The changing global landscape of national cancer control plans

*Yannick Romero, Zuzanna Tittenbrun, Dario Trapani, Leslie Given, Karin Hohman, Mishka Kohli Cira, Kalina Duncan, Andre Ilbawi, Lisa M Stevens, on behalf of the NCCP Global Review Consortium**

Global efforts to highlight cancer and non-communicable diseases (NCDs) as a growing burden were first raised in 2005 World Health Assembly Resolution 58.22 and reinforced with Resolution 70.12 and the Global NCD action plan in 2017. One common thread for addressing cancer burden was the need to articulate cancer priorities within a comprehensive national cancer control plan (NCCP). Since 2012, the International Cancer Control Partnership provided guidance on cancer policy and planning, with the goal that every country should have an implementable plan. The purpose of the global review of NCCPs was to update global knowledge of the status and content of NCCPs. The global review included 16 new questions related to cancer equity, pandemic preparedness, global WHO initiatives, evidence-based recommendations, and other emerging trends. The findings can guide country-level decision makers on improvements to deliver person-centred cancer services to reduce the cancer burden.

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*The list of members of the NCCP Global Review Consortium is in the appendix (pp 14–17)

Union for International Cancer Control, Geneva, Switzerland (Y Romero PhD, Z Tittenbrun MSc); **Department of Oncology and Haematology, University of Milan, Milan, Italy** (D Trapani MD); **European Institute of Oncology, IRCCS, Milan, Italy** (D Trapani); **Strategic Health Concepts, Earlysville, VA, USA** (L Given MPA); **Strategic Health Concepts, Grand Lake, CO, USA** (K Hohman MBA); **National Cancer Institute, Center for Global Health, Rockville, MD, USA** (M K Cira MPH, K Duncan DrPH); **WHO, Geneva, Switzerland** (A Ilbawi MD); **International Atomic Energy Agency, Vienna, Austria** (L M Stevens PhD)

Correspondence to: Yannick Romero, Union for International Cancer Control, Geneva 1202, Switzerland **romero@uicc.org**

See Online for appendix

For more on **cancer burden** see https://gco.iarc.fr/en

For more on **International Cancer Control Partnership** see https://www.iccp-portal.org/

For more on **Global Initiative for Cancer Registry Development** see https://gicr.iarc.fr/

Introduction

The cancer burden continues to increase globally, placing strain on communities, health systems, and economies. Since 2000, governments have increasingly responded to the rising cancer burden as a public health issue by developing national plans to prevent and control cancer in a strategic, country-specific, and comprehensive manner.[1] Correspondingly, multi-sectoral stakeholders, including many who are partners involved in the International Cancer Control Partnership (ICCP), have increased efforts to support ministries of health to develop and implement their national cancer plans. A country's national cancer control plan (NCCP) elevates cancer as a health priority, supporting cancer-specific efforts to strengthen the health system. Developing a plan is essential, and implementation of the plan will show the greatest progress in cancer control.

The initial political focus on NCCPs was rooted in 2005 with the first World Health Assembly (WHA) Resolution on Cancer (WHA 58.22),[2] and reconfirmed in 2017 with the WHA Resolution on Cancer (WHA 70.12).[3] Multiple global initiatives have been launched from these political commitments and driven by community-based demand to advance progress toward cancer-related targets in the 2030 Agenda for Sustainable Development, particularly to reduce premature mortality from non-communicable diseases (NCDs).[4] UN global initiatives have focused on specific types of cancer (Cervical Cancer Elimination Initiative,[5] Global Initiative for Childhood Cancer,[6] and Global Breast Cancer Initiative[7]) and technical areas of cancer control (Global Initiative for Cancer Registry Development and Rays of Hope[8]) to accelerate country action.

In 2018, ICCP and its collaborators conducted the first global analysis of NCCPs[1] and produced a set of core NCCP elements[9] to use as a structured framework for reviewing country-driven cancer control plans. Focused complementary analyses in specific domains of cancer control reinforced the importance of, and limitations within, NCCPs, including essential medicines,[10] pathology and laboratory medicine infrastructure,[11] radiotherapy,[12] and survivorship strategies.[13,14] Common gaps were identified in planning for NCCP implementation, mostly for the scarcity of dedicated resources to turn commitment into action. Additionally, a review of US state, tribe, and territory cancer control plans was conducted with an adapted version of the 2018 global review questionnaire, contributing to the updated tool used for this Policy Review.

Since the initial NCCP review in 2018, there has been rapid growth in national cancer policies and plans active in more than 120 countries. Given this growing and changing landscape, ICCP embarked on a 5-year follow up global review of NCCPs. This review featured an updated questionnaire that incorporated an evolving understanding of NCCP development and implementation through the inclusion of additional domains and questions to reflect the status of NCCPs and inform engaged stakeholders.

