for importance and feasibility of Community Empowerment.

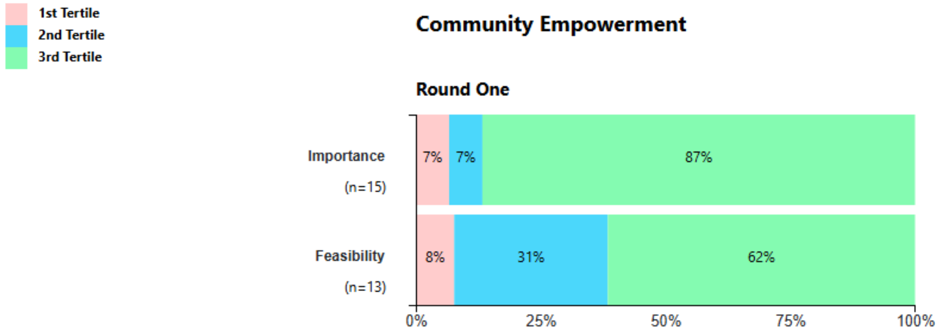
Importance: Community Empowerment was rated high, with most experts rating it as very important (87 per cent in the 3rd tertile), and a few rating it as moderately important (7 per cent in the 2nd tertile) or not important (7 per cent in the 1st tertile). Community Empowerment is essential for trust and a key driver of equity. Meaningful involvement of local communities, co-production of solutions, and culturally appropriate engagement are the only pathways to lasting early detection improvements. Empowerment is central to addressing stigma, mistrust and social barriers that prevent people from engaging in prevention or screening activities. Health literacy, self-efficacy and ownership are outcomes of an empowered community, where people actively participate in their own care; Community Empowerment thus promotes better adoption of policies and programmes.

'Empowering communities, in parallel to public education, is a key strategy to improve prevention and screening activities and is likely more effective as a targeted strategy with local, trusted sources of information to drive sustainable change' (Expert 04)

Feasibility: Feasibility ratings were more varied, with most participants rating it as very feasible (62 per cent in 3rd tertile), some rating it as moderately feasible (31 per cent in the 2nd tertile) and a few rating it as not feasible (8 per cent in the 1st tertile). Barriers included digital divides, cultural heterogeneity, weaker infrastructure and lack of political recognition of community organisations as legitimate health system partners. There is a risk of empowerment efforts unintentionally fuelling misinformation or 'infodemics' when community actors lack scientific validation. Furthermore, community dynamics are highly context dependent, making replication and scalability difficult. Empowering communities in early cancer care requires culturally tailored education and communication, and collaboration with local leaders to rebuild trust and guide patients through the care process. It is a multifaceted approach that can ensure informed, supported and actively engaged communities in early cancer care. Training, flexible funding and integration of community representatives into decision-making structures can convert empowerment from a theoretical approach into a practical method to strengthen the early cancer care pathway.

'Culturally sensitive health communication and education campaigns should be used, utilizing local channels to inform people about the risks and benefits of early detection of different cancers … The mobile clinic strategy can also be used to promote health literacy in rural and remote communities. It is necessary to rebuild trust and strengthen community participation, which can be achieved through the collaboration of local leaders who act as support for patients navigating the system, ensuring that people are not only informed but also guided throughout their care process.' (Expert 14)

Figure 9: Round 1 ratings by percentage for Community Empowerment



Expanding Screening

Screening was consistently rated as important. It was recognised as essential for early detection, improved survival and reduced late-stage diagnoses. Its effectiveness is evidenced by established screening programmes, with emphasis placed on the ethical need to design equitable and culturally sensitive approaches targeting underserved and high-risk populations. Challenges can hinder its feasibility as identified in low-resource settings due to financial constraints, workforce shortages and limited treatment capacity, and in higher-resource settings due to logistical and sustainability issues. Greater feasibility was viewed as attainable where screening is integrated into existing health networks, supported by trained health workers and coordinated with treatment capacity. Enablers include mobile screening, telemedicine, self-sampling methods and AI-assisted risk stratification. Figure 10 shows the overall ratings by percentage in importance and feasibility of Expanding Screening.

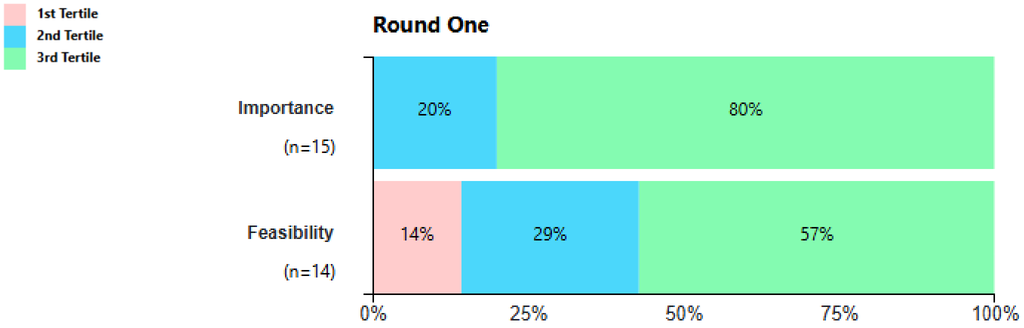
Importance: Screening received uniformly high importance ratings across most participants (80 per cent in the 3rd tertile), with the rest rating it as moderately important (20 per cent in the 2nd tertile). Effective, targeted screening is crucial for early detection and directly improves survival by identifying cancers earlier and reducing late-stage diagnoses. There is strong evidence supporting screening's role in shifting disease stage at diagnosis, emphasising its proven results in programmes such as cervical, breast and colorectal screening and the need to target screening based on population risk. The ethical considerations for Expanding Screening include designing equitable programmes that focus on the populations who need them most, particularly underserved and high-risk groups – for example, outreach to marginalised communities, adaptations for low-literacy populations, and integration of screening into existing services.

'Of course increased screening improves early detection which improves early cancer care as night follows day. However, there are all the false positives which cause so much harm and increase costs. Training in medical school says you have to save lives to make screening worthwhile.' (Expert 11)

Feasibility: Just over half of the participants rated this as very feasible (57 per cent in the 3rd tertile), with some rating it as moderately feasible (29 per cent in the 2nd tertile) and a few rating it as not feasible (14 per cent in the 1st tertile). Expanding Screening was regarded as feasible where financing, training and coordinated implementation are in place, though significant system-level and equity challenges remain. Several models supporting the expansion of screening – such as mobile clinics, telemedicine, portable units and community-based interventions aimed at underserved and indigenous populations – were recognised as effective in reducing access barriers by bringing services closer to communities, particularly in LMIC. Feasibility was understood to depend on adequate resource allocation, infrastructure, workforce training and long-term commitment from decision makers. It was also emphasised that expansion should extend beyond technology through a bottom-up, co-created approach in which stakeholders are broadly engaged across communities and health systems to address prevention, lifestyle and behavioural factors alongside screening. The development of cultural competence among providers was identified as essential for fostering trust and ensuring that programmes are inclusive and contextually relevant. Although implementation was considered feasible in contexts where technology and resources are available, it was also viewed as one of the most challenging strategies due to high costs, logistical complexity and variable local capacity.

'With the introduction of neighbourhood health, I think there is more scope now to really improve uptake of screening and coordinate evidence-based targeted work. Regarding cancer and neighbourhood health, this seems like a great potential area of work.' (Expert 21)

Figure 10: Round 1 ratings by percentage for Expanding Screening



Real-world Evidence

Real-world Evidence (RWE) (which for this study we define as data from sources other than randomised controlled trials) (Makady et al. 2017) is important for continuous evaluation and system learning. Real-world registries and patient reported outcome measures (PROMs) can amplify quality improvement, policy reform and resource allocation decisions; it could complement randomised control trials (RCTs) for understanding population-level outcomes and support evidence-driven policymaking. Feasibility may be context specific, as well as reliant on digital maturity and political will. Enablers include PROMs integration, academic collaboration, cancer registries and evidence-based policy alignment, as well as digital readiness. Barriers include incomplete data, regulatory variations, underrepresentation of minority groups, professional reluctance to adopt PROMs, and weak governance frameworks. Figure 11 shows the overall ratings by percentage in importance and feasibility of RWE.

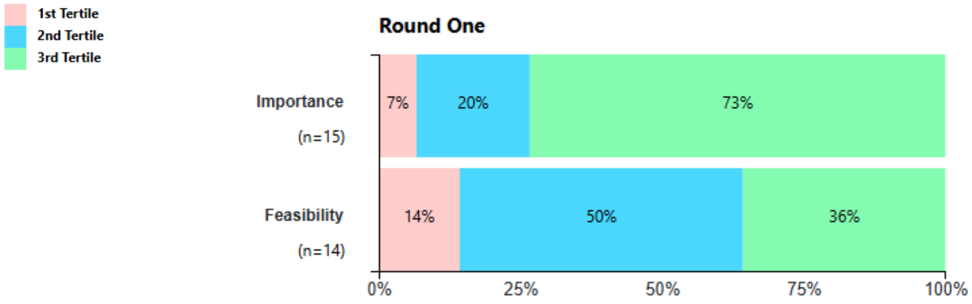
Importance: RWE was rated by most participants as important (73 per cent in the 3rd tertile), with some participants rating it as moderately important (20 per cent in the 2nd tertile) and a few rating it as not important (7 per cent in the 1st tertile). Using population-level and real-world data is vital for improving cancer prevention, early detection and care quality. Large registries and observational data help identify epidemiologic trends, guide resource allocation, evaluate policies and treatments, and promote equity by revealing disparities in diagnosis and outcomes. RWE allows health systems to understand how interventions perform outside controlled trials and adapt services for greater efficiency and reach. PROMs are particularly valuable for assessing quality of life and enhancing service design, though traditional tools often fail to capture what truly matters to patients. Expanding and refining PROMs, alongside flexible and agile data systems, can improve both the patient experience and the ability of health systems to respond rapidly to emerging needs. While collecting such evidence may be difficult and should complement existing guidelines, it remains a cornerstone for evidence-based policy and continuous quality improvement.

'I think there are specific areas where this could be applied – use of technology, improvements in access and use of newer diagnostics, application of targeted 'screening' to bring into routine use much quicker than traditional research' (Expert 11)

Feasibility: The feasibility ratings for RWE slightly varied among participants. A few participants rated it as not feasible (14 per cent in the 1st tertile), while half rated it as moderately feasible (50 per cent in the 2nd tertile) and the others rated it as very feasible (36 per cent in the 3rd tertile). Respondents stressed that implementing RWE approaches requires robust health data systems, including registries, interoperability and reliable data collection mechanisms. Implementing data systems and registries, especially in LMIC, faces barriers related to financing, system fragmentation, data quality and political will. Chronic underfunding and lack of coordination among health subsystems impede comprehensive data collection and sustainability. The absence of standard reporting formats and trained personnel further compromises data reliability and completeness. Strong regulatory frameworks and heavy upfront investment are essential to build interoperable systems capable of timely, accurate reporting. Routine integration of PROMs needs policy support, though clinician resistance and data inconsistency remain challenges. RWE and PROMs can enhance health policy planning and service improvement but need to be applied cautiously, since they lack the causal validity of randomised clinical trials. Partnerships with academic institutions and investment in implementation research could strengthen evidence generation and gradually improve cancer monitoring, evaluation, and learning across diverse health systems.

'Real-world evidence is flawed when it comes to deciding what to do for real world patients on an individual patient basis. This because real-world evidence does not include the causal answers that come from large randomised controlled clinical trials.' (Expert 11)

Figure 11: Round 1 ratings by percentage for Real-world Evidence



Detection Innovation

Detection Innovation is needed for progress in early cancer detection, offering new routes through AI, MCED, blood-based testing and digital triage. It can revolutionise the continuum of care and minimise diagnostic delays. Yet there are concerns about premature adoption without rigorous validation and evidence on cost-effectiveness. Enablers of this include increasing R&D investment, academic–industry partnerships and scaling of telehealth. Barriers include the R&D costs, regulatory fragmentation, insufficient validation, affordability for low resource contexts, limited reimbursement structures, payor scepticisms and lack of interpretive skills among clinicians. Global regulation and sensitivity/specificity validation before scaling are also necessary; however, feasibility may be dependent on national capacity and robust evidence generation. Global progress will rely on coordinated investment in technology validation, workforce training, data privacy and cross sector collaboration. Figure 12 shows the overall ratings by percentage in importance and feasibility of Detection Innovation sector collaboration.

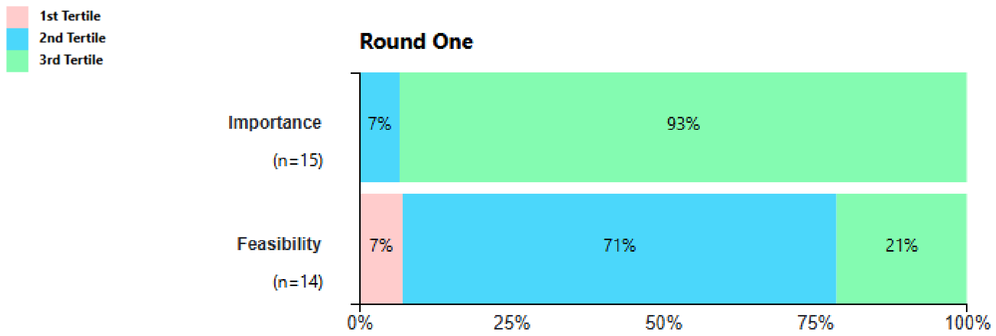
Importance: Detection Innovation was rated by most participants as important (93 per cent in the 3rd tertile), with a few participants rating it as moderately important (7 per cent in the 2nd tertile). Rapid advances in technology are transforming the landscape of cancer screening and early detection. Innovations such as blood-based testing and AI-powered tools are moving from concept to reality and could revolutionise how cancers are identified and monitored. These emerging methods can offer potential to detect disease earlier, reduce unnecessary invasive procedures, and allow for more efficient, cost-effective and equitable care – especially in low- and middle-income settings. They can also support a personalised approach by helping specialists prioritise urgent cases and prevent overload in diagnostic pathways. Successful integration requires strong evidence of cost-effectiveness, investment in infrastructure, and continuous training of health professionals to adapt to new tools and workflows, including in primary and community care. Successful integration requires cultural and contextual adaptation. While benefits are likely to be greatest for high-income countries initially, proper study and equitable implementation of Detection Innovation could revolutionise early cancer care.

‘We absolutely need new testing technology at all early stages in the diagnostic pathway and, even better, if can implemented in primary and community care. Point of care testing/direct testing in primary care could potentially significantly improve earlier stage diagnosis AND keep people off other diagnostic pathways inappropriately.’ (Expert 21)

Feasibility: The feasibility rating for Detection Innovation varied among participants. A few participants rated it as not feasible (7 per cent in the 1st tertile), while most 71 per cent rated it as moderately feasible (71 per cent in the 2nd tertile) and some rated it as very feasible (21 per cent in the 3rd tertile). The rapid expansion of technologies like liquid biopsy and MCED offers opportunities for broad implementation, provided costs become reasonable and supporting infrastructure is in place. However, significant challenges remain, including high research and development expenses, the need for rigorous validation and evidence on sensitivity, specificity and clinical benefit, and concerns about false positives that could create cohorts of ‘worried well’ who could demand additional testing for verification. Feasibility depends on both supply and demand factors – health systems must secure funding, laboratory capacity, data management tools and trained personnel, while users must have accessible, trusted and well-understood testing options. For LMIC, successful adoption will require tight collaboration between research institutions, academia and health systems, supported by clear regulatory and technology assessment frameworks. Cost control, practical evidence collection, and simplified legislation that safeguards data privacy, will be essential to making the implementation of these innovations realistic and sustainable.

‘Lots of new tests based on examples like circulating DNA are in development but [we] need ways of getting into real world testing more easily, and the need to work with innovation organisations to ensure that if evidence is strong, costs are also realistic’ (Expert 21)

Figure 12: Round 1 ratings by percentage for Detection Innovation



Care Coordination

Embedding navigation and coordinated care models into early cancer care is necessary to ensure timely diagnosis, care continuity and trust in the care system, particularly for vulnerable populations. Trained navigators, multidisciplinary teams and digital tools can improve communication and reduce drop-out across the care pathway. Implementation success depends on sufficient and trained healthcare staff (including patient navigators and nurse specialists), political commitment and infrastructure suited to local contexts. Figure 13 shows the overall ratings by percentage for importance and feasibility of Care Coordination.

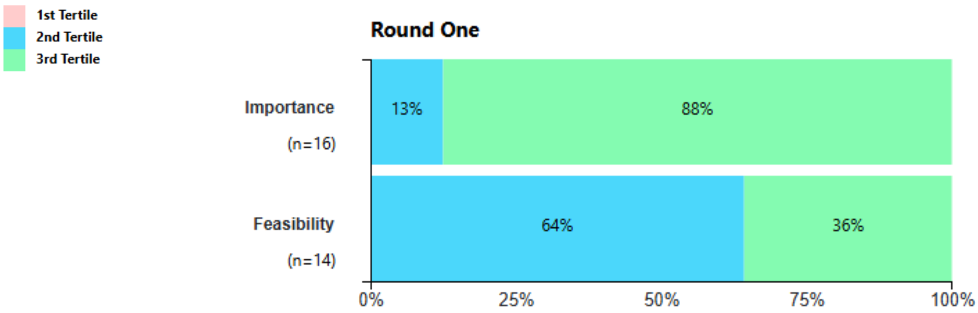
Importance: Care Coordination was rated by most participants as important (88 per cent in the 3rd tertile), with some participants rating it as moderately important (13 per cent in the 2nd tertile). Embedding patient navigation and Care Coordination into cancer screening and treatment pathways is vital to ensuring timely diagnosis, continuity and equitable access to care. When properly integrated, patient navigators, nurse specialists and multidisciplinary teams streamline communication, reduce delays, and prevent patients from falling through gaps – particularly among vulnerable and underserved populations. High-quality cancer care depends on continuity, comprehensiveness and person-cantered approaches that place the patient's needs and preferences at the heart of decision making. Care Coordination connects detection, diagnosis, treatment and follow-up into a seamless process, minimising duplication and strengthening trust in the system. Implementation must be adapted to local realities, accounting for workforce capacity and regulatory structures, as the inclusion of patient navigators in the formal labour market varies by country. When applied effectively, this model can shorten care pathways and foster holistic care that addresses physical, emotional and social needs throughout the cancer journey in an integrated manner through a 'barrier-free' network.

