

Research Article

The Transformation of Cancer Control Policies in Türkiye: A Comparative Analysis of the National Cancer Control Plan (2013–2018) and the 2021 Cancer Control Program from a Strategic Management Perspective

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Abstract

Objectives: This study aims to analyze the strategic transformation of cancer control policies in Türkiye within the framework of the National Cancer Control Plan (2013–2018) and the 2021 National Cancer Control Program.

Methods: In the study, document analysis, one of the qualitative research designs, was used; the obtained data were analyzed through thematic content analysis. In this context, the relevant policy documents were systematically examined, and their contents were coded and evaluated through four main dimensions of analysis: strategic objectives, policy instruments, implementation capacity, and governance approach.

Results: The findings obtained show that cancer policies in Türkiye have undergone a significant structural transformation over time. In particular, it is seen that the policy approach has evolved from a structure based solely on treatment and service delivery into a holistic model including prevention, early diagnosis, data production, and system integration. It was determined that policy instruments have diversified so as to encompass digital data systems, international collaborations, and multisectoral interventions, and that implementation capacity has strengthened in terms of institutionalization, data quality, and international integration. At the same time, it was determined that the understanding of governance has transformed from a centralized and program-based structure into a multi-actor and multi-level governance model based on data-driven decision-making processes. However, the results of the analysis also reveal that some structural problems continue, such as the insufficiently clear definition of coordination mechanisms, the limited governance dimension in the field of tertiary prevention, and the relatively weak level of social participation.

Conclusion: As a result, this study reveals that cancer policies in Türkiye have evolved into a holistic and institutionalized structure in line with the strategic management perspective and contributes to the public administration literature.

Keywords: Cancer control programs, governance, health policies, public administration, strategic management

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Cancer stands out today as one of the most significant public health problems at both global and national levels. According to data from the World Health Organization, cancer ranks among the leading causes of death worldwide and, particularly with the increase in non-communicable diseases, imposes an increasingly growing burden on health systems.^[1] This situation demonstrates that the fight against cancer cannot be limited solely to treatment services; rather, it necessitates comprehensive policy approaches encompassing prevention, early detection, data production, and health system capacity.

In Türkiye, cancer is the second leading cause of death after diseases of the circulatory system, and increasing incidence and mortality rates have made it necessary to address cancer policies as a strategic public policy domain. In this context, Türkiye has developed planned policy documents at the national level in the fight against cancer; in particular, it has established a systematic policy framework through the National Cancer Control Plan (2013–2018)^[2] and the 2021 Cancer Control Program.^[3]

However, the existing literature largely examines cancer policies through the lenses of health service delivery, epidemiological data, or specific intervention areas; studies that comprehensively analyze these policies from a strategic management perspective remain limited. In particular, analytical frameworks that simultaneously evaluate policy objectives, policy instruments, implementation capacity, and governance approaches are not sufficiently developed in the literature. In this respect, it is understood that existing studies tend to focus more on micro-level (clinical, service quality) analyses, while the perspectives of public policy and strategic management remain relatively limited.

This study aims to fill this gap by addressing cancer policies within the framework of a strategic management perspective. The strategic management approach enables the evaluation of policy processes in terms of long-term objectives, resource utilization, institutional capacity, and governance mechanisms.

The main objective of this study is to comparatively analyze cancer control policies in Türkiye within the scope of the National Cancer Control Plan (2013–2018)^[2] and the 2021 Cancer Control Program^[3] from a strategic management perspective. Accordingly, the study seeks to answer the following research question:

How have cancer control policies in Türkiye undergone a strategic transformation between the 2013–2018 and 2021 policy documents?

Within the framework of this main question, the study examines:

- how strategic objectives have changed,
- whether policy instruments have diversified,
- how implementation capacity has developed, and
- how the governance approach has evolved.

In this respect, the study aims to contribute to the literature both theoretically and empirically by addressing cancer policies not only within the context of health policy, but also at the intersection of strategic management, public policy analysis, and governance literature.