Review process

We recruited 77 expert reviewers (individuals with knowledge and experience related to the core elements and technical inputs for evidence-based NCCP development and implementation; appendix pp 14–17) in all WHO regions, with language competencies (fluency in the language, with the ability to respond to the questions used in the questionnaire). Reviewers were trained and supported throughout. To avoid potential bias, each reviewer was asked to disclose any conflicts of interest by responding to a question on the review tool questionnaire for each NCCP and NCD plan reviewed, such as participation in the development of a particular plan. Each plan was reviewed by three reviewers. If discordance occurred between the reviewers, the common answer allocated by at least two reviewers was selected. If there were no common answers between the reviewers, a fourth reviewer

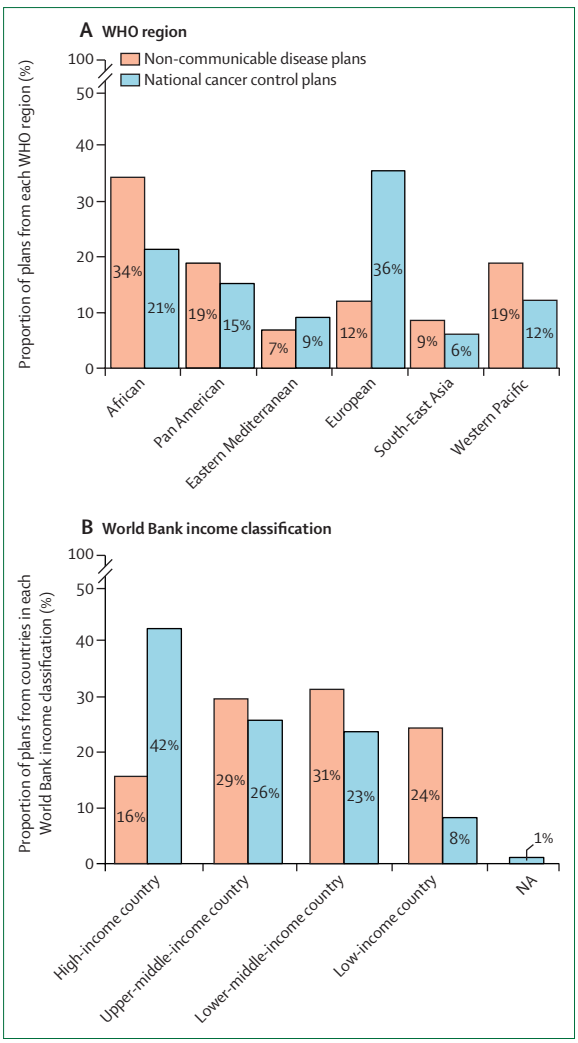

Figure 1: **Distribution of NCD plans and NCCPs organised by WHO region and World Bank income classification**
NA=not applicable. NCCP=national cancer control plan. NCD=non-communicable disease.

checked the plan in question and selected the final answer accordingly.

Questionnaire

The updated questionnaire included 95 questions in total, and included 69 questions from the 2018 global review questionnaire with modifications (questions were revised to extract more specificity; for example, we adapted ten US plan review items to focus on actionable strategies compared with mentions only as it was performed with the 2018 questionnaire). We also included 16 new questions and ten sub-questions (appendix p 13). The updated questionnaire included more detailed scoring options for 52 (55%) of 95 questions, to allow for in-depth analysis of identified strategies. For the NCD plans review, we adapted the questionnaire by selecting 54 questions from the NCCP questionnaire that could extract relevant data from NCD plans.

Data synthesis and analysis

Responses were collected in Excel (version 2401) and organised by country, type of plan (NCCP or NCD), start and end date of a plan, WHO region, World Bank income classification as of Nov 1, 2023,[15] population size,[16] Human Development Index,[17] health expenditure by proportion of GDP,[18] and percentage of rural population in country.[19] Each question was weighted with a specific number of points reflecting the answer possibilities (eg, yes and references a tobacco control plan or NCD plan strategies on tobacco control was worth 2 points; yes worth 1 point; and no worth 0 points). Percentages were obtained by using the number of countries with the same answer category as numerators and the total number of country responses as denominators (eg, number of answers of a score of 2 divided by the total number of answers). We also performed a multiple response analysis when several options were offered as answers, the frequency of those answers was extracted using several criteria (eg, type of plan, income level and region) through contract support from the US National Cancer Institute.

Overview of reviewed plans

Of 156 NCD and NCCP plans that were reviewed, 137 (88%) plans had a specified start and end date, and the mean duration of a plan was 5·5 years (range 1–12 years; SD 2·6). Of the 98 NCCPs reviewed, 35 (36%) came from the WHO European region, 21 (21%) came from the WHO African region, 15 (15%) from the WHO Pan American region, 12 (12%) from the WHO Western Pacific region, nine (9%) from the WHO Eastern Mediterranean region, and six (6%) from the WHO South-East Asia region (figure 1). Of the 98 NCCPs reviewed, 41 (42%) were from high-income countries (HICs), 25 (26%) were from upper-middle income countries, 23 (23%) were from lower middle-income countries, and 8 (8%) were from low-income countries (LICs; figure 1). This Policy Review focuses on NCCPs. Some countries do not have NCCPs in place, therefore only NCD plans (which include cancer control elements as shown in 2018[1]) can address some aspect of cancer control, hence we have integrated NCD plans in the study.