'This component is highly important because strategies that have proven effective in one setting are not always directly adaptable to others. It is therefore essential to evaluate the local context, including the readiness of the health system, the availability of specialised personnel or patient navigators, and the potential to strengthen the skills of the existing workforce.' (Expert 26)

Feasibility: The feasibility rating for Care Coordination varied among participants. Care Coordination was rated as moderately feasible by most participants (64 per cent in the 2nd tertile), while some participants considered it of high feasibility (36 per cent in the 3rd tertile). Patient navigation models are increasingly embedded into cancer care pathways across health systems and have demonstrated clear benefits in improving patient experience, coordination and timely access to treatment. While evidence of cost-effectiveness needs further validation, these approaches offer implementable strategies that can operate even in resource-limited settings. Successful integration, however, depends on political will, cross-departmental collaboration and sustainable investment in technology, infrastructure and workforce expansion. In LMIC, challenges such as health system fragmentation, workforce shortages and social barriers (e.g. low health literacy and stigma) can limit equitable care, particularly for rural populations. Adapting models to local realities by empowering frontline workers, linking navigation programmes with primary healthcare measures, and using digital health tools, can make coordination achievable and sustainable. Despite progress, fragmented services and limited sharing of resources across systems continue to hinder the full realisation of integrated, person-centred cancer care.

'It requires overcoming challenges such as health system fragmentation, workforce shortages and infrastructure limitations. However, the adoption of digital health technologies and cross-sector collaboration can facilitate the process, making coordination achievable and significantly improving outcomes in early cancer care.' (Expert 15)

Figure 13: Round 1 ratings by percentage for Care Coordination



Diagnostic Innovation

There is a strong connection between diagnostic innovations (AI tools, remote triage, imaging automation) and broader precision medicine movements. Diagnostic Innovation was recognised as a way of reducing diagnostic delays, expanding service reach and improving capacity, particularly in primary care and capacity constrained settings. Implementation of Diagnostic Innovation is resource-heavy, and readiness is tied to country-specific technology maturity and health system adaptability. Enablers include policy prioritisation, telemedicine progress and private sector partnerships. Some potential barriers include excessive costs, lack of evidence to show direct improvement to diagnosis of patients, slow regulatory processes, inequality in resource distribution, and workforce gaps. Diagnostic Innovation should go hand in hand with capacity building and regulatory adaptation. Figure 14 shows the overall ratings in importance and feasibility of Diagnostic Innovation.

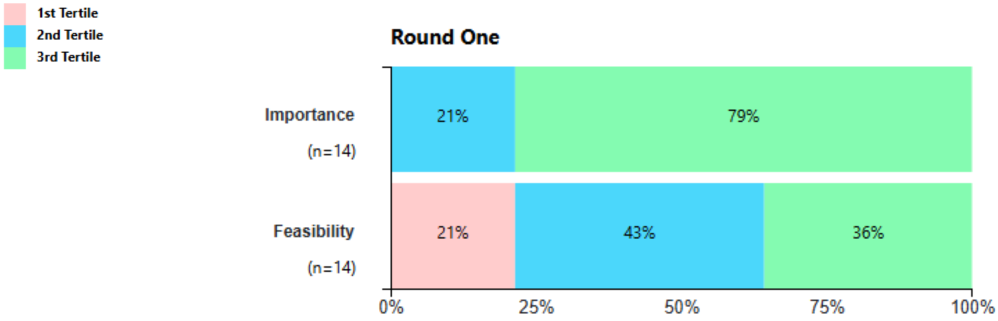
Importance: Diagnostic Innovation was rated by most participants as important (79 per cent in the 3rd tertile), with some participants rating it as moderately important (21 per cent in the 2nd tertile). Integrating innovative diagnostic modalities is critical to improving cancer diagnosis, reducing costs and expanding equitable access to care. Emerging tools such as AI-assisted imaging, telemedicine, digital reminders like text messages, and rapid diagnostic hubs, are showing promise in speeding up diagnosis and reaching underserved populations. Diagnostic Innovation can strengthen precision medicine by tailoring treatment to individual patient characteristics, preventing ineffective therapies and enhancing outcomes and quality of life. While technology is necessary for advancement, success also depends on effective implementation – ensuring healthcare providers and patients have sufficient digital literacy, and that innovations address real barriers rather than just adding complexity. Diagnostic delays could be reduced through smarter, technology-enabled systems, but broader adoption requires targeted strategies to avoid deepening health inequities and better engage communities and HCPs alike.

'In my country, diagnostic delays are a major barrier. Innovative tools like AI triage, telemedicine, and rapid diagnostic centres can shorten time to diagnosis and improve equity, especially for rural and underserved populations.' (Expert 26)

Feasibility: The feasibility rating for Detection Innovation varied among participants. A few participants rated it as not feasible (21 per cent in the 1st tertile), while some rated it as moderately feasible (43 per cent in the 2nd tertile), and some rated it as very feasible (36 per cent in the 3rd tertile). Implementing innovative diagnostic models for cancer diagnosis is complex and context dependent. In lower-resource settings, flexibility within less rigorous regulatory systems may make innovation more feasible, though major barriers persist, including high costs, limited infrastructure and shortages of trained personnel. Financial instability and gaps in technical capacity hinder the largescale rollout of advanced systems such as AI-driven screening or risk stratified approaches. In contrast, high-income countries with established regulatory frameworks can face slower progress due to institutional rigidity and limited impact of existing initiatives such as Rapid Diagnostic Centres and Community Diagnostic Hubs. Success worldwide will depend on balanced investment in workforce development, technology adaptation and digital literacy, complemented by strong community engagement, implementation research and evidence-based policies to scale sustainable solutions. Rigorous regulatory systems may make innovation more feasible, though major barriers to scale rollout of advanced systems – such as AI-driven screening or risk stratified approaches – persist.

'Implementation in low- and middle-income countries faces serious feasibility challenges. The most critical factors are financial instability, due to the high cost of acquiring and maintaining specialised technologies, and lack of infrastructure, which prevents the creation of a network of laboratories equipped to process large volumes of samples. Added to this is the human resources gap, as it is difficult to train and retain the specialised technical and professional staff needed to operate and analyse the data from these technologies.' (Expert 14)

Figure 14: Round 1 ratings by percentage for Diagnostic Innovation



Incentivisation Structures

Incentives for patients, providers and health systems can increase early cancer care participation (e.g. in screening programmes) and adherence to clinical guidelines. Effective models can align accountability and encourage quality improvements, but poorly designed incentives risk exacerbating inequities. Transparent, evidence-based frameworks linked to national health strategies, digital monitoring, and strong governance and sustainable financing, are needed to ensure equity and sustainability. Figure 15 shows the overall ratings by percentage for importance and feasibility of Incentivisation Structures.

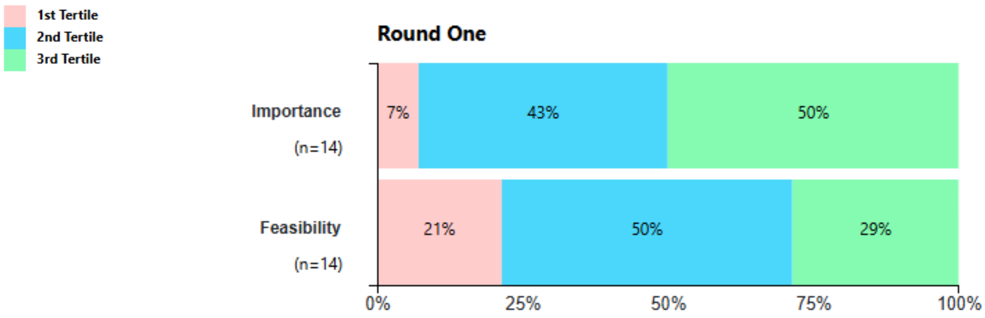
Importance: Incentivisation Structures were rated by half of the participants as important (50 per cent in the 3rd tertile), with other participants rating it as moderately important (43 per cent in the 2nd tertile) and a few participants rating it as not important (7 per cent in 1st tertile). Incentivisation, whether at the personal, institutional, or payor level, can encourage participation in early cancer care programmes. Linking ongoing health insurance benefits or provider payments to screening completion and adherence to referral guidelines has potential to promote accountability and sustain system-wide improvements. However, the success of such strategies depends heavily on design and context. Poorly structured incentives can exacerbate inequalities, favouring urban or well-resourced facilities, and common cancers over rare or complex ones, and may even pose ethical issues when physician compensation is tied too closely to procedures and thus could lead to potential conflicts of interest. Feasibility challenges also exist in primary care, where tracking adherence and outcomes requires improved data sharing and coordination. Incentive models must be culturally and contextually adapted, with complementary investments in workforce training and equitable access to these trainings adapted to local contexts (e.g. by supporting locally relevant, affordable education for health professionals). When implemented thoughtfully, performance-based or value-based approaches may support motivation across systems and promote sustainable progress in early cancer detection.

‘Incentivisation at the personal or payor level may be a better strategy. For instance, ongoing health insurance coverage without increase in rates would be contingent on completing the recommended screening for age (this could also include incentives for prevention)’ (Expert 04)

Feasibility: The feasibility rating for Incentivisation Structures varied among participants. 50 per cent of participants rated it as moderately feasible (in the 2nd tertile), while 29 per cent rated it as very feasible (3rd tertile) and a few participants rated it as not feasible (21 per cent in the 1st tertile). Establishing system-level incentivisation in cancer prevention, screening and treatment is complex and potentially risky without adequate resources and governance. While incentives can motivate health personnel and align priorities across systems, they must be carefully designed to avoid deepening inequities, especially between wealthier and underserved populations. In low-resource settings, chronic financial instability and lack of reliable data systems hinder sustainable incentive programmes. Without strong health infrastructure, objective performance metrics and transparent administration, such schemes may become bureaucratic and costly, diverting funds from direct clinical care. Additionally, fragmented health systems, differing expectations between payers and providers, and the need for context sensitive training, pose further feasibility challenges. However, with clear political backing and integration into national healthcare plans, governments – particularly those with socialised models – could make targeted incentives viable through increased funding, strategic hiring and the prioritisation of early cancer detection.

'This is an area that is being researched. Identifying the appropriate pathways and how to optimise them by regulation or incentivisation.' (Expert 11)

Figure 15: Round 1 ratings by percentage for Incentivisation Structures



3.2.2. Round 2

In Round 2 of the Expert Consensus Panel, participants engaged in moderated online discussions to reflect on and elaborate their perspectives on each policy strategy under consideration. These discussions were guided by targeted prompts and facilitated exchanges designed to explore areas of consensus, divergence and practical experience.

During Round 2, 11 participants logged into ExpertLens™ and only four participants contributed at least one comment, with 22 comments posted by participants. Distribution of comments was spread across all policy strategies, but Detection Innovation and Real-world Evidence received the most engagement with four comments each. The comments provided during Round 2 expanded on the discussion and provided wider context to the ratings on importance and feasibility of policy components. The following section presents a synthesis of the key discussion points raised by panellists, highlighting prominent themes and illustrative quotations for each strategy.

Public Education

Panel members emphasised that Public Education must be co-created with communities and local authorities to ensure relevant, sustainable change. As one contributor stated, *'Co-creation requires permanent Community Dialogue Tables, including local authorities and CSOs, for a Participatory Diagnosis of Barriers (geographical, economic, linguistic, cultural, etc.) in order to design acceptable solutions.'* (Expert 14)

Co-creative approaches were also seen to build trust among marginalised communities which can overcome barriers to accessing services. As one expert highlighted, while such approaches may offer limited measurable economic benefit, they are nonetheless vital for ensuring public education is appropriate and effective for diverse populations:

'…65 per cent eligible women in the UK attend for breast screening with evidence showing hesitancy due to cultural or socioeconomic issues. Co-creation requires multiple efforts that are community-based and may have relatively small return on investment given the footprint.' (Expert 39)

They further pointed out that global and public health initiatives have typically favoured large-scale, top-down approaches, and called for a fundamental shift in strategy: *'This has not been the typical approach of* *global/public health which has tended to want to operate at larger scale. Therefore, we need to re-think what co-creation means – devolving power to communities to allow them to do most of the work.'* (Expert 39)

Finally, panellists noted the limitations of expert-led education in a changing media landscape, suggesting that future campaigns should explore novel communication channels – especially those appealing to younger audiences – while acknowledging that impact may be limited if designed without genuine community input.

Primary Care Capacity

Strengthening primary care was seen as foundational to improved diagnostic pathways. As one expert commented: *'This requires training healthcare personnel and strengthening digital referral and counter-referral systems that guarantee rapid and priority diagnostic pathways from the first level of care.'* (Expert 14) Another expert stressed that systemic funding change is needed: *'In a socialised healthcare system like the UK the government has the power to start shifting funding from secondary/tertiary care back towards primary care. Unless this funding flow changes it will be very difficult for primary care to "strengthen".'* (Expert 39)

Data Infrastructure

Discussion points highlighted the potential of federated data platforms and AI-powered analysis to advance population health, particularly in countries with mature but fragmented data systems. One comment identified a need to overcome public hesitancy by developing narratives around data sharing as a public good: *'…Data hesitancy and suspicion need to be overcome with a narrative built around the public good that data can bring and the concept of 'data as donation'. In the Global South, we may need to make a paradigm shift where citizens contribute their own data directly – perhaps with some reward….'* (Expert 39)

This can reflect a call for context-specific, innovative approaches to data collection and trust-building across regions and within health systems and their populations.

Community Empowerment

Two discussion points were raised in response to a moderator question about strategies to ensure local tailoring and adaptability of Community Empowerment initiatives, which were noted in Round 1 as important to the feasibility of this policy component. Responses emphasised that successful empowerment requires relinquishing health system control. Expert 39 argued that *'Medical communities and public health structures need to commit to releasing power … rather than sharing or devolving. The rising suspicion of 'experts' across our communities arises in part because of our hierarchies. Genuine commitment to neighbourhood and local initiatives requires us to hand over some of our control – otherwise they are not 'empowered' but simply "assisted".'* Building on this, Expert 14 highlighted local civil society organisations, such as patient foundations or women's groups, as key actors to engage in such initiatives due to their *'deep community trust and capacity for mobilisation'.*

Expanding Screening

In response to a moderator prompt about factors affecting the feasibility of this policy component, one participant attributed successful implementation to understanding and addressing economic and cultural barriers, utilising co-creation methods and leveraging technology and digital innovations, such as AI-based analytics for targeted invitations. Another expert agreed, highlighting the necessity of Community

Empowerment strategies as a means to improve public trust in the health system and enhance outcomes of screening programmes: *'…Effective health literacy must be ensured through the co-creation of culturally acceptable materials and the use of health promoters who guide patients and improve their level of trust in the health system.'* (Expert 14)

Real-world Evidence

Some disagreement was observed around the utility of RWE in early cancer care during Round 2. While one comment highlighted that evidence from large RCTs is more valuable, one expert advocated for using RWE to augment traditional research: *'RCTs biased towards younger, fitter patients, less comorbidity, wealthier, better able to travel, etc … RWE provides contextual reality check. You need both. RWE [is] important in shared decision making and common-sense oncology'* (Expert 39). Another participant underscored the need for clear definitions in variable and methodologies and mechanisms to address biases and other areas of improvement to enable RWE: *'There must be a clear definition of variables and methodologies; mechanisms must be implemented to identify and correct possible biases … and data must be managed in strict compliance with ethical standards and patient privacy regulations. It is also desirable for the platform or database to allow integration with other sources.'* (Expert 14).

Detection Innovation

Panel members raised concerns that emerging technologies (such as MCED) may lead to increased diagnostic activity without sufficient evidence of clinical benefit, potentially introducing unnecessary costs, resource strain and anxiety for patients:

'My biggest concern is that these technologies will simply drive detection of cancer at early stage with low sensitivity and specificity ... diagnostic activity to identify (or not) cancers that are so early that we ... do not know if they would have ever impacted the person's life... the demand on downstream imaging (that may need repeating) is a massive on-cost, resource use and anxiety burden of this technology' (Expert 39)

Another expert (Expert 14) expressed agreement with this concern. Discussion also emphasised the risk of widening health inequities if new technologies are introduced without ensuring equitable access.