Methods

This study was designed within the framework of a qualitative research approach to examine the strategic transformation of cancer policies in Türkiye. Document analysis was used as the data collection method. Document analysis is a method that enables the systematic and in-depth examination of written policy documents and is widely used in public policy studies.^[4]

The dataset of the study consists of two main policy documents that constitute the fundamental framework of cancer policies in Türkiye and have a guiding nature at the national level: (i) the National Cancer Control Plan (2013–2018)^[2] and (ii) the 2021 National Cancer Control Program.^[3] These documents were selected based on a criterion sampling approach, as they comprehensively include strategic objectives, policy instruments, and implementation mechanisms related to cancer control.

Within the scope of document analysis, a thematic content analysis approach was adopted. Accordingly, the policy documents were not only examined at a descriptive level; rather, their contents were systematically coded and analyzed. During the analysis process, the documents were examined in detail, conceptual categories were developed based on the texts, and the obtained data were structured within an analytical framework. The coding process was conducted manually, and consistency was carefully maintained throughout the analysis.

The analysis was conducted across four main dimensions:

- strategic objectives,
- policy instruments,
- implementation capacity, and
- governance approach.

This analytical framework was developed by adapting the strategic management approach to policy analysis and enables a holistic evaluation of the relationship between the objectives stated in policy documents and the instruments and implementation processes used to achieve these objectives. Through this structure, the contents of the policy documents were not only described, but also comparative-

ly evaluated within the framework of a strategic management perspective. The findings were presented through a comparative analysis matrix between the two policy documents, revealing the structural and strategic transformation of cancer policies in Türkiye over time.

This study was based exclusively on the analysis of publicly available policy documents and did not involve volunteers, patients, human participants, animals, interventions, identifiable personal data, or patient records. Therefore, ethics committee approval and informed consent were not required. This study was conducted in accordance with the Declaration of Helsinki.

Conceptual Framework

Health policies are a multidimensional field of public policy shaped by the aim of protecting and improving public health and have undergone significant transformation over time.^[5,6] These policies are structured around core objectives such as increasing access to health services, reducing health inequalities, and establishing sustainable health systems.^[6]

Historically, the focus of health policies has evolved from the control of communicable diseases to a broader approach encompassing social, economic, and environmental determinants.^[7,8] This transformation has necessitated addressing health services within a comprehensive framework that includes not only treatment but also prevention, early detection, and system capacity.^[5,8] In this context, health policies exhibit a structure that extends beyond individual healthcare services and is directly related to lifestyle, environmental factors, and socioeconomic conditions.^[5]

Within this broad framework, cancer emerges not only as a biological disease, but also as a significant policy domain with social, economic, and environmental dimensions.^[1] The emergence and prevalence of cancer are closely associated not only with genetic factors, but also with modifiable risk factors such as tobacco use, obesity, and environmental exposures.^[1] Therefore, cancer policies are addressed within a comprehensive approach that requires the joint evaluation of prevention, early detection, and treatment capacities of health systems.^[8]

Cancer policies are generally structured around three main axes.^[9] Prevention policies encompass interventions aimed at reducing risk factors, while screening policies aim to detect the disease at an early stage. Treatment and care policies include diagnosis, treatment, and palliative care services.^[10] In addition, data production and cancer registry systems play a critical role in determining the disease burden and guiding policy processes in cancer control.^[1]

The multidimensional nature of health and cancer policies demonstrates that policy processes are not limited to

goal-setting alone, but are also closely related to the selection of appropriate policy instruments, the development of implementation capacity, and the ability to adapt to changing environmental conditions.^[11] In this context, the strategic management approach provides an important theoretical framework for the analysis of health policies. Strategic management encompasses not only the planning process, but also the capacity to respond to changing health needs, increasing cancer burden, and technological transformations.