Review question domains

The questions were grouped into 13 domains representing the cancer control continuum and other crucial elements of NCCPs (figure 2). NCCPs included or addressed more domains than NCD plans in the following areas: introduction (51% *vs* 43%), data (49% *vs* 38%), early detection, diagnosis, and screening (44% *vs* 24%), treatment (31% *vs* 13%), palliative and supportive care (55% *vs* 22%), and service delivery (39% *vs* 30%). Whereas the finance (22% *vs* 37%) and governance and

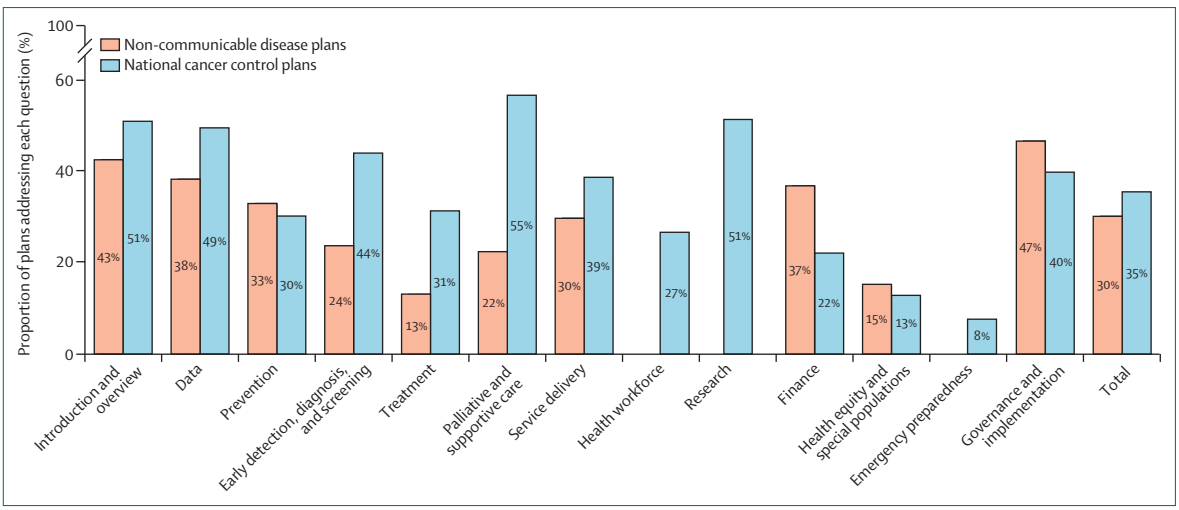

Figure 2: **Proportion of questions addressed, organised by domains**

implementation (40% *vs* 47%) domains had lower scores for inclusion in NCCPs than NCD plans.

The health workforce (48% *vs* 20%) and finance (42% *vs* 14%) domains were included in more plans in LICs than those in HICs (appendix p 2). Similarly, when focusing regionally, inclusion of strategies to strengthen the health workforce (43% *vs* 27%) and finance (42% *vs* 22%) were found in more plans in the WHO African region compared with the average in all regions (appendix p 3).

Use of data and evidence

A cancer goal is the overarching target that guides development of objectives and evidence-based strategies. 94 (96%) of 98 NCCPs and 37 (64%) of 58 NCD plans had a cancer goal specified. We assessed the extent to which plan objectives were specific, measurable, achievable, realistic, time-bound (SMART; eg, reduce prevalence of use of tobacco and tobacco-related products and byproducts from 13·3% to 6·5% by 2028). Eight (8%) of 98 NCCPs and nine (16%) of 58 NCD plans had all objectives or indicators written in a SMART format. Meanwhile, some but not all objectives or indicators were SMART or partly SMART in 47 (48%) of 98 NCCPs and 16 (28%) of 58 NCD plans (appendix p 6).

Reviewers searched for a reference to an evidence base for plan strategies and interventions, such as a statement about or reference to supporting evidence from peer reviewed literature, consensus statements, or other sources. We found that only one (<1%) of the 94 NCCPs and none of the NCD plans specified an evidence base for each strategy or intervention. 22 (23%) of 94 NCCPs and seven (12%) of 58 NCD plans included an evidence base with references for some but not all strategies. 36 (38%) of 94 NCCPs versus 19 (33%) of 58 NCD plans included a general statement indicating that strategies in the plan were evidence based (appendix p 6).

19 (19%) of 98 NCCPs and two (3%) of 58 NCD plans included references to cancer data for all sections or goal areas of the plan. 36 (37%) of 98 NCCPs and 11 (19%) of 58 NCD plans included references to the sources of cancer data (eg, Global Cancer Observatory), cancer registry data, or other datasets. 47 (48%) of 98 NCCPs and 25 (43%) of 58 NCD plans had some sources of cancer data indicated. The types of data reported as being used to inform NCCP goals, objectives, and strategies vary and include cancer burden, risk factor exposure, treatment outcomes, access to medicines or technology, and human resources. NCCPs included strategies related to cancer registry data strengthening, with 21 (21%) of 98 NCCPs including strategies to develop both hospital-based and population-based registries, 64 (65%) of 98 NCCPs including strategies to develop or expand population-based registries only, and two (2%) of 98 NCCPs to develop or expand hospital-based cancer registries only (appendix p 8).

Plan validation, endorsement, and global context

Plan validation and endorsement is the process for the relevant authority in the ministry of health or other entity to secure public review, multi-sectoral input, and authorisation to launch and implement the NCCP. 86 (88%) of 98 NCCPs and 50 (86%) of 58 NCD plans were endorsed by the ministry of health, the national government, or both. However, only 16 (16%) of 98 NCCPs and ten (17%) of 58 NCD plans stated that they were submitted to the public for review and input. In addition, 42 (43%) of 98 NCCPs and 27 (47%) of 58 NCD plans stated that they were linked to a national cancer or NCD policy (appendix p 6).