Care Coordination

Experts identified fragmentation, costs and low health literacy as major barriers to coordinated cancer care. One expert advocated for the integration of patient navigators and streamlined diagnostic pathways to ensure timely and equitable access. Others suggested the idea of a named keyworker for every cancer patient to provide advocacy and holistic support:

'The key initial barriers are system fragmentation, out-of-pocket costs and low health literacy, requiring a reorientation through community Patient Navigators and Rapid Diagnostic Pathways that ensure timely access. This must be accompanied by simple and culturally acceptable educational materials to raise public understanding.' (Expert 14)

'Offering people with cancer a named keyworker (who could be a nurse, social worker or trained volunteer) to navigate them towards support services, help them advocate for their wishes and discuss their holistic needs would be an important minimum standard.' (Expert 39)

Diagnostic Innovation

The need for workforce development and decentralised services was highlighted by one participant, who suggested: *'Staff development should focus on tele-education to standardise national knowledge, with advanced simulation workshops to hone clinical and biopsy-taking skills; and inter-institutional rotations to transfer expertise on complex cases and technologies to rural areas.'* (Expert 14)

Incentivisation Structures

Discussion comments from one expert highlighted both opportunities and challenges associated with implementing individual and system-level incentives in early cancer care. They suggested that without adequate management and monitoring capacity, financial incentives present a risk of exacerbating inequities in (access to) early cancer care. The use of pay-for-performance systems explicitly linked to reducing disparities in access and treatment was recommended especially in low- and middle-income settings. For instance, payment plans and bonuses could be tied to equity indicators such as improved access, early detection and treatment for vulnerable groups or rural populations.

3.2.3. Round 3

During Round 3, in repetition of the Round 1 exercise and in reflection on the discussions held during Round 2, panellists rated the importance and realistic feasibility of each policy component. Experts were invited to explain (changes to) their ratings of each policy strategy against the two criteria. Six experts provided ratings during Round 3, of whom four answered all 20 rating statements, one answered 19 of the 20 statements, and one participant replied to 17 of the 20 statements. Five experts provided additional explanations to their (re-)ratings.

It is important to note that due to the low sample size in this study, any changes in the ratings of policy components should be interpreted with caution. Changes are likely due to panel attrition rather than real changes in expert perspectives. The ratings for Round 3 are nonetheless presented in this section for transparency across all rounds of the panel, but results should not be compared directly with those of Round 1.

As described below for each policy component, the findings indicate that nearly all policy components were rated highly for importance (3rd tertile), with exceptions being RWE and Incentivisation Structures, which were rated as of medium importance (2nd tertile). Notably, strategies such as Public Education, Primary Care Capacity and Care Coordination received high importance ratings, reflecting their key role in early cancer care.

In contrast, ratings for feasibility were more variable, with several components – such as Community Empowerment, Data Infrastructure and Detection Innovation – receiving moderate ratings (ratings within the 2nd tertile). This suggests some uncertainty over the practical implementation of these policy components. Policy components such as Expanding Screening and Diagnostic Innovation were generally viewed as less feasible due to recognised challenges in operationalising these priorities in health systems at scale.

Public Education

Public Education continued to be considered the most important policy component overall, due to strong evidence on the effectiveness of public education programmes in building health literacy among the population – though some caution was expressed over feasibility due to the need for funding and the difficulty of implementation (though no further details on this were given). Figure 16 shows the Round 3 ratings by percentage in importance and feasibility of Public Education.

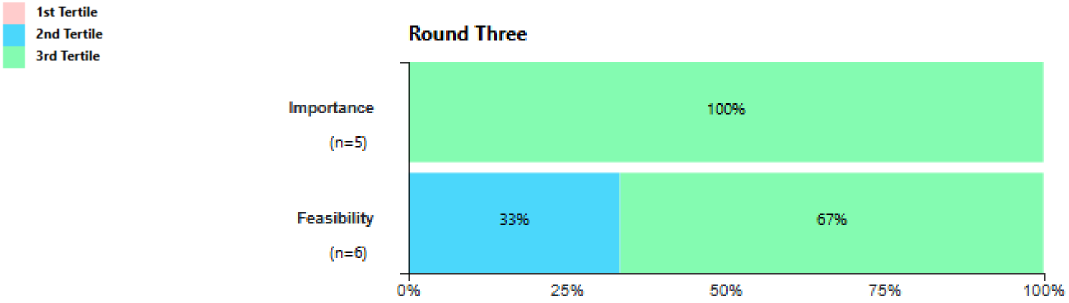
Importance: Public Education was regarded as highly important (100 per cent in 3rd tertile) for raising awareness, improving prevention and encouraging participation in early detection programmes. Participants highlighted its role in communicating risk factors and promoting behavioural change, noting that ongoing efforts led by international organisations that have produced accessible, easy to understand materials that can strengthen Public Engagement.

'Public education is essential to improve awareness and promote adoption of preventive behaviours.' (Expert 15)

Feasibility: Views on feasibility reflected on growing realism about the challenges of sustaining impact, with most participants considering implementing Public Education feasible (67 per cent in 3rd tertile) and some considering it moderately feasible (33 per cent in 2nd tertile). While the expertise and infrastructure necessary for effective campaigns are seen to exist, participants noted that funding and long-term commitment remain critical barriers. Several participants adjusted their ratings to reflect the practical difficulties of implementation.

'I was quite optimistic before – I think an answer of 6 acknowledges the reality of how hard it is to actually shift the dial in this area' (Expert 39)

Figure 16: Round 3 ratings by percentage for Public Education



Primary Care Capacity

Primary Care Capacity was rated as highly important, reflecting its central role in early cancer detection, timely diagnosis and continuity of care across the patient pathway. Primary care is regarded as the most effective channel for ensuring equitable access to cancer services. The feasibility of strengthening primary care faces persistent challenges such as workforce shortages, limited financial and human resources, and the substantial investment required to address these gaps. Feasibility varies according to the structure and maturity of individual health systems, thus being context dependent. Figure 17 shows the overall ratings by percentage in importance and feasibility of Primary Care Capacity.

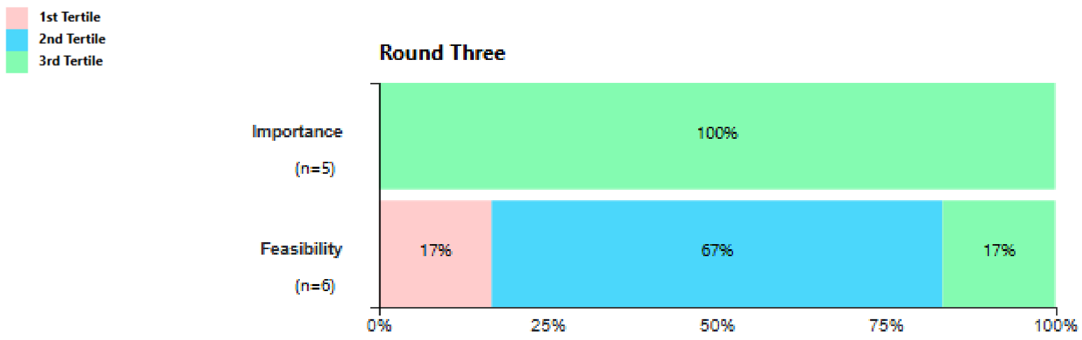
Importance: The importance of primary care was highly rated by all participants (100 per cent in 3rd tertile), due to its critical role in the early detection and diagnosis of cancer, and in ensuring continuity of care throughout the patient pathway. Primary care's role in ensuring equitable cancer care by staying close to communities was also emphasised as an opportunity associated with policies related to this component.

‘Primary care (closer to communities) remains best placed to enable change (as long as the money flows!)’ (Expert 39)

Feasibility: The feasibility of strengthening Primary Care Capacity was rated as medium by most experts in Round 3 (67 per cent in 2nd tertile). This was mainly due to concerns about shortages in the primary care workforce, limited human and financial resources, and the substantial investment needed to address these gaps. Feasibility was also viewed as context dependent, varying with the structure of individual health systems. Additionally, experts noted that strengthening primary care involves complex and multifaceted inputs beyond cancer-specific policy, requiring broader health system governance and policy intervention.

‘Oh dear without massive investment in increased manpower this is not going to work in primary care or anywhere else.’ (Expert 11)

Figure 17: Round 3 ratings by percentage for Primary Care Capacity



Data Infrastructure

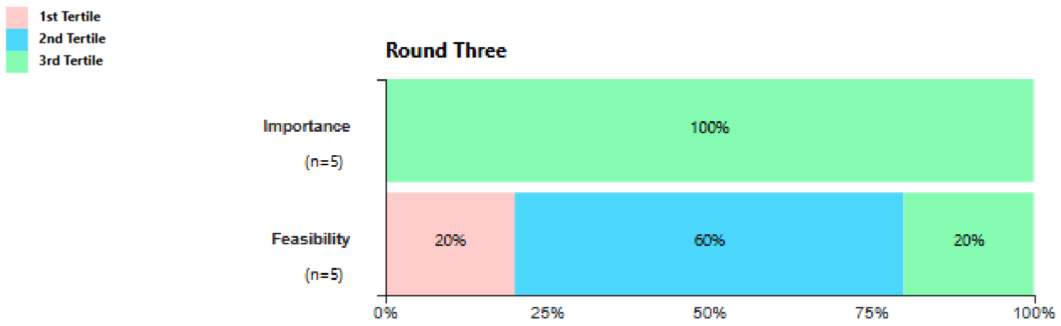
Data Infrastructure was recognised for its role in enabling care delivery, monitoring, evaluation and continuous improvement across the cancer care pathway. Persistent challenges relate to limited technical capacity, high costs, complex data governance requirements, context-specific barriers such as citizen data hesitancy, and infrastructural deficits. Strong stakeholder commitment, growing institutional motivation and technological innovation offer opportunities to improve data integration and use. Figure 18 shows the overall ratings by percentage in importance and feasibility of Data Infrastructure.

Importance: Importance was rated highly (100 per cent in 3rd tertile) due to its cross-cutting value across the cancer care pathway in terms of facilitating care delivery, monitoring and evaluation, and improvements. One expert described strong data infrastructure as ‘the single biggest enabler’ (Expert 39) of progress in early cancer care.

Feasibility: Feasibility was rated mostly medium (60 per cent in the 2nd tertile), while some participants considered feasibility to be low (20 per cent in first tertile) and others considered feasibility to be high (20 per cent in 3rd tertile). There are concerns around technical infrastructure deficits, costs and complexity, data governance challenges, and context dependent barriers in different settings, such as data hesitance of citizens. Despite these barriers, experts highlighted opportunities for improvement, including strong stakeholder motivation, ongoing commitments and technological advancements that could help overcome these obstacles.

'Scored a bit higher, there are very significant challenges but there seems considerable high-level motivation and commitment' (Expert 21)

Figure 18: Round 3 ratings by percentage for Data Infrastructure



Community Empowerment

Community Empowerment was recognised for its potential to improve health literacy, reduce stigma and foster equitable engagement in early cancer care. Co-creative approaches were viewed as essential to supporting policy adoption and ensuring interventions are embraced by the population. Challenges were identified in engaging diverse communities, addressing digital literacy gaps within the growing reliance on digital tools, and ensuring that community development efforts effectively contribute to these initiatives. The availability of sufficient funding is necessary to sustain long-term collaboration with communities. Figure 19 shows the overall ratings by percentage in importance and feasibility of Community Empowerment.

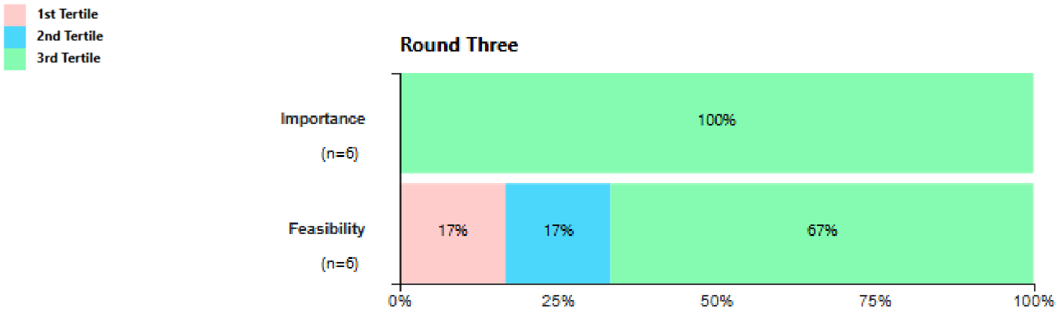
Importance: Community Empowerment was considered highly important by all participants (100 per cent in 3rd tertile) due to its positive potential impact on health literacy and stigma reduction, while co-creative approaches were seen as central across equitable improvement in early cancer care, and to support policy adoption and uptake by the population.

'I keep my original response: it is an important component because it supports the development of successful programmes and promotes greater policy adoption among the population.' (Expert 11)

Feasibility: Feasibility was considered generally high by most participants (67 per cent in 3rd tertile) due to the existence of successful programmes with demonstrable impact on reducing costs and improving programme efficiency. Challenges include engaging with heterogeneous communities, possible issues related to digital literacy and the increasing use of digital resources, and the need for community development work to feed into these approaches. Provision of adequate funding to carry out such initiatives with communities was also seen as a potential barrier.

'Again – downgraded in view of the realities of mobilising funding towards communities and reluctance on the part of those who hold power to share it.' (Expert 39)

Figure 19: Round 3 ratings by percentage for Community Empowerment



Expanding Screening

Expanding Screening was considered highly important, reflecting the established effectiveness of screening programmes in advancing early cancer care. The need for targeted and cost-effective approaches was emphasised, along with the integration of educational and community empowerment initiatives to enhance participation and equity. Concerns were expressed regarding programme costs, the requirement for well-structured implementation models, and the variability in system capacity across settings. Strong political prioritisation and commitment to equitable delivery are essential to realise successful screening expansion and ensure its sustainability. Figure 20 shows the overall ratings by percentage in importance and feasibility of Expanding Screening.

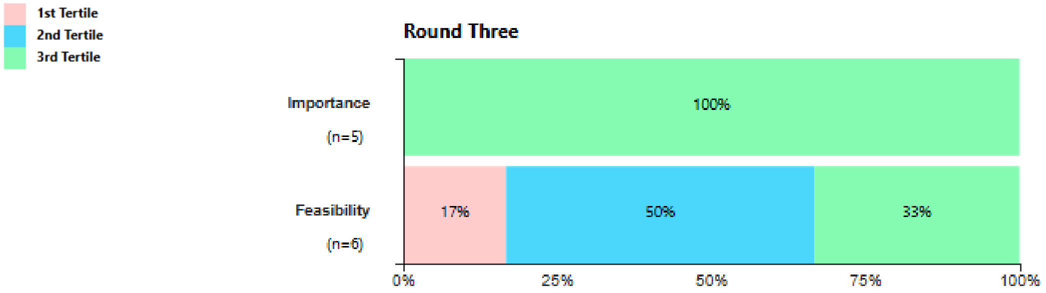
Importance: Expanding Screening was considered highly important (100 per cent in 3rd tertile) due to the already established effectiveness of screening programmes in driving early cancer care and having impact at population level. Recommendations were made for targeted approaches to screening to ensure cost-effectiveness, with accompanying educational and empowerment programmes within the community.

'Reaching those with no symptoms or pre-cancerous lesions is vital in driving overall earlier diagnosis and has population-level impact' (Expert 21)

Feasibility: Expanding Screening was mostly rated moderately feasible (50 per cent in 2nd tertile). Concerns around costs and the need of well-structured programmes was noted. Additionally, political prioritisation and will for equitable delivery was seen as necessary for implementation.

'Feasibility will depend on the design of a well-structured programme.' (Expert 15)

Figure 20: Round 3 ratings by percentage for Expanding Screening



Care Coordination

Care Coordination was seen to play a crucial role in facilitating early cancer care, particularly in improving access and continuity for underserved populations. Its effectiveness depends heavily on the structure and functionality of health systems. Key challenges include the need for adequate workforce capacity, financial resources and robust digital infrastructure to support coordination. Figure 21 shows the overall ratings by percentage in importance and feasibility of Care Coordination.

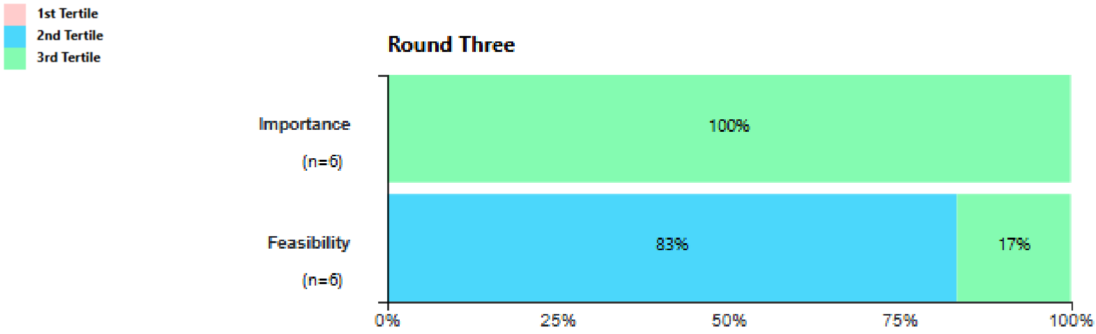
Importance: Care Coordination was regarded as highly important (100 per cent in 3rd tertile) due to its critical role in early cancer care, particularly for underserved populations. However, Care Coordination also depends on the health system and its functioning.

'This remains very important, especially for those less activated and from marginalised populations' (Expert 21)

Feasibility: Feasibility ratings were mostly medium (83 per cent in 2nd tertile), while few considered it highly feasible (17 per cent in 3rd tertile). Challenges to feasibility include required workforce and financial resources, as well as digital infrastructures. Additionally, some pessimism was noted due to the (un)willingness of some health systems to implement required changes and improvements to allow Care Coordination.

'It is a challenge and will need workforce investment as well and digital development but as it impacts on early diagnosis and experience, if care and could have overreach impact in marginalised populations I think impetus should be behind it' (Expert 21)

Figure 21: Round 3 ratings by percentage for Care Coordination



Detection Innovation

Detection Innovation includes emerging technologies with the potential to improve early cancer detection and deliver more efficient, lower-cost screening options. Concerns include research, validation and implementation processes, with an emphasis on the need to address these challenges prior to the widespread adoption of new technologies. The main limitations are linked to the substantial investment required, high implementation costs, and the current lack of evidence on cost-effectiveness and value for money. The absence of such evidence could hinder regulatory approval and complicate efforts to scale up implementation across health systems. Figure 22 shows the overall ratings by percentage in importance and feasibility of Detection Innovation.