In the public administration literature, strategic management refers to the process by which organizations set long-term objectives, select appropriate instruments to achieve these objectives, and manage implementation processes effectively.^[11] Moreover, the strategic management approach is based not only on internal planning processes, but also on stakeholder management, governance mechanisms, and environmental adaptation capacity. In this regard, the approach developed by John M. Bryson emphasizes that strategic planning in the public sector should be conducted within a multi-actor structure and that policy processes are shaped through stakeholder participation.^[12]

In this context, cancer policies can be considered one of the policy areas where the strategic management approach is most essential, as they constitute a long-term, multi-stage, and resource-intensive process. The continuity required in prevention, screening, treatment, and palliative care processes makes it necessary to manage this field not through short-term interventions alone, but through strategic planning and institutional coordination.

It is also emphasized in the literature that national cancer control programs are undergoing a transformation at the global level and are shifting toward more integrated and data-driven structures.^[13] This transformation demonstrates that cancer policies should be addressed not only within the framework of health services, but also in terms of governance, data management, and strategic capacity.

Accordingly, this study examines cancer policies within the framework of a strategic management perspective across four main analytical dimensions: (i) strategic objectives, (ii) policy instruments, (iii) implementation capacity, and (iv) governance approach. This analytical framework is developed by adapting the strategic management approach to policy analysis and is based on evaluating policy success through the alignment between goals and instruments, institutional capacity, and governance structures.

In conclusion, health policies constitute the general framework, cancer policies represent the field of application, and the strategic management approach forms the analytical perspective. Within this theoretical framework, this study

comparatively analyzes the strategic transformation of cancer policies in Türkiye.

Results

Analysis of the National Cancer Control Plan (2013–2018)

The National Cancer Control Plan (2013–2018)^[2] constitutes a comprehensive strategic document that addresses cancer control not merely as a treatment-oriented healthcare service domain, but as a holistic public policy field encompassing data production, prevention, screening, diagnosis, treatment, palliative care, international cooperation, and institutional structuring.^[2]

In this section, the plan is analyzed within the framework of a strategic management perspective across the dimensions of strategic objectives, policy instruments, implementation capacity, and governance approach. The study is based on the opening statements, advisory subcommittees, introduction, and various sections of the document. These sections cover a wide range of subtopics, from cancer types to screening, prevention, and palliative care. Each main heading and subheading in the document has been subjected to analysis. Each section has been examined around four main analytical dimensions.

The analyses presented in this section are based on the National Cancer Control Plan (2013–2018)^[2] published by the Ministry of Health of the Republic of Türkiye. In order to enhance readability, repetitive in-text citations have been limited, and references have been provided only where deemed necessary.

Analysis of Opening Texts (Forewords) (Minister of Health and President of the Public Health Institution of Türkiye)

In the forewords written by the Minister of Health and the President of the Public Health Institution of Türkiye, cancer is clearly emphasized as one of the most significant public health problems in Türkiye, and accordingly, the necessity of a systematic national cancer control program is highlighted.

- **Strategic Objectives:** In the forewords, cancer is emphasized as a major public health problem in Türkiye, and the primary objective is clearly stated as reducing the cancer burden. In this context, early detection and screening programs are particularly highlighted, and it is also observed that strengthening the prevention approach is targeted. Accordingly, the objectives are explicitly defined as reducing the cancer burden, increasing early detection, and ensuring a systematic fight against cancer. This situation indicates a significant

shift in cancer policy, demonstrating a move away from a treatment-oriented traditional healthcare approach toward a strategic approach based on prevention and early intervention.

- **Policy Instruments:** When the policy instruments expressed in the forewords are examined, it is observed that cancer registry systems, screening programs conducted through KETEM centers, tobacco and obesity control policies, and regulations addressing environmental risks come to the forefront. These instruments are largely prevention- and screening-oriented. This situation indicates that cancer policies are not limited to the provision of healthcare services, but are also based on reducing risk factors; therefore, it demonstrates that policy instruments have a multisectoral structure.
- **Implementation Capacity:** In the forewords, the expansion of the cancer registry system across the country, the extension of screening services, and the strengthening of the health system are expressed as the main elements of implementation capacity. This indicates that capacity is designed not only for maintaining existing services, but also for expanding the system. Therefore, implementation capacity is addressed as an expanding and institutionalizing system rather than a passive structure.
- **Governance Approach:** In the forewords, it is observed that cancer policies are planned at the central level and implemented within the framework of a national program. This indicates that the governance approach is largely based on a centralized and program-oriented traditional public administration model. However, considering the scope of the policy domain, it is also understood that this structure has the potential to evolve into a more multi-actor governance model over time.