In terms of positioning for the plans within the global health and NCD movement, we noted that 21 (26%) of 82 NCCPs and 30 (75%) of 40 NCD plans included references to UN Sustainable Development Goals, and 16 (18%) of 91 NCCPs and 44 (80%) of 55 NCD plans to the Global NCD action plan. Only eight (9%) of 85 plans

	NCCPs	NCD plans	Total (NCCPs and NCD plans)
Tobacco			
Yes, and references a tobacco control plan or NCD plan strategies on tobacco control	44/98 (45%)	23/58 (40%)	67/156 (43%)
Yes	45/98 (46%)	34/58 (59%)	79/156 (51%)
Alcohol			
Yes, and references an alcohol control plan or NCD plan strategies on alcohol control	16/98 (16%)	21/57 (37%)	37/155 (24%)
Yes	54/98 (55%)	30/57 (53%)	84/155 (54%)
Physical activity			
Yes, and references a physical activity plan or NCD plan strategies on physical activity	19/96 (20%)	14/57 (25%)	33/153 (21%)
Yes	51/96 (53%)	41/57 (72%)	92/153 (60%)
Obesity			
Yes, and references an obesity control plan or NCD plan strategies on obesity	15/97 (15%)	9/57 (16%)	24/154 (16%)
Yes	39/97 (40%)	31/57 (54%)	70/154 (45%)
Human papillomavirus vaccination			
Yes	79/98 (81%)	32/58 (55%)	111/156 (71%)
Hepatitis B vaccination			
Yes	68/98 (69%)	20/58 (34%)	88/156 (56%)

Data are n/N (%). Some questions could not be reconciled or answered, therefore some totals vary. NCCP=national cancer control plan. NCD=non-communicable disease.

Table 1: **Proportion of plans addressing key cancer prevention elements**

published after 2018 (six NCCPs and two NCD plans) clearly referred to the 2017 WHA 70.12 Resolution on cancer prevention and control in the context of an integrated approach, which included the development and implementation of NCCPs (appendix p 11). Ten (50%) of 20 NCCPs developed after 2020 recognised the impact of the COVID-19 pandemic on national cancer control efforts. Furthermore, only four (4%) of 98 NCCPs included strategies related to addressing current or future impacts of disruptions such as pandemics, supply chain shortages, political unrest, climate-related disruptions, or war.

Cancer control continuum

We reviewed key components within each domain of the cancer control continuum, from prevention to survivorship, including paediatric cancer care.

Prevention

44 (45%) of 98 NCCPs included both a strategy and a reference to a tobacco control plan, and 45 (46%) of 98 NCCPs had a strategy for tobacco control (without reference to a tobacco control plan). Therefore, tobacco control was addressed by an actionable strategy in 89 (91%) of 98 reviewed plans. 54 (55%) of 98 NCCPs and 30 (53%) of 57 NCD plans had an alcohol control strategy, and 16 (16%) of 98 NCCPs and 21 (37%) of 57 NCD plans referenced a separate alcohol control plan. (table 1). In some instances, the questions could not be reconcilled or answered, reasons for this included and absence of a final consensus between the expert reviewers. 26 (27%) of 98 NCCPs and 13 (22%) of 58 NCD plans included a strategy related to reducing air pollution (eg, fine particulate matter)[20] as a most common environmental carcinogen. 56 (58%) of 97 NCCPs and 51 (89%) of 57 NCD plans included a strategy related to addressing commercial determinants of health,[21] such as tobacco or alcohol bans, marketing restrictions, protection of minors, or environment-related protection in response to corporate action (appendix p 9).

Cervical and breast cancer screening

We found that inclusion of strategies to increase early detection of cervical cancer was higher in NCCPs: 89 (91%) of 98 NCCPs compared with 39 (67%) of 58 NCD plans (table 2). Only seven (23%; six NCCPs and one NCD plan) of 30 plans published since 2021 referenced the Cervical Cancer Elimination Initiative.[5] The proportion of plans including strategies to increase early detection of breast cancer was 88 (90%) of 98 NCCPs, compared with 35 (60%) of 58 NCD plans, although none of the plans referenced the Global Breast Cancer Initiative (appendix p 11), launched in 2021.[7]

Diagnosis

64 (67%) of 96 country cancer plans included strategies related to use of cancer diagnosis guidelines. 37 (38%) of 98 NCCPs referred to a pathology or laboratory assessment or plan, such as a national laboratory plan, or pathology training plan for cancer. In addition, 37 (38%) of 98 NCCPs included strategies related to pathology reporting.

Treatment

49 (50%) of 98 NCCPs included strategies related to the development or maintenance of radiation oncology services, with the highest proportion in the WHO African region (17 [81%] of 21) and the lowest in WHO Eastern Mediterranean region (two [22%] of nine). 25 (26%) of 98 NCCPs referenced a strategy related to a national essential medicines list for cancer treatment and eight (8%) of 98 NCCPs referenced a national essential medicines list aligning with WHO's essential medicines list. 49 (51%) of 97 NCCPs referenced existing national or international cancer treatment guidelines, and 17 (18%) of 97 NCCPs referenced plans to develop treatment guidelines. 81 (83%) of 98 NCCPs included strategies related to the implementation of cancer treatment guidelines (table 2) or protocols, and the lowest proportion was for NCCPs of the WHO Eastern Mediterranean (six [67%] of nine) and the WHO Western Pacific region (eight [67%] of 12) regions, whereas all the NCCPs (six [100%] of six) of the WHO South-East Asia region included such strategies (appendix p 10).