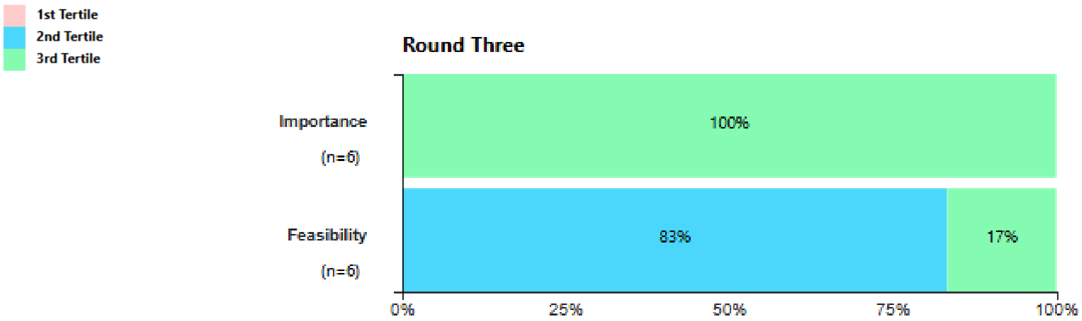
Importance: This component was rated as of high importance (100 per cent in 3rd tertile) due to the potential of new technologies for better detection and more efficient, low-cost screening. However, concerns over research and implementation were raised, emphasising the need to address these concerns before adoption of new technologies.

'(detection) Innovation is essential for achieving better diagnostics and more efficient, low-cost screening.' (Expert 15)

Feasibility: Most feasibility ratings were medium (83 per cent in 2nd tertile). The main concerns related to the high investment required and costs incurred for implementation. The lack of evidence on cost-effectiveness and value for money of new detection technology was noted as a challenge for approval processes, which would be further complicated by ambitions for larger-scale implementation.

'I have significant concerns about implementation and research, so we have to do much more in this space before we adopt any of these new tech solutions' (Expert 39)

Figure 22: Round 3 ratings by percentage for Detection Innovation



Diagnostic Innovation

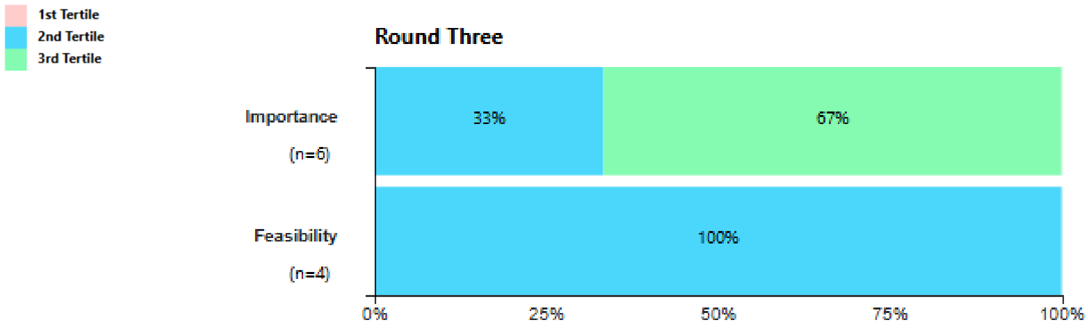
Diagnostic Innovation was recognised due to advancements in detection technologies with potential to strengthen diagnostic efficiency and promote equity within healthcare systems. Persistent challenges were noted, including the need to expand workforce capacity and improve the availability and accessibility of diagnostic innovations across different settings. Concerns remain over disparities in access to diagnostic technologies between countries, and the influence of varying national policies and regulatory frameworks. Figure 23 shows the overall ratings by percentage in importance and feasibility of Diagnostic Innovation.

Importance: Diagnostic Innovation was mostly regarded as important (67 per cent in 3rd tertile), though some panellists rated its importance as medium (33 per cent in 2nd tertile). Detection Innovation can improve diagnosis and enhance efficiency and equity in healthcare. Although it is regarded as important, it was noted that challenges persist, including the need to expand workforce capacity and improve availability and access to Diagnostic Innovation.

Feasibility: Concerns were raised on the feasibility of implementing Diagnostic Innovation as evidenced by its moderate feasibility ratings (100 per cent in 2nd tertile). These concerns relate to the variability of access to innovative technology in different countries, which is influenced by national policies around diagnostics and regulatory frameworks.

'It depends greatly on the technological development of each country, its budget, and its regulatory framework.' (Expert 15)

Figure 23: Round 3 ratings by percentage for Diagnostic Innovation



Real-world Evidence

RWE may help to enhance understanding of programme performance, identify population-level trends, and support continuous improvement in early cancer care. Challenges associated with limited data availability, fragmented information systems, varying results from RCTs, and inconsistent data quality persist. Recent improvements in population health data may strengthen the utility of RWE and increase its potential impact in future early cancer care planning and evaluation. Figure 24 shows the overall ratings by percentage in importance and feasibility of RWE.

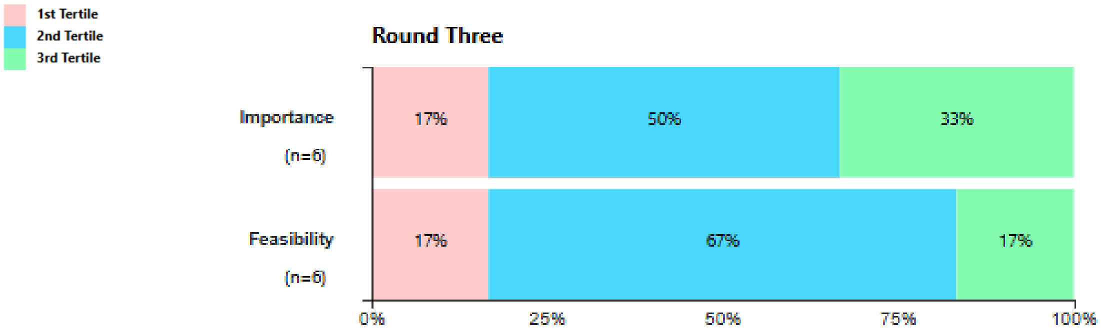
Importance: RWE was mostly rated as of medium importance (50 per cent in 2nd tertile), while some rated this component as highly important (33 per cent in 3rd tertile). It was mentioned that RWE was not robust compared with RCT evidence as it is often 'not clean' nor well 'curated' thus showing no causality. In contrast, experts rating RWE as important highlighted that RWE can better understand the nature of programmes, supporting improvements and population-level trends.

'More focus on real-world evidence is vital to understand population level trends and drive more agile improvements' (Expert 21)

Feasibility: The feasibility of implementing RWE was rated mostly as medium (67 per cent in 2nd tertile) due to the challenges resulting from the lack of data availability and information systems. However, one expert noted that population health data is rapidly improving, which may increase the impact of RWE in early cancer care.

'It is difficult to implement if there are no information systems and data available.' (Expert 15)

Figure 24: Round 3 ratings by percentage for Real-world Evidence



Incentivisation Structures

The variability in ratings for Incentivisation Structures reflected concerns about the potential for poorly designed incentives to exacerbate inequities and create perverse motivations. Caution was expressed regarding the implementation of incentives without strong governance and ethical safeguards, given the limited evidence of effectiveness and risk of unintentionally prioritising certain cancers or outcomes over others. Administrative and financial constraints, limited understanding of economic benefits, and the risk of potential exacerbating inequities, were identified as key barriers to successful implementation. Figure 25 shows the overall ratings by percentage in importance and feasibility of Incentivisation Structures.

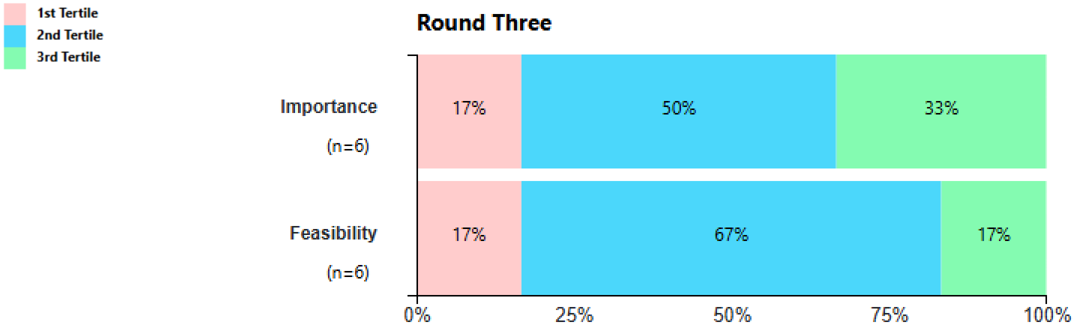
Importance: Incentivisation Structures were generally rated as moderately important, with half of participants assigning medium importance (50 per cent in 2nd tertile). Mixed results on importance reflect concerns over the potential risk of exacerbating inequities through poorly designed incentives. Concerns around the creation of perverse incentives were seen as a potential ethical problem of this policy component.

'Remain concerned about the lack of evidence and I am concerned by comments from other contributors about the potential for perverse incentives (common cancers prioritised for example)' (Expert 39)

Feasibility: There were mixed views on the feasibility of this component, with most ratings considering Incentivisation Structures as moderately feasible (67 per cent in 2nd tertile). Several experts expressed caution about implementing incentive structures without robust ethical safeguards, citing lack of evidence for their effectiveness and the risk that such incentives could unintentionally prioritise some cancers over others. In contrast, some experts argued that incentivisation has the potential to drive sustainable change, particularly within primary care settings. Issues around implementation were noted, including the possible unintended consequences of creating explicit incentives for certain outcomes, insisting that Incentivisation Structures may not be the best approach. Common challenges include administrative and financial barriers, understanding of economic benefits, and the risk of further driving inequity.

'There are many administrative barriers, and especially budgetary ones.' (Expert 15)

Figure 25: Round 3 ratings by percentage for Real-world Evidence



3.3. Phase 3. Validation Workshops

During and after the Expert Consensus Panel, Validation Workshops were held where the findings of the panel were presented and participants were asked to give feedback on the different policy components for building a policy framework, and to discuss the feasibility of implementing them. These workshops constitute Phase 3 of this study and aimed to discuss how to leverage enablers and other opportunities for implementation, as well as to understand the challenges and barriers to improving feasibility. Furthermore, workshop participants were able to comment on the suggested policy framework and identify policy priorities.

3.3.1. Post-Round 1 Workshop

Using the 2025 European Society for Medical Oncology (ESMO) conference in Berlin as a backdrop, the Mission Early team convened a workshop to explore the core elements of early cancer care and identify practical priorities for advancing policy and implementation. Discussions brought together participants from diverse backgrounds to examine economic, technological and systemic challenges affecting early cancer care. Seven participants took part in the workshop, comprising of a mixture of clinicians, industry experts and public health professionals. Most were experts based in Europe – details of their geographical coverage are provided in Table 9 below. This workshop was used to present preliminary findings from Round 1 of the Expert Consensus Panel. As part of the presentation, participants were asked to prioritise three of the ten policy components identified in Round 1 for further discussion. The participants chose to discuss the use of Real-world Evidence (RWE), Detection Innovation and Diagnostic Innovation.

Table 9: Geographical coverage and types of stakeholders participating in post-Round 1 workshop

Geographical coverage	Types of Stakeholders
Europe (Stockholm)	HCP
Europe (Switzerland)	HCP
Europe (Belgium)	HCP
Europe	Health policy professional/Patient advocate
Europe	Patient advocate
Europe	Patient advocate
Europe (Germany)	Researcher/Patient advocate

HCP – healthcare professionals

Real-world Evidence (RWE): The discussion around RWE emphasised the inadequacy of current cancer registries globally. Participants agreed that while good quality registry data is scarce, implementing such systems should not be overly difficult and could be a beneficial and economical approach in terms of cost. A key insight was that success depends less on resources and more on willingness, coordination and awareness across all levels of care.

There was consensus that clinicians and researchers should play a central role in driving registries forward, fostering collaboration and learning opportunities between countries to establish a general standard for data collection and use. While global registry standards are currently lacking, participants supported the idea of developing them, noting that concerns over patient data privacy are often overstated. The group discussed how feasibility might not be best measured across countries but rather across settings, recognising that actionable proposals must be adaptable to different health systems. Collaborative training programmes and international exchanges were suggested to elevate data quality and comparability. Importantly, participants stressed that data must flow to meaningful endpoints, such as WHO reporting or national policymaking, and that data quality and interpretation remain major challenges.

Detection Innovation: Participants found Detection Innovation one of the more challenging topics. A recurring question was whether robust evidence exists to demonstrate that emerging detection technologies truly improve cancer outcomes. The use of population-based genomic profiling was considered promising but currently lacks strong empirical support. Participants expressed concern over the commercial pressure surrounding new technologies that are marketed as breakthroughs without sufficient data. Participants questioned what study designs would be most effective in generating the necessary evidence, suggesting large-scale population studies as the most viable option. AI-assisted imaging was identified as a potentially resource-saving tool for predictive detection, but its implementation depends heavily on local feasibility, particularly in LMIC where infrastructure and capacity are constrained.

Across discussions, participants emphasised the importance of prioritising technologies based on evidence strength and practical applicability. Workforce capacity was recognised as an additional barrier to implementation as even when evidence and investment exist, the ability to operationalise innovations can vary widely between countries. Overall, participants proposed balanced decision making that aligns innovation with sound evidence and realistic policy buy-in.

Diagnostic Innovation: The group explored distinctions between detection and diagnosis, noting that participants often saw substantial overlap between the two. Diagnostic Innovation was rated as less feasible than Detection Innovation, with some suggesting that clinicians may perceive diagnostic advances as already underway within existing practice.

The conversation revealed several common systemic challenges: financial instability, limited infrastructure and workforce shortages. In many current models, diagnosis innovation occurs reactively: treatment is initiated (often chemotherapy), and only when it fails is genomic testing pursued to refine diagnosis. Participants agreed that this sequential approach limits opportunities for early precision diagnosis.

Precision medicine was seen as a key opportunity for Diagnostic Innovation but also as an area marked by complexity and fragmented ownership. Given the diversity of cancers and the distinct diagnostic requirements they entail, participants recognised that maintaining feasibility and consistency across all cancer types remains a major challenge.

Overall, participants expressed a shared commitment to advancing early cancer detection and diagnosis through better evidence generation, Data Infrastructure and policy support. The discussions highlighted the following themes:

- Policymaker engagement and economic justification are crucial to promoting early cancer care policies.
- Investment in robust cancer registries and international data standards is both necessary and achievable through clinician-led collaboration.
- Detection and diagnostic innovations must be guided by strong evidence, local feasibility and workforce capacity considerations.
- Strengthened precision medicine and cross-border training are promising pathways to standardising and improving early cancer care.

3.3.2. Post-Round 3 Workshop

After Round 3 of the Expert Consensus Panel, two final workshops took place with the purpose of validating findings and discussing the components of a proposed policy framework. The geographical scope of participants who took part in both workshops encompassed individuals working in Germany, Rwanda, Colombia, Mexico, Italy, Australia and the UK. They were a mix of clinicians, healthcare and cancer policy experts, researchers, and public health professionals. In total, 13 participants took part in these workshops. Further details of the geographical coverage and types of stakeholders participating in the workshops is provided in Table 10 below. During the workshops, participants painted a comprehensive picture of how early cancer care should evolve to become more equitable, realistic and culturally grounded. The discussions, though diverse in perspective, converged on a shared understanding: progress will depend less on technological breakthroughs and more on rebuilding trust, capacity and the connective tissue of health systems. Participants from every region stressed that strong foundations such as community engagement, primary care reinforcement, coherent data systems and sustained funding are far more decisive for health outcomes than any single innovation or intervention.

Table 10: Geographical coverage and types of stakeholders for participants of the Post Round 3 Workshops

Type of Stakeholder	Geographical coverage
Mexico	Public health expert/Researcher
Mexico	HCP/Public health expert
Mexico	Researcher/Public health expert
Columbia	Public health expert
Colombia	Researcher
Rwanda	HCP/Public health expert
Italy	Clinician/Researcher
Germany	Researcher
UK	Health policy professional
UK	HCP/patient advocate
Australia	HCP
Global/South Africa	Public health expert
Rwanda	HCP

HCP – healthcare professionals

Public Education emerged as one of the most valued, yet inconsistently feasible, components of health system reform. Many participants described how awareness efforts often collapse under the weight of unrealised expectations when diagnostic or treatment infrastructure cannot support increased demand. The 'service gap', as several experts called it, remains a major risk: screening or awareness campaigns launched without adequate follow-up care merely frustrate communities and erode trust. To counter this, communication efforts should prioritise authenticity, continuity and collaboration, rather than top-down public relations exercises. Participants urged a shift towards locally generated content produced by and with communities, so that education campaigns reflect lived realities and local language.

The role of social media prompted reflection. While digital platforms allow unprecedented reach, they can also exacerbate misinformation and emotional polarisation. For example, misinformation campaigns around vaccines and health behaviours have undermined credibility in many countries, and participants warned that cancer prevention messaging could face similar threats unless backed by trusted local partners.

Multiyear funding commitments were deemed essential, as short bursts of campaign activity rarely produce lasting change. Case studies such as England's SunSmart programme and Australia's long running skin cancer campaigns illustrate that continued consistency, multisectoral collaboration and culturally sensitive messaging can build genuine public confidence. Experts also noted that celebrity endorsements, though useful for public visibility, may alienate lower-income audiences when messengers appear detached from their realities. The use of community focus groups, local storytellers and neighbourhood health champions was seen as a more sustainable model.