Analysis of Advisory Boards and Institutional Structure

- **Strategic Objectives:** In this section, there are no explicitly stated strategic objectives. The content is primarily based on listing the experts and relevant units included in the advisory boards. This indicates that the advisory boards section focuses more on defining actors rather than strategic objectives; therefore, it demonstrates that at this stage, the plan is designed not as an operational guide, but as a tool aimed at ensuring institutional legitimacy and increasing expert participation.
- **Policy Instruments:** This section does not include direct content related to policy instruments; rather, it mainly defines the institutional structure and actors.

This indicates that policy instruments are not explicitly addressed in this section.

- **Implementation Capacity:** The inclusion of experts from different fields in the advisory boards demonstrates that cancer policies are addressed within a multidisciplinary structure. However, this section does not provide a detailed assessment of capacity.
- **Governance Approach:** In this section, there is no direct statement regarding the governance approach. The content is primarily focused on defining institutional actors. Therefore, inferences regarding the governance model are limited.

Analysis of the Introduction Section

- **Strategic Objectives:** The document states that cancer is one of the most significant public health problems both in Türkiye and globally, and it is projected that the disease burden will increase in the future. Accordingly, the main objective is identified as reducing the cancer burden and ensuring control of the disease. It is also emphasized that cancer control can only be achieved not solely through treatment, but through the combined implementation of prevention, early detection, and effective treatment processes. In this context, it is understood that strategic objectives are structured around reducing the cancer burden, increasing early detection, and adopting a systematic approach to cancer control. This indicates that the objectives are clearly defined within a comprehensive framework.
- **Policy Instruments:** The document indicates that policy instruments used in cancer control are predominantly prevention- and screening-oriented. In this context, tobacco control policies, obesity control, lifestyle modifications, and the reduction of environmental risks stand out as key preventive instruments. Additionally, screening programs developed for breast, cervical, and colorectal cancers are among the major policy instruments. This structure demonstrates that a strong prevention-oriented policy approach has been adopted. It is also understood that policy instruments are supported by risk factor-oriented and targeted screening strategies.
- **Implementation Capacity:** The document emphasizes that effective cancer control requires elements such as national data production, human resources, financial resources, and consideration of regional disparities. It is also stated that the health system should be organized in a way that can manage this multidimensional structure. This indicates that implementation capacity is not limited solely to healthcare service delivery. It is

also understood that a multilayered understanding of capacity, encompassing economic and social dimensions, has been adopted.

- **Governance Approach:** The document states that cancer control should be planned at the national level, implemented through a multisectoral approach, and carried out with the participation of various stakeholders. It is also emphasized that cancer control should be conducted within a dynamic, multidisciplinary, and scientific program framework. This indicates a departure from a purely centralized management approach. However, it is also understood that the governance structure maintains a state-centered character.

Analysis Based on Data and Graphs

The incidence data presented in the document reveal that the cancer burden shows an increasing trend over time and is particularly higher among men. Long-term projection data indicate that the cancer burden will continue to increase, making policy intervention necessary. The fact that lung cancer is the most common type among men highlights the strategic importance of tobacco control policies, while the prevalence of breast cancer among women demonstrates that screening programs are concentrated in this area. These findings also correspond to the “situation analysis” phase of the strategic management process. Based on the data obtained, it is understood that policymakers prioritize high-risk areas and allocate resources (such as screening programs and tobacco control policies) accordingly. Therefore, it is evident that policy design is based not only on normative considerations, but also on empirical data.