Palliative care and survivorship

93 (95%) of 98 NCCPs and 26 (45%) of 58 NCD plans addressed palliative care and pain management. In addition, 81 (83%) of 98 NCCPs included strategies related to palliative care that went beyond pain management, and four (4%) of 98 NCCPs did not have strategies but mentioned a separate palliative care plan (table 2). 51 (52%) of 98 NCCPs included strategies that addressed post-treatment follow-up care, such as a survivorship care plan and rehabilitation.

Paediatric cancer

38 (39%) of 98 NCCPs included strategies related to paediatric cancer care. 23 (23%) of 98 NCCPs included a separate paediatrics or childhood cancer section with paediatric cancer care strategies (table 2). NCCPs in the WHO African region had the highest proportion of paediatric cancer care strategies (16 [76%] of 21 NCCPs; appendix p 13). Notably, only one (1%) of 67 plans published since 2019 referred to the Global Initiative for Childhood Cancer (appendix p 11), launched in 2018 by WHO.

Cancer research

Components of cancer research were only reviewed in NCCPs and not NCD plans. Of 98 NCCPs, 79 (81%) included strategies related to cancer research (table 2), 44 (45%) had strategies related to clinical trials, 41 (42%) included strategies related to funding research activities, and 37 (38%) had strategies related to the development of a national research agenda (appendix p 8).

Equity and prioritisation of vulnerable populations

14 (14%) of 98 NCCPs and 18 (31%) of 58 NCD plans included a goal related to health equity, and 39 (40%) of 98 NCCPs and 17 (29%) of 58 NCD plans included a statement about the importance of cancer-related health equity (appendix p 9). 18 (18%) of 98 NCCPs and 22 (38%) of 58 NCD plans included strategies related to universal health coverage to be included in the country's universal health coverage plans. 18 (18%) of 98 NCCPs and 25 (43%) of 58 NCD plans included strategies to address social determinants of health, such as employment, insurance, education, transportation, housing, and environmental changes. 31 (32%) of 96 NCCPs mentioned vulnerable populations (appendix p 10).

Health workforce

We investigated the composition of the health workforce in NCCPs as a fundamental pillar for the health-care system to deliver high quality cancer care services.[22] Of 98 NCCPs, health workforce strategies in 70 (71%) NCCPs covered 15 different categories (figure 3). 44 (45%) of 98 NCCPs included strategies related to cancer workforce hiring for career development to specifically ensure adequate health service delivery. 24 (24%) of 98 NCCPs had a strategy for cancer workforce development or providers' training programmes without detailing the workforce categories, and four (4%) did not have a strategy.

	NCCPs (n=98)	NCD plans (n=58)	Total (NCCPs and NCD plans; n=156)
Cervical cancer screening			
Yes	89 (91%)	39 (67%)	128 (82%)
Breast cancer screening			
Yes	88 (90%)	35 (60%)	123 (79%)
Radiation oncology			
Yes	49 (50%)	NA	NA
National Essential Medicines List			
Yes, and indicates it aligns with the WHO's Essential Medicines List	8 (8%)	4 (7%)	12 (8%)
Yes	25 (26%)	21 (36%)	46 (29%)
Treatment guidelines			
Yes	81 (83%)	NA	NA
Palliative care			
Yes	81 (83%)	NA	NA
No, but a separate palliative care strategy is referenced	4 (4%)	NA	NA
Paediatric cancer care			
Yes, and a separate paediatrics or childhood cancer section is included in the plan	23 (23%)	NA	NA
Yes	38 (39%)	NA	NA
Financial resources			
Yes, and projections of resources needed are specified in the cancer plan or indicated the information is included in a separate resource plan	17 (17%)	11 (19%)	28 (18%)
Yes	29 (30%)	20 (34%)	49 (31%)
Cost			
Yes	26 (27%)	NA	NA
Only some components	1 (1%)	NA	NA
Cancer research			
Yes	79 (81%)	NA	NA

Data are n (%). NA=not applicable. NCCP=national cancer control plan. NCD=non-communicable disease.

Table 2: **Proportion of plans addressing key elements of the cancer control continuum**

Stakeholder involvement and NCCP implementation

The questionnaire included ten categories for types of multisectoral stakeholder involvement in plan development plus options for yes without details and no (figure 4).[23] In the 98 NCCPs, the stakeholder type most represented in NCCP development was ministry of health (82 [84%]), followed by civil society, non-governmental organisation groups, and advocacy representatives (56 [57%]), clinicians (48 [49%]), academic institutions (42 [43%]), cancer institutes (41 [42%]), implementing partners (21 [21%]), people living with cancer and cancer survivors (18 [18%]), private entities or corporations and businesses (17 [17%]), ministry of education (16 [16%]), and ministry of finance (eight [8%]).