Primary Care Capacity drew attention as the starting point for early cancer care, as well as its weakest link. In many systems, primary care carries unrealistic expectations but receives inadequate investment and respect. Participants mentioned the widespread shortages of general practitioners, poor geographic distribution, and fragmented referral pathways. In some Latin American and African contexts, general practitioners are not empowered to refer patients directly for essential tests such as biopsies or mammograms, forcing unnecessary delays while patients navigate bureaucratic approval chains. Such structural inefficiencies have tangible consequences such as late diagnoses, preventable morbidity, and deepened inequities between rural and urban populations.

Improving this sector requires more than incremental funding. It demands policy coherence that redistributes resources towards prevention, enables neighbourhood-based health models, and integrates community pharmacies into cancer care pathways. Task shifting and telemedicine were repeatedly cited as effective ways to alleviate pressure where specialist supply is limited. Workshop participants from LMIC stressed that training and retaining generalists with diagnostic competence was one of their greatest challenges. Without clear clinical guidelines, continuous mentoring and performance monitoring, primary care risks devolving into a passive waiting layer rather than an active diagnostic tier. The perception of primary care as 'second rate medicine', noted particularly in Mexico, must be confronted through professional development and public communication that reaffirms its importance to overall system integrity.

Data Infrastructure appeared across all workshop sessions as a foundational enabler but also one of the most technically and politically complex domains. Initial enthusiasm for digital registries and unified databases gave way to realism about feasibility. Some participants highlighted the dangers of accumulating data without any solution in place. Participants highlighted that quantity does not equal insight; what matters is how information interacts with system performance, policy responsiveness and patient experience. Interoperability, governance and user-friendly reporting remain significant hurdles even in high-income contexts. Rwanda's nascent National Health Intelligence Centre and Australia's federated registries demonstrate two contrasting approaches: both strive for integration but encounter technical, legal and jurisdictional barriers. Participants recommended starting with pragmatic indicators that deliver immediate value, such as measuring waiting time intervals, tracking patient traceability, and monitoring referral completion, rather than pursuing national-level perfection before acting. Privacy concerns, fragmented health systems and fear of litigation continue to deter data sharing, even when collaboration could save lives. There was broad consensus that data must be democratised: distilled into accessible formats that policymakers, communities and clinicians can understand. Only then can data systems evolve from bureaucratic record keeping into active engines of accountability and improvement.

Community Empowerment built on these ideas by stressing the need for relational trust between health institutions and citizens. Rwanda's 'bridge model', in which community elected health workers mediate between villagers and formal medical staff, was praised for creating genuine local ownership and sustained engagement. One participant highlighted that involving traditional healers rather than excluding them could help circumvent cultural distrust in medical interventions. Elsewhere, however, such initiatives remain fragmented, small-scale and vulnerable to funding uncertainty. Co-production of policy and programme design was described as the most effective means of ensuring relevance and inclusivity, particularly for Indigenous and minoritised communities. Participants argued that policy consultations should actively involve people living with cancer, transforming their experiences into design principles. Yet they warned that empowerment without resourced capacity building is merely rhetorical; community programmes must have logistics and financial continuity to endure beyond pilot stages.

Expanding Screening generated strong ethical debate and heavy caution. In both workshops, participants agreed that launching screening campaigns in regions lacking diagnostic or treatment capacity is unethical. The maxim 'If you can't treat, don't screen' stated by one participant captured this sentiment. Participants from low- and middle-income contexts stressed that scarce resources should focus on proven, equitable screening programmes rather than politically motivated expansions. Quality assurance, maintenance of equipment, and enough trained radiologists were seen as non-negotiable prerequisites. The group favoured targeted, risk stratified screening, guided by demographic analysis and predictive algorithms over a one size fits all approach. AI tools that identify individuals likely to miss appointments were cited as promising mechanisms for improving outreach. Still, the ultimate measure of success, participants argued, should be reduced late-stage diagnoses, not simply increased early-stage detection metrics.

Care Coordination emerged as another significant priority. Empowering nurses and trained community navigators to guide patients through complex administrative systems can substantially improve experience and continuity. Evidence from Scotland and Australia illustrates that navigation roles may not always lead to earlier diagnosis but do deliver measurable improvements in quality and patient satisfaction. In low-resource environments, community health workers can perform coordinating functions effectively if supported with proper training, supervision and compensation. Many participants also pointed to the harmful tendency to blame delays on patient negligence when, in fact, system disorganisation is usually responsible. The inability of public and private sectors to communicate with one another other emerged as a major bottleneck. Improved referral tracking and clearer accountability mechanisms between facilities were deemed vital for progress.

Detection Innovation elicited varying perspectives. Participants differentiated between research frontiers and implementable service innovations. Some noted that Detection Innovation could mean innovation in approaches, not just technologies. Trials involving AI-assisted mammography and multi cancer blood tests were regarded as promising but premature for policy adoption. Participants shared the view that while innovative approaches to detection would be helpful, other policy components such as Care Coordination and Primary Care Capacity should be prioritised, as these would need to be in place to ensure that innovative approaches to detection could be utilised.

Diagnostic Innovation was identified as a promising policy component. Immediate opportunities lie not in new molecular technologies, but in logistics and infrastructure – for example, community diagnostic hubs, mobile units and telepathology networks that decentralise care and connect prevention messages with action. Such innovations can expand access dramatically, particularly for rural populations. Partnerships among private companies, universities and government agencies can drive this forward but require transparent regulation, quality monitoring and fair reimbursement systems to prevent inequities or commercial distortions.

Real-world Evidence (RWE) and patient reported outcomes prompted some scepticism. Participants acknowledged that such data could improve understanding of care pathways and quality but found limited application for early detection strategies. They advocated prioritising implementation research, studying how interventions function in real settings, over raw data accumulation. Including perspectives on ageing, multimorbidity, and socioeconomic variables was encouraged to reflect cancer's intersection with other chronic diseases and social determinants. Instead of focusing on large clinical databases alone, systems should build learning loops that translate evidence into policy adjustment.

Incentivisation Structures received less attention and prioritisation from participants. Past experiences in the UK with pay for performance models illustrated how financial incentives can produce perverse behaviour, diverting attention from patient needs to metric compliance. Non-financial rewards such as professional recognition have occasionally boosted morale but proved short-lived without durable investment. Most participants considered clear prioritisation and adequate resourcing to be much stronger motivators than any incentive mechanism. They urged that equity safeguards be built into performance frameworks to ensure that rewards never exacerbate disparities.

When reviewing the proposed policy framework, both workshops reached a broad consensus that national frameworks must shift from reactive treatment targets towards proactive continuity and prevention. Cancer cannot be siloed as a discrete pathology; it intersects fundamentally with lifestyle, comorbidities and system capacity. Participants suggested that existing policy mapping could be redesigned into a fluid continuum encompassing prevention, detection, diagnosis, treatment and survivorship. Each stage should be supported by cross-cutting enablers such as data infrastructure, workforce capacity, coordination mechanisms, governance, consistent financing and trust. Participants further recommended integrating misinformation management directly into health communication planning, acknowledging the destabilising role of false narratives in public perception, as well as adding access to medicines/treatment as a distinct policy component. Terminology itself mattered: some proposed replacing 'empowerment' with 'engagement' to emphasise partnership and mutual respect.

Insights from both workshops showed that importance remains high across all domains, yet feasibility and approaches to implementation continues to vary depending on healthcare setting and geographical scope, particularly for Data Infrastructure, Primary Care Capacity and Community Empowerment. Sustainable multiyear funding, political will and capacity development are central enablers. Participants envisioned a pragmatic policy framework for early cancer care built as a living continuum rather than a fixed model. This continuum would link education, detection, diagnosis and treatment, underpinned by enabling pillars of interoperability, human resources, coordination, governance, transparent financing and public trust.

4. Defining the 'ideal' policy framework on early cancer care

The aim of this Expert Consensus Panel exercise was to identify and define the key components and characteristics of an 'ideal' policy framework for early cancer care. Early cancer care encompasses actions and interventions aimed at improving patient outcomes in cancer by enabling timely detection, diagnosis and treatment (CERGAS and SDA Bocconi School of Management 2024). By engaging with cancer and health policy experts, the findings of this study identified policies relevant to early cancer care, establishing the foundation of a cohesive and integrated policy framework. Such framework can provide clarity, accountability, alignment and strategic direction for developing of cancer programmes and control plans (Koo et al. 2021). This framework outlined elements necessary to design policies that foster early cancer care aimed at improving outcomes and, ultimately, cancer control. Rather than prescribing a fixed structure, the proposed framework can serve as a flexible guide to inform policy discussions and promote common goals in early cancer care. A cohesive policy framework can ensure that early cancer care operates as an integrated continuum rather than a series of disconnected initiatives. It is important to note, however, that the scope of this framework and our work focused on early cancer care, which is only one element of the broader cancer control continuum. Comprehensive cancer control expands to other aspects such as prevention (e.g. behavioural change policies and interventions like tobacco control), access to palliative care and survivorship support.

4.1. Defining the building blocks for an 'ideal' policy framework

Early cancer care requires policy alignment across three levels (or policy domains) – detection, diagnosis and timely treatment – underpinned by cross-cutting system components, and adapted to each country's health system context. From the Idea Generation phase (Phase 1) and the findings of the Lavender Report (CERGAS and SDA Bocconi School of Management 2024), specific policy components were mapped against key policy domains as well as cross-cutting elements, as outlined in Figure 26 below.

Figure 26: Key policy domains and components in early cancer care

Education	Early detection and screening	Early diagnosis	Early cancer treatment
- Public Education - Community Empowerment	- Detection Innovation - Expanding Screening	- Diagnostic Innovation - Detection Innovation - Primary Care Capacity	- Care Coordination

Cross-cutting elements		
- Real-world Evidence	- Incentivisation Structures	- Data Infrastructure

Policy domains: education, early detection and screening, early diagnosis, early cancer treatment and cross-cutting elements.
Policy components: Public Education, Community Empowerment, Detection Innovation, Expanding Screening, Diagnostic Innovation, Primary Care Capacity, Care Coordination, Real-world Evidence, Incentivization Structures and Data Infrastructure

These policy domains and components (Figure 28 above) were evaluated throughout the Expert Consensus Panel and Validation Workshops (Phases 2 and 3 of this study). Building on these findings, a framework was developed that integrates the identified domains and components into a cohesive conceptual model (Figure 29). The framework also incorporates additional elements emerging from the workshops, bringing together the core policy areas and supporting components needed to ensure early and equitable access to cancer care. It reflects the multidimensional nature of early cancer care, encompassing Public Education, Community Engagement, Equitable Access, Innovation, Primary Care Capacity, Care Coordination and System Strengthening.

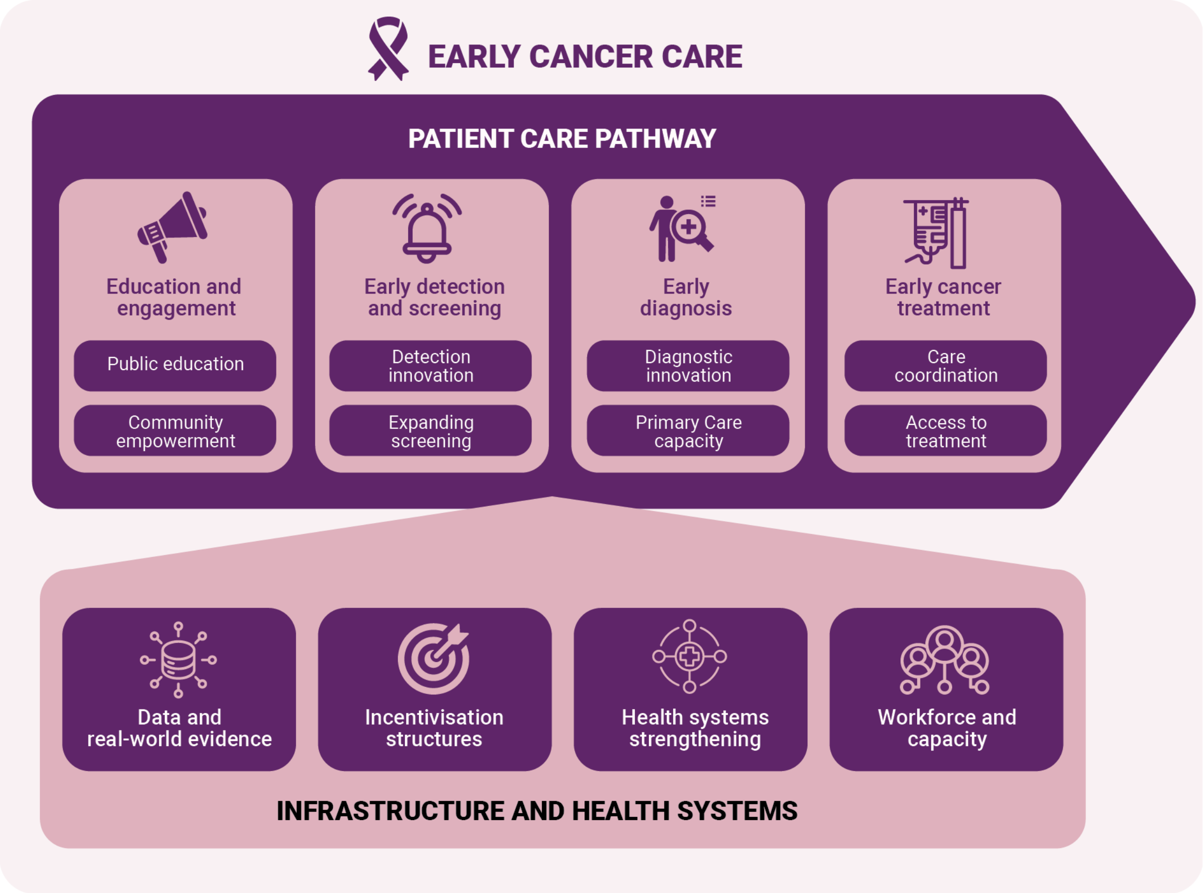
Findings from this exercise indicate that no single intervention alone can achieve meaningful improvement in early cancer care. A comprehensive framework that integrates all relevant elements is better placed to foster access. The ultimate goal is to ensure that patients enter the cancer care pathway as early as possible to improve survival and overall outcomes.

Findings of the Expert Consensus Panel (Phase 2 of this study) showed that all policy components were regarded as important. However, highly rated elements suggest higher priorities across contexts. Public Education, Primary Care Capacity and Data Infrastructure received the highest importance ratings, followed by Community Empowerment, Expanding Screening, Care Coordination, Detection Innovation and Diagnostic Innovation. Though rated with lower importance scores than the other components, RWE and Incentivisation Structures were still considered important and of consideration for the framework.

The Expert Consensus Panel of this study had a future-oriented outlook. By Round 3 and during the Validation Workshops, discussions evolved from identifying what is important and feasible to exploring how feasibility can be strengthened. Feasibility was seen as context-specific: achievable but constrained by system readiness, funding, workforce capacity and governance. Public Education, Care Coordination and Expanding Screening emerged as the most feasible policy components. Innovation (detection and diagnostic), Data Infrastructure and Incentivisation Structures were considered to face greater implementation challenges due to their need for long-term financing, political commitment, workforce capacity, robust evidence and cross-sector integration. Moreover, the findings underscored the importance of including additional policy elements into the framework – such as access to treatment, health system strengthening, and workforce and capacity – as cross-cutting components essential to strengthening system structures and ensuring equitable access to early cancer care.

The proposed framework (Figure 27) outlines key policy components of early cancer care and their alignment with the patient care pathway – from awareness and detection to diagnosis and treatment – reflecting thus the continuum of cancer care. It draws on the collective insights from cancer and health policy experts who participated in the Expert Consensus Panel, with findings synthesised and thematically analysed to identify the interdependent domains essential for effective early cancer care. Rather than presenting a prescriptive model, this framework serves as a conceptual representation of these policy areas, mapping their interconnections and the underlying infrastructure required to support planning and equitable access. Readers are encouraged to view this framework as a synthesis of expert perspectives intended to guide reflection and inform policy discussions, rather than as a definitive set of recommendations. It offers strategic orientation to design or adapt policies for cohesive, evidence-based and equitable early cancer care systems, while allowing flexibility for national and local contexts.

Figure 27: Early cancer care policy framework based on findings of an Expert Consensus Panel study



In Table 11 below, each domain and component of the framework is defined together with key learnings and considerations for implementation. As explained above, key domains and components emerged from the Idea Generation phase (Phase 1 of the study), and these were further assessed together with implementation considerations, which have been synthesised from the Expert Consensus Panel activities (Phase 2) and were further informed by insights emerging throughout the Validation Workshops (Phase 3). Policy domains and their respective components have been mapped to a specific level of the health policy environment to indicate overall responsibility and oversight. However, it is important to note that ideal policy implementation would involve some degree of cross-sectoral collaboration, leveraging the resources and expertise of different organisations spanning healthcare delivery, public health, research and development, policy and regulatory, and industry and civil society.

Table 11: Key policy domains and components for a Framework on Early Cancer Care

Early cancer care – policy framework	
Patient Care Pathway	
The structured sequence of steps a person follows through the health system. It serves as the foundation of early cancer care, ensuring that individuals can move through the different care stages with timely access to appropriate interventions and support. The pathway emphasises integration, continuity and coordination across healthcare and health system levels, aligning policies, services and infrastructure to reduce delays, improve outcomes and enhance patient experience.	
Education and Engagement	
Strategies and interventions that equip individuals, communities and HCPs in early cancer care with knowledge, skills and incentives. This domain promotes awareness of cancer signs and health-seeking behaviours, builds trust in healthcare systems, and fosters active participation in care decisions. It also includes the co-creation of culturally relevant and context-sensitive programmes that reduce stigma, misinformation and barriers to access. While public education and engagement are often overseen at the public health level, in this context the primary focus is on influencing health-seeking behaviour and facilitating access to care – placing this domain at the forefront of healthcare delivery supported by system-level and public health interventions.	
Public Education	Design and delivery of accessible, culturally sensitive and relevant, and evidence-based information and resources for individuals and communities to understand cancer and how to access the care system, addressing potential signs and symptoms and thus receiving early care. It aims to improve (and further) support health literacy in cancer, build trust in the healthcare system, and promote health-seeking behaviours and participation in early detection. Public education sits primarily within the healthcare delivery level, reinforced by broader health system structures and public health policies.
	Identified implementation considerations: · Co-development and community engagement to ensure relevance and inclusivity, and build trust in the health system · Cultural and social adaptation to tailor programmes to local contexts and promote adequate delivery and continuity · Sustainability of funding for long-term implementation · Multi-sectoral partnerships and collaboration with relevant and trusted organisations to maintain impact and engagement · Availability of digital and innovative platforms that support engagement and broaden outreach, while integrating misinformation management

	· Training and capacity building of health professionals in person-centred communication for efficient information delivery and addressing fear, concerns, misinformation and miscommunication · Evaluation and continuous learning to assess uptake, impact and sustainability
Community Empowerment	Process of enabling community members to actively participate in and influence processes and policies that can support individuals entering the cancer care pathway. This encompasses building the capacity, knowledge, confidence and agency of community members to identify and advocate for their needs, collaboration with healthcare systems, and advocacy for equitable access to early cancer care. Community Empowerment sits primarily within the healthcare delivery level, reinforced by broader health system structures and public health policies.
	Identified considerations for implementation: · Co-creation ensuring participation in the design, implementation and evaluation of early cancer care initiatives and interventions · Capacity building among communities and key actors, including informal health actors and local leaders, as well as ensuring and strengthening the capacity of community health workers who can act as points of contact with the health system for continuity and responsiveness · Cultural sensitivity embedded into design of empowerment initiatives · Flexibility of funding mechanisms and policy models that allow local engagement and active co-creation, while maintaining early cancer care goals with a focus on equitable access and promoting logistical and financial continuity · Consider goals and aims of initiatives oriented at reducing stigma, fear and misinformation to support health-seeking behaviours and early engagement with health services · Monitor initiatives and gather feedback to ensure initiatives remain adaptative, as well continuity of co-creation and active participation of communities
Early Detection and Screening	
Strategies, programmes and interventions aimed at identifying cancer at its earliest possible stage – before symptoms appear or soon after their onset – to improve survival rates, reduce treatment complexity and enhance quality of life. This domain integrates public health actions such as population-level screening initiatives, targeted detection programmes, and technological innovations that enable timely and accurate identification of cancer. Early detection and screening sit within the public health level, supported by health system structures to scale up population level programmes and adopt innovation.	
Expanding Screening	Increase the reach, access and effectiveness of population-level and targeted screening programmes to identify cancers at earlier and more treatable stages. This encompasses scaling up existing screening programmes and integrating innovative technologies (if available, accessible, evidence-based and cost-effective), improving system organisation and outreach, and ensuring equitable participation across population groups, particularly those that are underserved and/or hard to reach. It aims to strengthen early detection pathways and reduce diagnostic delays, improving availability, trust in the system and patient outcomes. Expanding Screening is a public health level component that is supported by wider health system-level structures and interventions.
	Identified considerations for implementation: · Development and utilisation of tailored approaches for marginalised, low-income and rural populations to address structural barriers (e.g. access, costs, cultural perceptions) and focus on quality, capacity and treatment readiness

	· Link programmes to strong primary care networks, referral mechanisms and data systems to ensure seamless navigation through the cancer care pathway · Programmes should be guided by scientific evidence on effectiveness and population benefit, while adapting to local disease burden, resource availability and local context · Programmes can allow the integration of innovation (e.g. digital and/or AI-assisted tools, MCED tests) supported by validation studies, clear guidelines and infrastructure readiness · Sustained public education and campaigns encourage participation, build trust in screening processes, address misinformation and prevent miscommunication · Expanding allocation of resources with investment in infrastructure. Ensuring sustainable funding mechanisms for screening programmes. Expanding capacity with adequate training of healthcare providers, as well as the use of predictive analytics and AI tools to expand outreach. · Include continuous data collection to allow monitoring of coverage, effectiveness and equity of programmes and allow adaptive improvements and accountability
Detection Innovation	Development, validation and integration of new technologies, tools and processes enabling cancers to be detected earlier, and more accurately and efficiently, than current methods and approaches. Examples include emerging modalities like liquid biopsies, molecular diagnostics, genomic profiling and AI-assisted imaging; it can also include data-driven systems improving access, accuracy and timeliness of detection. Detection Innovation has oversight at the public health level and is supported by interventions at the health system level.
	Identified considerations for implementation: · Rigorous assessment for clinical accuracy, sensitivity, specificity and cost-effectiveness. Requires policies supporting research, pilot programmes and real-world evaluations prior to scaling and adoption. · Clear and adaptive regulatory frameworks accommodating fast-paced innovation while ensuring ethical standards, patient safety and data protection for equitable implementation and adoption of technologies · Prioritise evidence-based technologies validated by large population studies · Policies that promote and foster equitable access and prevent broadening of health inequalities, particularly in underserved and difficult to reach populations · Balance innovation with local feasibility and workforce readiness. Embed innovation within existing infrastructure to enable seamless referral and care coordination pathways, thus preventing isolated interventions. · Ensuring capacity building within the healthcare workforce to promote integration in clinical practice, use and uptake · Consider long-term funding for innovation development and integration, balancing costs with expected improvements in outcomes and care delivery efficiency · Transparent communication around the benefits, limitations and appropriate use of new technologies fosters public trust and informed participation
Early Diagnosis	
Policies and practices that enable the timely and accurate identification of cancer after symptoms or clinical signs have appeared. Early diagnosis includes interventions at the health delivery level and aims to minimise delays between first presentation and confirmation of disease; reduce patient and system-level barriers; and improve outcomes through prompt initiation of treatment at earlier, more treatable stages.	

The early diagnosis domain and its components sit at primarily the healthcare delivery level, supported by public health level policy structures.	
Primary Care Capacity[1]	Ability of frontline healthcare services, providers and professionals to effectively introduce patients into the cancer care pathway and contribute to early cancer care. This includes having sufficient and well-trained personnel, efficient referral systems, infrastructure support and resources to identify symptoms promptly, initiate diagnosis, and ensure timely patient navigation through the care pathway. Provides the foundations of equitable and accessible early cancer care by linking detection with diagnosis and treatment. This component sits at the healthcare delivery level, implemented at the health system level and supported by public health level structures.
	Identified considerations for implementation: · Sufficient investment in expanding Primary Care Capacity and retainment. Includes appropriate early cancer care training to ensure timely detection, diagnosis and referral and communication to patients. · Strengthening referral and counter-referral mechanisms to streamline connections between primary care, diagnostic services and cancer specialists to ensure seamless patient navigation in the care pathway and reduce care delays · Financing models that support Primary Care Capacity and services with adequate infrastructure · Prioritisation of equitable access by addressing disparities in service provision across underserved and difficult to reach populations to ensure timely diagnosis for all · Embedding strengthening Primary Care Capacity in National Cancer Plans and strategies as foundational in early cancer care, with accompanying regulatory frameworks that support workforce development, task-shifting strategies, collaboration across care sectors, and continuous improvement. Develop continuous training and performance metrics. · Consideration of implementing innovative technologies or approaches that support Primary Care Capacity, such as telemedicine, electronic health information systems and records, and digital tools that can enhance efficiency in patient referrals and connectivity across the healthcare system · Implementing monitoring mechanisms to measure outcomes, track delays and fosters learning and improvement
Diagnostic Innovation	Research & development, and adoption of new methods, technologies and approaches that can improve the accuracy, efficiency and timeliness of cancer diagnosis. This includes AI-assisted imaging,[2] telemedicine-based triage, molecular diagnostics and integrated diagnostic hubs that diagnose cancer earlier, reduce delays in the care pathway and leverage the opportunities of precision medicine. This component primarily sits at the healthcare delivery level, supported by public health level interventions and structures to promote innovation ecosystems.
	Identified considerations for implementation: · Sustained funding for the adoption of modern diagnostic tools, infrastructure and capacity, as well as digital infrastructure, to ensure services can accommodate innovative technologies early in the care pathway

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[1] Primary Care Capacity is positioned under Early Diagnosis due to its essential role for the clinical assessment, referral efficiency, diagnostic steps in identifying cancers and continuity of care. It is, however, cross-linked and contributes to early detection in awareness and education, screening programmes and referral for diagnosis (European Cancer Organisation 2021; beatNCDs and WHO 2017)

[2] AI-assisted imaging can be used in both detection and diagnosis of cancer.

	· Adaptative regulatory frameworks that promote the evaluation and validation of innovative diagnostic tools to assess their cost-effectiveness, safety, accuracy and sensitivity, prior to adoption and implementation · Embedding Diagnostic Innovation within health system workflows and health information systems, linking primary care with specialist services to enable coordinated and timely diagnosis and referral · Appropriate training of the health workforce to use, interpret and communicate results from innovative diagnostic tools through continuous education programmes and capacity-building efforts tailored to local contexts · Designing strategies and approaches that prevent health inequalities and ensure equitable access to Diagnostic Innovation for underserved populations – for example, through mobile or decentralised models and equitable funding mechanisms · Transparency on how new diagnostic methods work and their benefits helps foster patient confidence and uptake. Communication strategies should promote understanding and manage expectations about diagnostic progress
Early Cancer Treatment	
Clinical, organisational and policy mechanisms that ensure patients diagnosed with cancer have prompt access and timely initiation and delivery of appropriate and effective therapies and treatment pathways, multidisciplinary care, and supportive services. It emphasises equity, coordination and continuity between diagnosis and treatment, ensuring that early detection efforts translate into improved health outcomes, maximising survival, preserving quality of life and minimising treatment complexity. The Early Cancer Treatment domain and its components sit within the healthcare delivery level supported by wider health system level interventions and structures.	
Care Coordination	In early cancer care, Care Coordination refers to the organisation and integration of healthcare services across different levels of care – primary, diagnostic and specialist – to ensure timely, seamless and person-centred cancer care. This involved adequate communication and referral, data sharing and collaboration among healthcare providers, supported by navigation systems guiding patients through the complex care pathways. Effective care coordination reduces fragmentation and attention delays and improves patient experience and outcomes. This component primarily sits at the healthcare delivery level, supported by health system level interventions and structures.
	Identified considerations for implementation: · Training and funding for care coordinators or patient navigators serving as critical links between patients and services, to ensure timely referrals, care management and support throughout the care pathway · Building interoperable (digital) health information systems and platforms enabling and allowing seamless referral tracking, patient data and information sharing across care levels and institutions to improve continuity of care and reduce duplication and delay · Cross-sector and multidisciplinary collaboration and cooperation between primary and other levels of care, institutions and services · Sustained funding for digital technologies, communication and information systems, and organisational structures that enable coordinated workflows and timely care pathways · Prioritising underserved and difficult to reach populations and addressing system barriers such as workforce shortages, limited infrastructure and social inequalities in care access · Strong governance and political commitment to align policies, budgets and operational structures to allow efficient care coordination · Incorporating digital health tools, telemedicine and other tools can strengthen coordination and streamline information flow and care

	· Mechanisms tracking outcomes, delays, access to treatment and care, and patient experiences, to allow continuous improvement and accountability of health systems
Access to treatment	Timely, effective and affordable access to different therapy modalities and cancer treatment options: surgery, radiotherapy, chemotherapy, immunotherapy and other systemic and non-systemic options. This encompasses tailor-made and comprehensive access in a timely manner and as early as possible, to improve patient outcomes and survivorship. Treatment should be of quality and safety consistent with clinical evidence (Butler et al. 2025; European Parliament 2021; Gospodarowicz 2014). This component primarily sits at the healthcare delivery level, supported by health system level interventions and structures.
	Identified considerations for implementation: · Integrating treatment access into national cancer control plans and strategies · Prioritise establishing governance structures for the development and update of clinical guidelines, and monitor access to treatment · Sustainable funding through insurance and health coverage schemes within national control policies and plans · Investment in infrastructure (required facilities) and continuous capacity building and training of healthcare workforce on current and innovative treatment options · Regulatory and access frameworks to ensure timely market entry, financing and reimbursement, and final access to treatments by patients
Infrastructures and Health Systems	
Foundational elements – physical, digital, organisational, structural and human – that enable the effective delivery, coordination and sustainability of (early cancer) care services. This domain encompasses the facilities, technologies, data systems, governance structures and workforce capacities required to build responsive, integrated and equitable (cancer) care systems. Strengthening infrastructures and health systems supports scalability of early cancer care interventions, as well as accessibility and alignment with broader health system priorities.	
Data and RWE	Systems, infrastructure and processes that collect, manage, analyse and apply health information from clinical practice, population registries and everyday healthcare settings to inform decision making and policy in (early cancer) care. Data infrastructures aim to provide the foundation for capture of accurate, interoperable and secure patient information across the cancer care pathway/continuum. RWE builds upon these data to generate insights into what works in practice, help refine (early cancer) care strategies, improve care coordination, and guide resource allocation to achieve equitable and effective (cancer) care. This component sits as a health system component with implications in healthcare delivery and wider public health interventions and structures.
	Identified considerations for implementation: · Adoption of data standards, shared formats and interoperable systems to enable seamless exchange and integration of health information across healthcare institutions and sectors · Robust governance frameworks to establish global standards for RWE quality, protect patient privacy, ensure ethical data use, and build public trust in the collection and use of health information · Develop clinician-led registries and international collaborations · Sustainable funding for digitalisation, system upgrades and secure data management tools to address fragmentation, outdates technology and gaps in connectivity · Data cleaning, validation and continuous updating to maintain accuracy and completeness, supporting the generation of reliable RWE

	· Capture information across all population groups to ensure policies and interventions address disparities and reflect real-world diversity · Use of emerging tools – e.g. AI, machine learning and advanced analytics – to support data integration and insight generation, with clear accompanying regulations and ongoing evaluation for safe and ethical data use · Embed implementation research and continuous learning into RWE systems. Cooperation between governments, health institutions, research organisations and technology providers to establish shared goals and sustainable practices. · Democratisation of data for policymakers, communities and clinicians
Incentivisation Structures	Financial, organisational or behavioural mechanisms that encourage healthcare providers, institutions and/or communities to adopt and sustain practices that promote (early cancer) care and health. These structures aim to align individual and system-level motivations – such as performance-based funding, recognition programmes or integrated care payments – with public health goals, ensuring that (early cancer) care is prioritised across all levels of the health system. This component sits as a health system component with implications in healthcare delivery and wider public health interventions and structures.
	Identified considerations for implementation: · Careful design to support (early cancer) care objectives without creating perverse incentives that prioritise short-term metrics over long-term outcomes or equity. Use equity-focused incentives that reward improved access and continuity · Ensuring that incentivisation mechanisms do not widen disparities by favouring well-resourced institutions. Incentives should promote inclusive participation and improved outcomes for all patients and citizens, particularly those from underserved communities, with a preference for non-financial motivators. · Design based on measurable, evidence-based indicators paired with transparent evaluation mechanisms · Setting adequate and sustained funding, administrative capacity and ongoing monitoring for continuity and impact, while monitoring perverse behaviours and unintended disparities · Design to promote collaboration between care levels and care delivery services, rewarding coordinated and efficient care pathways rather than siloed performance · Co-creation with clinicians, managers and community stakeholders to ensure structures are acceptable, practical and aligned with patient needs and professional motivations · Adapting to each country's financing models and context, workforce dynamics and institutional culture to ensure effectiveness and local ownership
Workforce and Capacity	Planning, development, deployment and retention of multidisciplinary health and care staff to ensure availability of skilled personnel for (early) cancer care. This involves maintaining competency, sufficiency and distribution of professionals across all levels of service delivery, supported by effective models of care to provide timely, high-quality services throughout the cancer care pathway. Includes ongoing training, skills development, role design, workforce optimisation and improvements in working conditions, to enhance productivity, retention and overall system performance (Australian Cancer Plan 2026; The Victorian Government 2024; Trapani et al. 2024; NHS Greater Manchester Cancer Alliance 2023; The Health Policy Partnership 2021). This component sits within the healthcare delivery level while supported by public health and health systems structures and interventions.
	Identified considerations for implementation:

	· Use of cancer-burden data to model current and future capacity needs for early cancer pathway, identifying gaps and level of care · Alignment of cancer-specific workforce planning with national human resources for health strategies and broader health workforce plans · Expansion of training and capacity building through competency frameworks for early cancer care across the different health professions with continuous investment in professional development and structured education programmes · Optimisation of existing workforce by role delegation and task-sharing, and introducing and supporting roles that enhance early cancer care capacity (e.g. cancer care coordinators, pathway navigators and specialist nurses) · Systems for monitoring workforce availability, distribution, needs, retention and turnover, with data on access gaps for alignment with workforce strategies · Promotion of workforce diversity and inclusion that can support understanding of priority populations, local context and culture
Health Systems Strengthening	Deliberate and sustained process of improving the core functions and capacities of a health system to ensure that it can deliver high-quality, accessible and equitable services for all citizens. This includes enhancing key system components – governance, financing, service delivery, health workforce, infrastructure, information systems and community engagement – for effective and cohesive functioning. Building resilience, efficiency and responsiveness within health systems to meet population health needs, adapt to changing challenges, and achieve better health outcomes, including timely and equitable (early) cancer care (Koo et al. 2021; beatNCDs and WHO 2017; WHO 2023; European Commission, n.d.). This component sits at a public health level with implications in healthcare delivery and wider health system components.
	Identified considerations for implementation: · Focus on all components of the health system, with emphasis on capacity, coordination and quality in all levels of care. Focus on addressing gaps and weak components in early cancer care · Embedding early cancer care in national cancer control plans and universal health coverage strategies · Setting governance structures that align components of early cancer care in the patient care continuum, with defined and shared accountability across stakeholders · Addressing financial barriers and ensuring adequate funding for infrastructure and capacity · Continuous investment and funding to strengthen and improve the different components – health workforce, health information systems for data sharing and referral, infrastructure that facilitates early cancer care (from detection to treatment)

The proposed framework was developed from the evidence gathered in this study and provides a practical foundation to guide policy dialogue and promote alignment across sectors to advance early cancer care. It brings together interconnected domains: Education and Engagement, Detection and Diagnosis, Treatment Access, and cross-cutting enablers to reflect on the multifaceted nature of early cancer care. The framework is intentionally designed to be simple and adaptable, acknowledging the diverse realities across countries and their health systems, political environments and institutional capacities, and serves as a starting point for contextual refinement and dialogue. While it cannot capture every nuance, it offers a cohesive, system-wide approach grounded in collaboration, equity and sustained investment. Adopting a (common) policy framework policymakers and stakeholders can advance integrated, resilient and people-centred cancer care systems that translate early action into lasting health gains for all.