An NCCP implementation plan indicates who will lead and coordinate the execution of the plan. Responsibility for plan implementation was indicated in 81 (83%) of

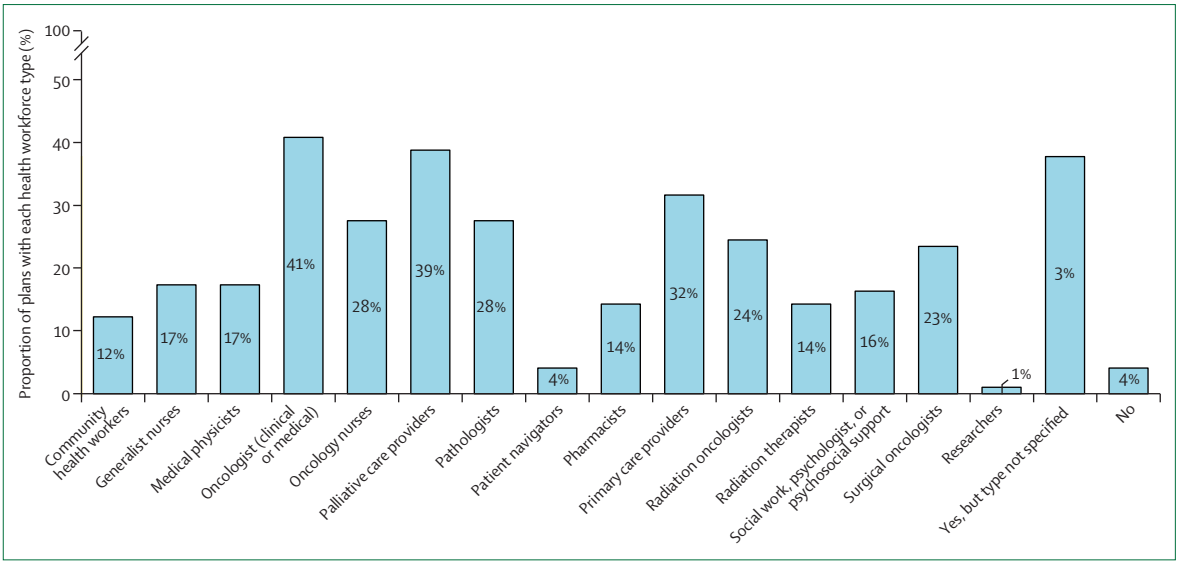

Figure 3: **Composition of the health workforce detailed in national cancer control plans**

98 NCCPs and 54 (93%) of 58 NCD plans. In terms of stakeholder involvement, civil society or advocacy groups are indicated in 43 (44%) of 98 NCCPs, compared with 35 (60%) of 58 NCD plans (appendix p 5). Government ministries are noted as implementers in 71 (72%) of 98 NCCPs and 52 (90%) of 58 NCD plans. In 22 (22%) of 98 NCCPs, specific stakeholder types are not noted.

Evaluation and monitoring

55 (56%) of 98 NCCPs (figure 4) and 42 (72%) of 58 NCD plans (appendix p 5) had indicators or outcome measures with data sources, and 52 (53%) of 98 NCCPs and 42 (72%) of 58 NCD plans had timeframes for completion of strategies or activities. Of 98 NCCPs, 58 (59%) included strategies related to the monitoring and evaluation of plan implementation, 21 (21%) had evaluation mechanisms and responsibilities detailed for monitoring and evaluation, and four (4%) referenced a separate monitoring and evaluation or implementation plan.

Financial resources and costs

Of 98 NCCPs, 29 (30%) specified financial resources and needs, and 17 (17%) included projections or indicated a separate resource plan. 26 (27%) included a cost for each component, and one (1%) included costs for some components. 19 (19%) indicated resources or funding needed to implement strategies.

Discussion

NCCPs are the foundation of a cancer control health system at the national and local level. In this updated NCCP global review, our findings show that the number of NCCPs has grown since the baseline 2018 review, yet important gaps (appendix p 4) in their comprehensiveness and contextualisation still exist, including the existence of NCCPs in low-income and lower-middle-income countries.[24]

Since 2018, 72 new NCCPs (both original and updated) were formally launched and made publicly available. NCCPs—in addition to NCD plans and other relevant cancer health policies—are cited as a key aspect of how to prevent and control cancer nationally. As shown in the 2018 review, countries with NCCPs addressed more elements of cancer control than countries with only NCD plans in almost all domains.[1]

The results in this Policy Review show the extent to which plans include strategies and measurable objectives along the cancer continuum. Yet, within elements of the cancer continuum, there are disparities in how specific aspects are addressed. For example, some areas within prevention appear in a majority of plans, such as tobacco control strategies (89 [91%] of 98 reviewed NCCP plans), probably a result of the implementation of the Framework Convention for Tobacco Control.[25] Plans show better alignment with the NCD Global Action Plan than in 2018, with alcohol control now included more in NCCPs (55% *vs* 41% in the 2018 review), although further establishment of these priorities into national approaches to cancer control is still needed.

This study focused on the use of evidence as one of the key pillars for effective planning and further implementation. As indicated in the findings, we found few NCCPs included a statement about or a reference for an evidence base for the plan strategies and interventions. As a global health community, it is crucial to consider ways to support country-led efforts to improve the development and use of data systems and research that builds an understanding of what works and is contextually relevant, which is linked to an overarching cancer goal to improve cancer-related health outcomes.

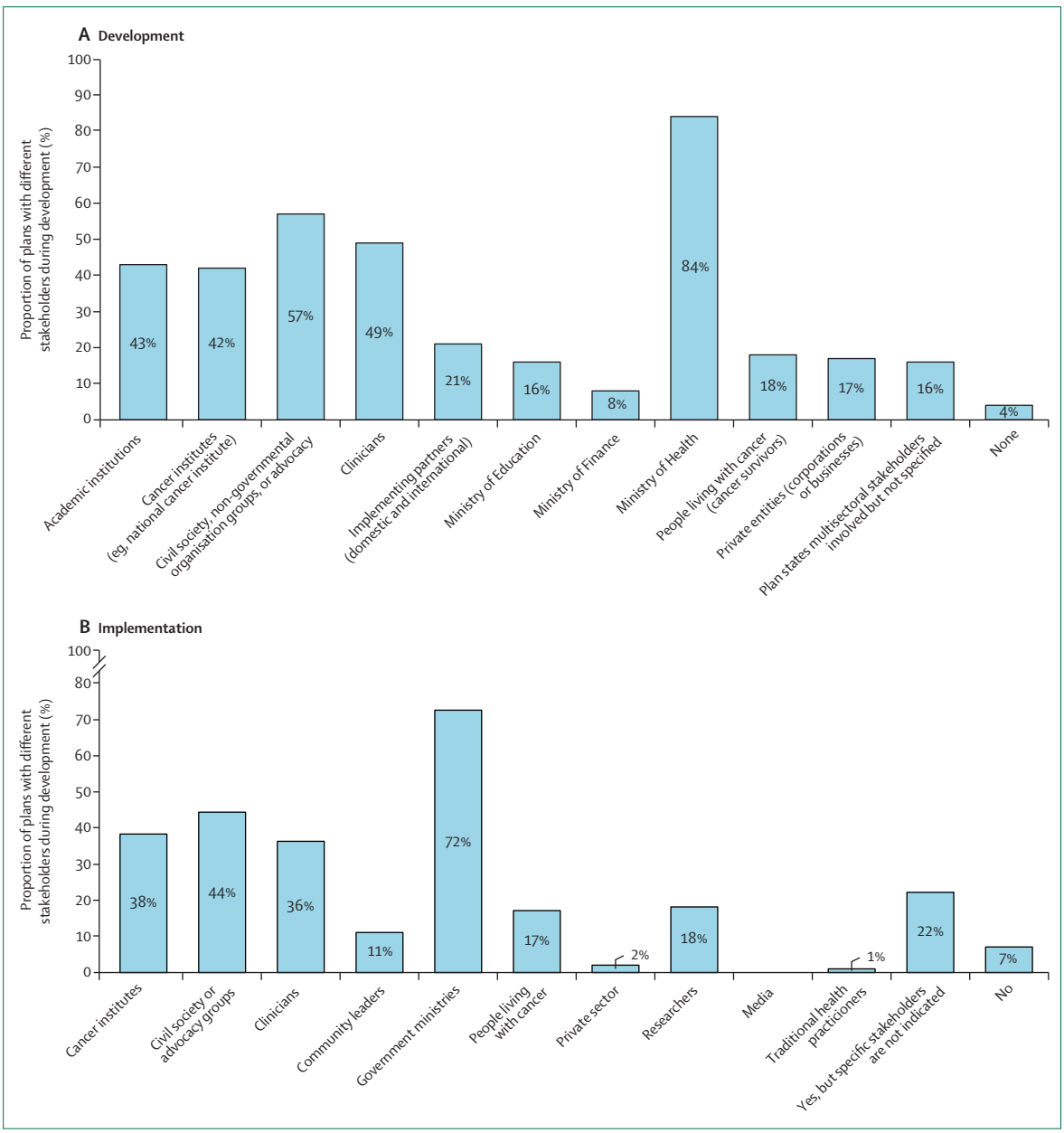

Figure 4: **Composition of the stakeholder categories involved in national cancer control plan development and implementation**

Meanwhile, there is progress of note in the establishment of research priorities within cancer plans. In 2018, only nine plans (6% of both NCD and NCCPs) had specific national strategies and priorities for cancer research articulated, whereas this Policy Review shows that number increased substantially, with 79 (81%) of 98 NCCPs including strategies for cancer research and 37 (38%) of 98 NCCPs including strategies related to a national research agenda. Incorporating a research strategy into an NCCP informs effective prioritisation and implementation and helps ensure that research investments in a country inform and are informed by the national cancer control priorities.[26]

The effect and success of a plan depends on the people and organisations that are involved in its development and implementation. A diverse group of experts bring key competencies and knowledge to address the whole cancer control continuum. Our study shows that multisectoral stakeholders are involved in NCCPs, with the most representation from ministries of health, civil societies, and clinicians. However, few cancer plans referenced involvement of patients with cancer or financial stakeholders, two key parties for implementation

that, if not present at the planning stage, potentially affect the interventions planned. The engagement of patients with cancer is crucial to ensure that the voices of those affected by cancer are reflected.[27]

One of the essential aspects of cancer planning is the allocation and mobilisation of financial resources to deliver beneficial and cost-effective interventions according to the national health and economic context. In this analysis, we report an improvement from 2018 (two [7%] of 27) to 2023 (26 [27%] of 98) for costed plans. Even with this improvement, 71 (72%) of NCCPs are not costed, which is a crucial area of focus for all countries and partners.