4.2. Implications of a Policy Framework on Early Cancer Care

Implementing a comprehensive early cancer care policy framework requires coordinated action across governance, financing, workforce, data systems and community participation. Findings from this study's discussions highlight that early cancer care requires integration and alignment of policies to complement and reinforce one another. Findings show that policy components do not operate in isolation: they collectively strengthen early detection and diagnosis, and patient navigation. Cross-cutting factors such as governance, financing and workforce capacity enable coherence across policy areas, anchoring all interventions along the patient care pathway and ensuring that progress in one area supports advances in others. Achieving an 'ideal' framework relies on phased implementation, balancing ambition with realism and building on existing resources while strengthening infrastructure for long-term sustainability. As discussed above, the proposed framework is thus designed to be simple and adaptable and serves as a starting point for collaboration and prioritisation on early cancer care. The findings of this study highlight that implementing an early cancer care framework requires coordinated policy action across all levels of the health system, supported by sustained investment, governance alignment and multisector collaboration. In this section, we present further implications for decisions makers and further research.

4.2.1. Implications for policy

Adopting a policy framework on early cancer care implies a shift in how health systems are organised, financed and evaluated. It requires policymakers to reorient priorities away from reactive treatment towards proactive early action, recognising that investment in early detection, timely diagnosis and coordinated treatment significantly contributes to cancer control and reduces the burden of the disease. Early cancer care must be understood as an integrated continuum anchored in health-system strengthening and equity. This reorientation requires restructuring budgets and incentives to value timely diagnosis and continuity of care, recognising that investment in early stages reduces the economic and social burden of advanced disease.

Equity must be embedded as a guiding principle. Health policies should address disparities in screening, diagnosis and treatment by integrating cultural and linguistic competence standards within national guidelines and ensuring outreach to women, minorities, low-income groups and rural communities. Strengthening primary care networks and ensuring seamless referral pathways are central to translating early detection into improved survival outcomes.

Collectively, the discussions underscored that improving early cancer care requires a systems-wide approach, rooted in trust, continuity and community participation. National frameworks should therefore integrate prevention, detection, diagnosis and treatment under consistent governance, and ensure multiyear investment and adaptability, guided by implementation science to ensure feasibility, equity and long-term sustainability. For example, participants reiterated that Primary Care Capacity belongs primarily within the early diagnosis domain, not detection, as general practitioners play a pivotal role in recognising symptoms, guiding referrals and supporting patients through diagnostic pathways once disease suspicion arises. Early diagnosis also depends on strengthening first-line clinical services, continuous training, and integration with data and referral systems. Additionally, strong data infrastructures are essential to support all domains, enabling effective performance tracking, transparency and equitable evaluation, while minimising administrative burden.

Increasing integration of innovation in healthcare presents both opportunities and risks and can impact early cancer care. There is a need to develop governance structures for innovation, enabling rapid testing and evaluation of new screening and diagnostic tools, while maintaining ethical safeguards and cost-effectiveness requirements. Ensuring equitable access to innovation is a central political challenge; without deliberate policy design, digital health advances risk widening inequities between high-income and low-resource populations. Some countries, particularly in low- and middle-income settings, may place greater emphasis on improving equitable access to existing diagnostic and screening services, rather than on adopting costly new technologies. Therefore, process innovations that strengthen existing systems – such as mobile screening programmes, telepathology networks or decentralised diagnostic hubs – can offer tangible practical and equitable gains.

Policy coherence, intersectoral collaboration and accountability become a policy necessity. Ministries of health, education, finance and digital technology need joint planning mechanisms to align funding, governances and shared performance indicators. This collaboration demands policy coherence across sectors and alignment between national strategies and local implementation frameworks. Evidence and implementation science should support decision making, focusing out outcomes related to equity of care, quality, timeliness and patient experience. Building a culture of continuous learning, transparency and trust, where data and evidence inform policymaking and adaptation, are essential to sustain political and institutional commitment.

Ultimately, the use of an early cancer care policy framework can represent a shift towards a future where early cancer care is not reactive but preventive, equitable and systemically embedded, ensuring that every patient receives timely, high-quality care regardless of where they live.

4.2.2. Recommendations for further research

The proposed framework was designed using evidence from the present study. It outlines key policy elements that require further attention. Future research should focus on bridging evidence and practice, identifying which interventions and combinations of actions yield the greatest benefits across diverse contexts. Comparative implementation studies and implementation research can evaluate how different models – i.e. Public Education, Community Empowerment and Detection Innovation – perform in varying health system environments and resource levels. Research should examine how interventions can be scaled adaptively rather than uniformly, to support cultural and contextual differences. Additionally, in-depth assessment of policy components can build on the findings of this study and support the development of actionable strategies for early cancer care. This requires evaluating policy choices based on their economic, social and clinical impacts, to provide robust evidence to inform prioritisation and resource allocation. This research can explore policy preferences and trade-offs from multiple perspectives – including patients, communities, health professionals and policymakers – to ensure that policies are based in evidence and values. A comprehensive approach combining health economic assessments, implementation research and stakeholder analysis would help identify the most effective and acceptable policy pathways to strengthen early cancer care.

The primary focus of the current study was to establish Expert Consensus on key policy components, rather than to identify specific targets, quantitative benchmarks or indicators. While metrics development was beyond this study's scope, its outputs aim to serve as a foundation for further work to develop context-specific measures of policy impact. Such work should aim to align measures with international guidelines and local needs to reflect the key national variation in health systems and policy contexts relevant to early cancer care.

Specifically, equity and inclusion metrics need to be understood further. Studies should track how early cancer care policies affect distinct demographic and socioeconomic groups, analysing gender, geography, income and ethnicity to ensure gaps are closing rather than widening. Developing standardised indicators of equity will improve accountability and guide policy adjustments, while measures should account for natural variation across national and regional contexts.

The use of technology and data in early cancer care practices should be another research focus. Validation and cost-effectiveness studies for AI-assisted screening, liquid biopsies, telemedicine and other innovative technologies and processes (in cancer education, detection, diagnosis and treatment) are needed to validate the use of these innovations, particularly in lower-resource settings. Evaluations must consider infrastructure readiness, training requirements and regulatory implications. Research into data governance models could also clarify how to balance interoperability, privacy and accessibility.

Behavioural and communication research would also be helpful to understand how people perceive risk, make health-seeking decisions, and respond to information in an era of easily accessible misinformation. Exploring the impact of social media algorithms and entertainment-based health education could reveal innovative routes to build literacy and expand public education. Such insights could inform the design of more effective, targeted communication strategies that foster trust, counter misinformation and promote sustained engagement in early cancer care. Understanding these behavioural dynamics is essential to translating awareness into meaningful action and improved health outcomes.

Economic modelling studies can demonstrate the return on investment of early detection, diagnosis and treatment pathways (Hernández-Vásquez et al. 2026). Evidence that can quantify potential benefits can strengthen evidence for policymaking and inform funding decisions. By translating health outcomes into economic value, such evidence can help position early cancer care as a financially sound and socially responsible priority for governments. This, in turn, can drive sustained investment and policy commitment towards building stronger, more equitable cancer care systems.

Research and policy should proceed hand in hand. The use and consideration of the suggested early cancer care framework require not only technical solutions but an ongoing cycle of evidence generation, reflection and adaptation. The aim is to create context appropriate strategies that turn the mission of equitable early cancer care into a practical reality by restructuring health systems to detect cancer earlier, treat it efficiently and maximise survival and wellbeing.

4.3. Limitations of the study and its findings

This study followed a structured three-phase approach to gathering information on different policies that enable early cancer care and to capturing insights on their perceived importance and implementation feasibility as key components for a policy framework on early cancer care. The process included an initial phase of Ideas Generation, followed by an assessment on importance and feasibility, and concluded with validation of findings and feedback on a proposed framework. Each phase relied on strong stakeholder engagement, supported by thorough and comprehensive stakeholder mapping and sustained outreach efforts to maintain engagement throughout the study. However, engagement levels were lower than expected, presenting methodological and contextual limitations impacting the interpretation of its results.

Methodologically, the types of policy experts were not distinguished when analysing ratings of policy strategies and discussion comments. It is possible that points of disagreement (in both ratings and explanations) may have been influenced by the (possibly implicit) priorities of different stakeholder groups – for example, clinical versus non-clinical perspectives may naturally differ.

Due to the limited number of participants in Phase 2, quantitative assessment of the level of agreement among experts on the policy strategies based on the rating data was not possible. As a result, the quantitative analysis of rating data was focused on median and IQR to understand average expert views and distribution of response. However, the utilisation of the Validation Workshops ensured in-depth discussion of the findings which allowed qualitative assessment level of consensus.

Further, although ExpertLens^{TM} is an online platform that allows anonymous and asynchronous participation aimed at facilitating flexible participation, feedback from participations highlighted challenges with the online process and engagement in the actual discussion, and that other types of dialogue would have been preferred. Likewise, having the panel run in English could have limited participation and engagement for non-native speakers. These limitations may explain panel attrition during and between Rounds 1 to 3. However, the Validation Workshops conducted in Phase 3 provided such a platform for dialogue, and further dialogue with audiences from other countries in future research is encouraged.

In terms of contextual challenges, a significant limitation of this study was in the recruitment and engagement of policy experts (as previously mentioned). Stakeholder engagement and data collection for Phases 1 and 2 took place over the summer months. As a result, many of the policy experts engaged during Phase 1 were absent or at capacity during Phase 2, limiting their availability and participation in the study. Additionally, engagement levels varied, and the geographic scope coverage was not as expected, particularly in Phases 2 and 3. Consequently, assessing levels of agreement among panellists was impacted by participant attrition, which reduced the number of responses available for analysis in the discussion and final rating round. Despite this limitation, the study was able to derive meaningful insights from the data, which were collected on the perceived importance and feasibility of policy components and considerations for their implementation. While the study provides valuable insights needed to develop a policy framework for early cancer care, it is important to interpret its findings with consideration of these methodological and contextual limitations. Future research should aim for broader inclusion of LMIC perspectives, deeper engagement with diverse stakeholders, and further exploration of the complex structural factors that influence implementation effectiveness across different health systems.

During Phase 2 and 3 of the study (Expert Consensus Panel through ExpertLens^{TM} and Validation Workshops), the geographical coverage of participants and data sources proved a challenge due to competing schedules and time differences. Perspectives and contextual insights from LMIC were limited, therefore some findings may not fully reflect the diverse priorities, constraints and realities that shape health-priority setting and implementation in different parts of the world. Health systems in LMIC often face distinct resource challenges and sociopolitical contexts that can greatly affect what strategies are feasible or effective.

Despite these methodological and contextual limitations, many of the challenges were mitigated through iterative data validation and discussions during the workshops, which allowed for deeper exploration of expert perspectives and qualitative assessment of consensus. The multi-phase design and complementary methods ensured that the study captured a breadth of insights across settings and disciplines, resulting in findings that remain robust and relevant for informing policy and guiding the design of the policy framework in early cancer care. Overall, the study provides a valuable foundation for continued dialogue, refinement and use of a policy framework, offering practical direction for policymakers striving to strengthen early, equitable and sustainable cancer care systems worldwide.

5. Conclusions

Advancing early cancer care requires a unified, system-wide policy approach built on collaboration, equity and sustained investment. This study presents a comprehensive, evidence-informed policy framework that defines early cancer care as an integrated continuum – linking education, detection, diagnosis, treatment and system strengthening – supported by equity, collaboration and sustained funding. Meaningful progress will depend on governance coherence, trust in institutions and systems, workforce strengthening, and resilient health system capacity. The proposed framework offers a simple and practical foundation for aligning national cancer control strategies and guiding decision making to achieve timely, equitable and patient-centred early cancer care.

The study evidenced that the feasibility of implementing early cancer care policies is highly context dependent, improving where policy coherence, strong leadership and adaptable health systems exist, but declining where fragmentation, inequity and underinvestment persist. Cross-cutting enablers – such as robust data systems, sufficient workforce capacity and health system strengthening – were identified as pillars supporting all domains of early cancer care. Strengthening Primary Care Capacity, Public Education, and Data Infrastructure emerged as central to improving access to early cancer care; however, it is equally important to consider all other components of the framework for implementation. Implementing these elements can support long-term sustainability and equity in the care continuum.

Ultimately, this study provides evidence on the need to shift how health systems conceptualise and prioritise early cancer care. The proposed framework brings together interconnected domains – spanning education and engagement, detection and diagnosis, treatment access, and cross-cutting enablers – to illustrate the multifaceted nature of (early) cancer care. Rather than presenting prescriptive answers, the framework is designed to serve as simple and practical foundation to guide policy dialogue, encourage cross-sector alignment and support adaptable, evidence-based planning. The success of early cancer care depends not on isolated interventions, but on cohesive governance and long-term commitment across all levels of the care pathway, ensuring that every patient can access timely, high-quality and equitable care.

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Annex A. Stakeholder mapping

Type of stakeholder (Healthcare and Cancer policy, Health economics, Health technology assessment (HTA), Public health, Healthcare professionals (HCP), Patient advocacy groups)	Name of organisation	Country	Number of stakeholders contacted
Healthcare professionals (HCP)	Australasian College of Surgeons (RACS)	Australia	1
Health economics	Australian Health Economics Society (AHES)	Australia	1
Healthcare and cancer policy	Cancer Australia	Australia	4
Patient advocacy groups	Cancer Council	Australia	2
Patient advocacy groups	Cancer Voices Australia	Australia	5
Healthcare professionals (HCP)	Clinical Oncology Society of Australia (COSA)	Australia	1
Healthcare professionals (HCP)	Haematology Society of Australia and New Zealand	Australia	1
Health economics	ISPOR	Australia	1
Healthcare professionals (HCP)	Medical Oncology Group of Australia (MOGA)	Australia	1
Healthcare professionals (HCP)	Private Cancer Physicians of Australia (PCPA)	Australia	3
Healthcare professionals (HCP)	Royal Australian and New Zealand College of Radiologists (RANZCR)	Australia	1
Health technology assessment	The Department of Health and Aged Care	Australia	1
Public health	The Department of Health and Aged Care	Australia	4
Healthcare and cancer policy	The Department of Health and Aged Care	Australia	3

Healthcare professionals (HCP)	The Royal Australasian College of Physicians (RACP) – Medical Oncology Group of Australia	Australia	1
Healthcare professionals (HCP)	The Royal College of General Practitioners (RACGP)	Australia	1
Healthcare professionals (HCP)	Asociación Colombiana de Hematología y Oncología (ACHO) (Colombian association of hematology and oncology)	Colombia	1
Healthcare professionals (HCP)	Asociación Colombiana de Radiología (Colombian Society of Radiology)	Colombia	2
Patient advocacy groups	Fundación Colombiana de Leucemia y Linfoma (FCL) (Colombian Leukemia and Lymphoma Foundation)	Colombia	1
Health economics	ISPOR	Colombia	1
Patient advocacy groups	Liga Colombiana Contra el Cáncer (Colombian League Against Cancer)	Colombia	3
Healthcare professionals (HCP)	Centro de Tratamiento e Investigación sobre Cáncer Luis Carlos Sarmiento Angulo (CTIC) (Luis Carlos Sarmiento Angulo Cancer Treatment and Research Center)	Colombia	1
Public health	Ministerio de Salud y Protección Social (MinSalud) (Ministry of Health and Social Protection)	Colombia	1
Healthcare and cancer policy	Instituto Nacional de Cancerología (INC) (National Cancer Institute)	Colombia	3
Healthcare professionals (HCP)	Instituto Nacional de Cancerología (INC) (National Cancer Institute)	Colombia	4
Patient advocacy groups	European Patient Forum (EPF)	Europe	1
Health technology assessment	European Patient Forum (EPF)	Europe	1
Public health	European Patient Forum (EPF)	Europe	3
Healthcare professionals (HCP)	Charité – Universitätsmedizin Berlin (University Medicine Berlin)	Germany	1
Healthcare and Cancer Policy	Gemeinsamer Bundesausschuss (G-BA) (Federal Joint Committee)	Germany	3
Healthcare professionals (HCP)	Friedrich Schiller University Jena	Germany	1
Patient advocacy groups	Deutschen Krebsgesellschaft (DKG) (German Cancer Society)	Germany	4