Integration of cancer care in national universal health coverage could help to reduce disparities linked to social determinants, access to care for vulnerable populations, and financial protection mechanisms. We found that 18 (18%) of 98 NCCPs included strategies related to universal health coverage. Moreover, the importance of social determinants of health was acknowledged in 18 (18%) of the plans. Although multiple categories of vulnerable populations are included in actionable strategies for cancer care, and cancer equity is mentioned in almost half of the plans, only 14 (14%) of 98 NCCPs have strategies to promote financial protection for patients against catastrophic expenditure. More cancer-specific guidance for countries on how to create and implement specific strategies for inclusion of universal health coverage and financial protection for vulnerable populations might be helpful to ensure there is continued progress in this area. In addition, linking NCCPs to other health strategies (eg, universal health coverage, emergency preparedness, social determinants of health, research and workforce planning) is an important consideration for governments.

Selecting priorities, developing strategies to achieve them, creating a specific implementation plan, and assuring robust monitoring and evaluation mechanisms to track progress are key steps to successful implementation. Nevertheless, 21 (21%) of 98 NCCPs did not include monitoring and evaluation strategies or plans. The effective implementation of both NCD plans and NCCPs is beyond the scope of this study and is an area for further study to understand what facilitates effective implementation of cancer policies.

This study highlights areas for improvement in NCCPs and points to the important role of partners, such as the ICCP and UN agency partners, working alongside country representatives through the NCCP development and implementation process. The value of an existing NCCP was highlighted during the pandemic,[28] and noted by the fact that half of the NCCPs developed since 2020 referenced the pandemic's effect. With this review, we have explored other emerging areas, such as climate change and future health system interruptions.

Although this study was designed to understand the current status of NCCPs and NCDs globally, some limitations must be noted. This study was not designed to assess whether cancer policies have improved cancer-related health outcomes in countries.[1] Additionally, this study includes publicly available NCCPs and NCD plans. However, some plans might have not been captured in this review. The timeline to draft, endorse, and launch a plan varies among countries and can be extensive. We are limited in the comparisons we can make to the data in the 2018 study for several reasons (eg, in 2018 we analysed countries with NCCP only, NCCP and NCD, NCD only, and specific disease plans and other documents). In 2023, we analysed only one plan per country (appendix p 12). This change in method limits comparisons. Additionally, a change in the search methods for strategies in plans also limits direct comparisons of results from the two reviews.

NCCPs driven by data, context, and stakeholders is essential for all countries. As the cancer burden continues to rise disproportionately in low-income and middle-income countries, more countries are developing and implementing NCCPs that organise, leverage, and communicate cancer control strategies aimed at improving the control of cancer across the continuum. This data-driven approach is particularly important in the context of emerging cancer-specific (eg, breast, cervical, childhood cancer) strategies, guidelines, and action plans, for which NCCPs provide an overarching structure. This study describes the strengths, needs, and challenges of NCCPs. It also highlights areas for future study and improvements. Further exploration of the health workforce (and ways to strengthen it), how plans are developed and ways to improve the process, and opportunities to strengthen plan implementation and costing are some of the further work

Search strategy and selection criteria

National cancer control plans (NCCPs) and non-communicable disease (NCD) plans were retrieved from the International Cancer Control Partnership (ICCP) portal from Jan 1, 2013, to May 1, 2023. The ICCP portal is regularly updated, and before extracting plans from the portal, it was cross-checked with the WHO NCD Document Repository. In total, we obtained 125 NCCPs and 134 NCD plans. For countries with NCCPs we included all those with a starting date of June, 2018, or later to ensure exclusion of plans previously reviewed in 2018. If a NCCP was not available or was outside of the date range, we then included NCD plans with a start date of June, 2018, or later. For both NCCPs and NCD plans with no specific end date we included plans starting Jan 1, 2013 and later. We excluded all site-specific cancer plans (eg, cervical cancer plans). In this Policy Review, we only included one plan per country, either an NCCP or an NCD plan to prioritise one overarching document that represents the cancer control continuum, if feasible. Therefore, the final data set included 98 NCCPs and 58 NCD plans (appendix p 12).

that could enhance our knowledge of NCCPs to improve outcomes for patients with cancer.

Conclusion

These findings can guide country stakeholder NCCP decision making, advance global understanding of how NCCPs address country-specific issues, aid responses to global trends and initiatives, promote areas for country-led collaboration and coordination, and facilitate further country and regional research on cancer challenges listed in NCCPs to address the cancer burden worldwide.

Contributors

YR: conceptualisation, data curation, formal analysis, developing methods for the study, supervision, validation, visualisation, writing original draft, reviewing, editing. ZT: conceptualisation, data curation, developing methods for the study, writing original draft, project administration. DT: conceptualisation, validation, formal analysis, writing original draft. LG: conceptualisation, developing methods for the study, writing original draft, reviewing, editing. KH: conceptualisation, developing methods for the study, writing original draft, reviewing, editing. AI: conceptualisation, reviewing draft. MKC: conceptualisation, data curation, validation, writing original draft, reviewing, editing. KD: conceptualisation, data curation, validation, writing original draft, reviewing, editing. LMS: supervision, project administration, writing original draft, reviewing, editing.

Declaration of interests

We declare no competing interests.

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