Public health	Deutsche Gesellschaft für Public Health (DGPH) (German Public Health Association)	Germany	4
Healthcare professionals (HCP)	Deutsche Gesellschaft für Hämatologie und Medizinische Onkologie (DGHO) (German Society for Hematology and Medical Oncology)	Germany	1
Healthcare professionals (HCP)	Deutsche Gesellschaft für Allgemeinmedizin und Familienmedizin (DEGAM) (German Society of General Practice and Family Medicine)	Germany	1
Healthcare professionals (HCP)	Deutsche Röntgengesellschaft (German Society of Radiology)	Germany	1
Healthcare professionals (HCP)	Deutsche Gesellschaft für Chirurgie (German Society of Surgery)	Germany	1
Health economics	Leibniz Universität Hannover (Leibniz University Hannover)	Germany	1
Healthcare professionals (HCP)	Universitätsklinikum Magdeburg (University Hospital Madgeburg)	Germany	1
Public health	Robert Koch Institute (RKI)	Germany	5
Healthcare professionals (HCP)	Universitaetsmedizin Der Johannes Gutenberg-Universitaet Mainz (University Medical Centre of Johannes Gutenberg University Mainz)	Germany	1
Healthcare professionals (HCP)	Universitätstumorzentrums Düsseldorf (UTZ) (University Tumour Centre Düsseldorf)	Germany	1
Healthcare/Patient advocacy groups	The Global Surgery Foundation	Global	1
Healthcare professionals (HCP)	Centro Nazionale di Adroterapia Oncologica (CNAO) (National Centre for Oncological Hadrontherapy)	Italy	1
Healthcare professionals (HCP)	Dipartimento di Oncologia, Università degli Studi di Torino (Department of Medical Oncology University of Turin)	Italy	1
Patient advocacy groups	European Cancer Patient Coalition (ECPC)	Italy	1
Health economics	ISPOR	Italy	1
Healthcare professionals (HCP)	Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS) – Istituto Nazionale dei Tumori di Milano (INT) (Scientific Institute for Research, Hospitalisation	Italy	3

	and Healthcare – National Cancer Institute of Milan)		
Patient advocacy groups	Associazione Italiana Malati di Cancro, Parenti e Amici (AIMaC) (Italian Association for Cancer Patients and Friends)	Italy	1
Healthcare professionals (HCP)	Associazione Italiana di Oncologia Medica (AIOM) (Italian Association of Medical Oncology)	Italy	2
Healthcare professionals (HCP)	Società Italiana di Radiologia Medica e Interventistica (SIRM) (Italian Society of Radiology)	Italy	1
Healthcare professionals (HCP)	Società Italiana di Chirurgia (SIC) (Italian Society of Surgery)	Italy	1
Healthcare professionals (HCP)	Università Cattolica del Sacro Cuore (Catholic University of the Sacred Heart)	Italy	1
Patient advocacy groups	Women Against Lung Cancer in Europe (WALCE)	Italy	1
Healthcare professionals (HCP)	Department of Thoracic Surgery Kindai University Faculty of Medicine	Japan	1
Health economics	ISPOR	Japan	1
Health technology assessment	ISPOR	Japan	1
Healthcare professionals (HCP)	Japan Radiological Society	Japan	1
Public health	Ministry of Health, Labour and Welfare (MHLW)	Japan	5
Healthcare professionals (HCP)	National Cancer Centre Hospital East	Japan	1
Healthcare professionals (HCP)	National Cancer Centre, Institute for Cancer Control	Japan	2
Public health	National Institute of Public Health (NIPH)	Japan	5
Healthcare professionals (HCP)	The Japan Clinical Oncology Group (JCOG), Part of International Cardio-Oncology Society (IC-OS)	Japan	1
Patient advocacy groups	The Japanese Foundation for Cancer Research (JFCR)	Japan	4
Patient advocacy groups	Asociación Mexicana de Lucha Contra el Cáncer (AMLCC) (Mexican Association for the Fight Against Cancer)	Mexico	1

Health technology assessment	Dirección General de Modernización del Sector Salud (DGMOss) (DG for the modernisation of the health sector)	Mexico	2
Healthcare professionals (HCP)	Hospital Angeles Hospital General De México, Dr. Eduardo Liceaga (General Hospital of Mexico, Dr. Eduardo Liceaga)	Mexico	1
Healthcare professionals (HCP)	Instituto Mexicano del Seguro Social (IMSS) (Mexican Social Security Institute)	Mexico	3
Healthcare and cancer policy	Instituto Nacional de Cancerología (InCAN) (National Cancer Institute of Mexico)	Mexico	3
Healthcare professionals (HCP)	Instituto Nacional de Cancerología (InCAN) (National Cancer Institute of Mexico)	Mexico	5
Public health	Instituto Nacional De Salud Pública (INSP) (National Institute of Public Health of Mexico)	Mexico	9
Healthcare professionals (HCP)	Sociedad Mexicana de Oncología (SMeO) (Mexican Society of Oncology)	Mexico	1
Healthcare professionals (HCP)	Instituto Nacional de Ciencias Médicas y Nutrición Salvador Zubirán (INCMNSZ) (National Institute of Nutrition Salvador Zubiran)	Mexico	2
Healthcare professionals (HCP)	Part of International Cardio-Oncology Society (IC-OS)	Mexico	1
Public Health	Secretaría de Salud (Ministry of Health) Comisión Federal para la Protección contra Riesgos Sanitarios (COFEPRIS) (Federal Committee for Protection from Sanitary Risks)	Mexico	1
Healthcare professionals (HCP)	Sociedad Mexicana de Radiología e Imagen (SMRI) (Mexican Society of Radiology and Imaging)	Mexico	1
Healthcare professionals (HCP)	Asociatia Heal (Heal Association)	Romania	2
Patient advocacy groups	Asociatia Pacientilor cu Neoplazii Mieloproliferative (Association of Patients with Myeloproliferative Neoplasms)	Romania	1
Public health	Babeș-Bolyai University (BBU)	Romania	1
Healthcare professionals (HCP)	Cancer Institute 'Ion Chiricuta'	Romania	1

Patient advocacy groups	Federatia Asociatiilor Bolnavilor de Cancer (Federation of Cancer Associations of Romania)	Romania	1
Healthcare professionals (HCP)	Institutul Oncologic (Oncological Institute)	Romania	2
Healthcare and cancer policy	Casa Națională de Asigurări de Sănătate (CNAS) (National Health Insurance House – NHIH)	Romania	8
Healthcare professionals (HCP)	Royal Hospital Bucharest	Romania	1
Patient advocacy groups	Asociația Română pentru Servicii și Comunicare în Oncologie (APSCO) (The Romanian Association for Services and Communication in Oncology)	Romania	1
Healthcare professionals (HCP)	Universitatea de Medicină și Farmacie (University of Medicine and Pharmacy)	Romania	1
Healthcare and cancer policy	Ministry of Health (MoH)	Rwanda	3
Public health	Ministry of Health (MoH)	Rwanda	3
Healthcare professionals (HCP)	Rwanda Cancer Relief (RCR)	Rwanda	1
Patient advocacy groups	Rwanda Cancer Relief (RCR)	Rwanda	4
Healthcare professionals (HCP)	Rwanda Medical Association	Rwanda	1
Healthcare professionals (HCP)	Rwanda Oncology Society	Rwanda	1
Healthcare professionals (HCP)	Rwanda Radiology Society	Rwanda	1
Patient advocacy groups	Artension	UK	1
Healthcare professionals (HCP)	Association of Cancer Physicians (ACP)	UK	2
Healthcare professionals (HCP)	Cambridge University Hospitals NHS Foundation Trust	UK	2
Patient advocacy groups	Cancer Research UK	UK	4
Health economics	ISPOR	UK	4
Patient advocacy groups	Macmillan cancer support	UK	5
Healthcare and cancer policy	National Institute for Health and Care Excellence (NICE)	UK	7
Healthcare and cancer policy	NHS England – NHS Cancer Programme	UK	4
Healthcare professionals (HCP)	Royal college of General Practitioners	UK	1
Healthcare professionals (HCP)	Royal college of Surgeons of England	UK	1

Healthcare professionals (HCP)	The Royal College of Radiologists	UK	1
Patient advocacy groups	American Cancer Society	United States	6
Healthcare professionals (HCP)	American College of Surgeons	United States	2
Healthcare professionals (HCP)	American Society of Clinical Oncology (ASCO), Part of International Cardio-Oncology Society (IC-OS)	United States	1
Public health	Emory University, Rollins School of Public Health	United States	2
Health economics	ISPOR	United States	3
Public health	John Hopkins Bloomberg school of Public Health	United States	3
Healthcare and cancer policy	National Cancer Institute (NCI)	United States	7
Healthcare and cancer policy	National Comprehensive Cancer Network	United States	1
Healthcare professionals (HCP)	US Radiology Specialist	United States	1
Healthcare professionals (HCP)	Weill Cornell & Presbyterian Hospital Brooklyn	United States	1
Total			238

Annex B. Idea Generation questionnaire

Considering the 4 key domains for an early cancer care policy framework: Education (health literacy), Early Detection, Early Diagnosis, Early Treatment

Effective strategies: What policy strategies, initiatives, approaches and/or programmes are you aware of that have been effective in enhancing early cancer care?

Potential strategies: What policy strategies, initiatives, approaches and/or programmes could be implemented to enhance early cancer care?

Implementation: What should be in place to allow for these strategies, initiatives or programmes to be implemented in practice to enhance early cancer care? Please provide examples or mechanisms if possible.

Opportunities: What specific opportunities and enablers exist to improve the implementation of policies or programmes aimed at enhancing early cancer care?

Annex C. Round 1 and Round 3 questionnaire

Note that Round 1 and 3 have exactly the same rating questions.

Introduction:

Questions: We ask you to use 9-point scales to rate importance and feasibility of each potential framework component.

- **Importance** refers to the degree to which a component is essential for improving early cancer care outcomes. Importance encompasses potential impact, relevance to current challenges, and contribution to the overall policy framework.
- **Feasibility** refers to the degree to which a component can realistically be implemented, given current resources, infrastructure, stakeholder support, and potential barriers and facilitators. When assessing feasibility, please take into account the international dimension of the framework and consider how implementation might vary across different countries and contexts.

We encourage you to use all scores (from 1 to 9) on these scales and interpret the rating scores as follows:

- Scores of 1 to 3 indicate low importance or feasibility
- Scores of 4 to 6 indicate medium importance or feasibility
- Scores of 7 to 9 indicate high importance or feasibility.

Although some of the framework components may seem similar, it is important that you do not rate all of them in the same way. Instead, consider which components are of greater or lower importance or feasibility. Remember, you have three scores within the range of low, moderate and high ratings to help you differentiate between policy components. Please note that there are no right or wrong answers.

Round 1:

Explaining Your Ratings: In addition to providing a numeric response to each question, we ask that you explain your rating using the open text boxes. Your Round One ratings and explanations will be anonymised and shown to all study participants in Rounds 2 and 3. This information may help other participants interpret your responses and engage in a discussion with you.

Round 3:

We encourage you to use all scores (from 1 to 9) on these scales. Although some of the policy components may seem similar, it is important that you do not rate all of them in the same way. **We also ask that you provide comments using open text boxes so that we can better understand your thoughts and reasons for changing or not changing your original responses.** Please note that there are no right or wrong answers.

[For each of the 10 components]

1. **How important is this framework component for supporting improvements in early cancer care?**
2. **How feasible is it to implement this framework component in real-world practice to improve early cancer care?**

Public Education

- **What:** Expand public education campaigns and targeted initiatives to raise awareness among high-risk and underserved populations about cancer risk factors and prevention, early symptoms, and available services such as screening programmes.
- **How:** Potential strategies to do so include co-creating campaigns with communities, engaging survivors or celebrities and community cancer organisations, leveraging digital platforms and social media, and incorporating primary care champions.
- **Implementation Considerations:** Implementation may require research into optimal communication channels, incentives for participation in education and screening, and professional development for community health professionals. Challenges may include public mistrust, health literacy gaps and resource limitations.

Community Empowerment

- **What:** Empower communities and the public to be more actively involved in cancer prevention and early detection through engagement initiatives.
- **How:** Potential strategies to empower communities may include training and supporting patient representatives in early cancer care pathways, providing education on self-examination techniques (e.g. breast, skin or stool checks), and training on navigating digital and AI-driven health information resources.
- **Implementation Considerations:** Implementation may require addressing challenges that involve overcoming potential cultural barriers in engagement initiatives, increasing patient digital literacy, and bridging digital divides.

Detection Innovation

- **What:** The incorporation of innovative detection technologies, including research to establish their clinical- and cost-effectiveness, to improve efficiencies and to add value to traditional cancer screening and detection methods.
- **How:** Potential strategies include the use of emerging technologies and digital health tools, such as AI-assisted imaging (e.g. mammography), liquid biopsy, wearables and multi-cancer early detection (MCED) platforms.
- **Implementation Considerations:** Implementation may require policy support through sustainable funding, regulatory frameworks and careful attention to health equity. Potential barriers to accessing screening innovations may include high costs and infrastructure limitations.

Expanding Screening

- **What:** Expanding cancer screening programmes and implementing innovative approaches to reach high-risk and marginalised populations, increase the reach and effectiveness of cancer screening, and improve screening equity, uptake and outcomes.
- **How:** Potential strategies may include the use of mobile units, targeted lung health checks, campaigns to support screening uptake, home-based FIT (faecal immunochemical test)/HPV self-testing, and integration of screening into existing services like HIV care. Additionally, implementation may require ensuring availability of national screening programmes for all recommended cancers, proactive case finding from primary care (i.e. systematically identifying individuals who may have cancer before they present with symptoms, using electronic health records) to improve uptake.
- **Implementation Considerations:** Implementation may require ensuring the sustainability of screening programmes, addressing inequities in access, and using risk stratification techniques to enhance the effectiveness of programmes and enable personalised approaches to detection.

Diagnostic Innovation

- **What:** Integrate innovative diagnostic technologies and techniques and broaden their availability throughout healthcare systems to reduce diagnostic delays and improve access for underserved populations.
- **How:** Potential strategies may include the utilisation of telemedicine and innovative (AI-assisted) triage methods to improve access to diagnostic services, especially in remote areas, and improving collaboration with nurses, patient advocates and primary care providers to expand diagnostic capacity, for example through dedicated investigation hubs (i.e. specialised centres designed to rapidly assess, diagnose and manage patients with possible cancer symptoms).
- **Implementation Considerations:** Implementation may require bottom-up innovative models to ensure workforce satisfaction and subsidies for diagnostic tests to reduce financial barriers. Challenges may include high costs, complexities of expanding diagnostic testing, and workforce constraints.

Primary Care Capacity

- **What:** Strengthening Primary Care Capacity to reduce diagnostic delays, improve timeliness of clinical referrals of suspected cases, and improve overall continuity across the cancer care pathway.
- **How:** Potential strategies may include implementing more direct access diagnostics in primary care with tailored training and support for the primary care workforce and improving clinical referral pathways.
- **Implementation Considerations:** Implementation may be facilitated by incentivising models for early diagnosis and treatment pathways. Challenges may include the increase in resources required to expand primary care and strengthen capacity.

Care Coordination

- **What:** Enhance care coordination pathways across the cancer care continuum to minimise delays between detection, diagnosis and treatment.
- **How:** Potential strategies may include embedding Clinical Nurse Specialists and patient navigators in care pathways, ensuring regular Multi-Disciplinary Team (MDT)/Tumour Board discussions, reinforcing communication and referral pathways across teams, and enabling shared clinical records.
- **Implementation Considerations:** Implementation may require essential support in targeted workforce training, interoperable health information systems, and meaningful patient group involvement to address barriers. Potential challenges may include the fragmentation in health systems and resource requirements, workforce shortages, and data infrastructure limitations. Potential facilitators may include the use of digital health technologies and cross-sector collaboration.

Data Infrastructure

- **What:** Establish interoperable digital infrastructure across health systems and services to support clinical follow-up and patient traceability and to improve monitoring.
- **How:** Potential strategies may include expanding shared clinical records, optimising systems for improving data sharing between care providers, and strengthening national monitoring, evaluation, and audit efforts.
- **Implementation Considerations:** Implementation may require leveraging opportunities, including the adoption of evidence-based treatment guidelines, development of national digital strategies, and leveraging Real-world Evidence for frequently updating clinical guidelines. Challenges may include inconsistent data, lack of standardisation and harmonisation, and costs of system upgrades.

Real-world Evidence

- **What:** Enhance monitoring and surveillance by leveraging Real-world Evidence and ongoing research to benchmark services, drive improvements and prioritise cost-effective interventions.
- **How:** Potential strategies may include routine collection of Patient Reported Outcome Measures (PROMs) and utilisation of national cancer registries to inform guideline updates.
- **Implementation Considerations:** Implementation facilitators may include the development of robust monitoring systems and data sharing processes, funding for behavioural and implementation research, and platforms for regular data sharing. Challenges may include data reliability and integration, inequities in access to evidence, and reporting burden.

Incentivisation Structures

- **What:** Develop incentivisation structures, such as performance-based financing mechanisms, that encourage early diagnosis and referral adherence.

- **How:** Potential strategies may include introducing target-driven policies and standardised reporting structures, integrating incentives within national cancer plans, and cross-sector agreements to align priorities and drive system-wide improvements.
- **Implementation Considerations:** Implementation may require addressing such challenges as the need to balance financial and non-financial (e.g. professional recognition, training opportunities or improved resource allocation) incentives.