Analysis of the National Cancer Control Model and the Structural Design of the Program

- **Strategic Objectives:** This section states that the main objective of the National Cancer Control Program of Türkiye is to reduce cancer cases and cancer-related mortality and to improve patients’ quality of life. These objectives do not focus solely on treatment; rather, they are addressed within a comprehensive approach encompassing prevention, early detection, treatment, and palliative care processes. This indicates that cancer policy is no longer a single-dimensional healthcare service, but is structured through a comprehensive system approach. Furthermore, the development of the program in different phases reveals that the objectives are formulated within a long-term and phased strategic planning logic.
- **Policy Instruments:** This section shows that policy instruments have diversified to cover different stages of

cancer control. Cancer registry systems, screening programs, prevention policies, treatment services, and palliative care practices are among the main instruments used together. This structure indicates that policy instruments are not focused on a single area; rather, they are designed in an integrated manner to encompass all components of the system. It is also understood that the program, developed through national and international collaborations, has an expanding and integrated structure in terms of policy instruments.

- **Implementation Capacity:** The collaboration with national and international institutions during the development of the program, the inclusion of advisory boards in the process, and the use of experiences from previous program phases stand out as important indicators of implementation capacity. This indicates that capacity is not based solely on existing resources, but is also strengthened through a learning and evolving system logic. In particular, the phased progression of the program demonstrates that implementation capacity has been gradually increased and institutionalized.
- **Governance Approach:** This section shows that cancer policies are planned at the central level, while a governance approach supported by international cooperation is adopted. The collaboration with the World Health Organization during the preparation of the program and the involvement of various stakeholders in the process indicate that the governance structure is not only national, but also multiactor in nature. This demonstrates that, while maintaining a centralized management approach, the system has expanded toward an international and multiactor governance model. Therefore, the governance approach can be considered a model in which a traditional centralized structure and multilevel governance elements are used together.

Analysis of Cancer Registration

- **Strategic Objectives:** This section states that the main objective of cancer registration is to accurately determine cancer incidence and to reveal the disease burden. It is also emphasized that, since cancer is a disease that varies across countries, data production at the national level constitutes a strategic necessity. It is observed that the cancer registry system does not serve solely the purpose of data collection; it is also used to analyze the distribution of cancer types, reveal regional differences, and establish a data infrastructure for scientific research. In this context, it is understood that cancer policies are fundamentally built on data production and evidence-based analysis.

- **Policy Instruments:** Cancer registry systems and epidemiological studies are identified as main instruments of cancer policies. In addition, active cancer registry centers, electronic data systems, standardized data forms, quality control mechanisms, and training programs are among the core instruments of this process. Furthermore, data production aimed at monitoring cancers related to tobacco use and obesity is also considered within the scope of policy instruments. This indicates that data production is not merely a technical activity, but is directly used as a policy instrument.
- **Implementation Capacity:** It is stated that cancer incidence data in Türkiye have increased over the years; however, a significant part of this increase is attributed to the development of registry systems. This indicates that data collection capacity has been strengthened and that the system has entered a process of maturation. It is noted that the cancer registry system has been gradually expanded to cover all 81 provinces and has been aligned with international standards. In addition, capacity has been institutionalized through human resource planning, training processes, and the establishment of a data pool.

The support of quality control processes through regular reporting, data auditing, and monitoring mechanisms demonstrates that the system has achieved a sustainable and accountable structure. In this context, it is understood that implementation capacity has not only expanded, but has also been strengthened in terms of quality and institutionalization.

- **Governance Approach:** It is observed that the cancer registry system is carried out within a centralized structure and in cooperation with international organizations. It is also stated that a quality-oriented approach aligned with international standards has been adopted in data production processes. Furthermore, the evaluation of datasets through international comparisons indicates that policy processes are based on comparative analyses. This demonstrates that the governance approach is grounded in a data-driven, technical, and standards-oriented model.

Evaluation of Data-Based Findings

Cross-country comparisons show that cancer incidence is associated not only with disease prevalence, but also with the level of development of data registry systems. The prominence of lung cancer among men highlights the strategic importance of tobacco control policies, while the high prevalence of breast cancer among women indicates the need to intensify screening programs in this area. In addition, the high incidence of cancers related to tobacco

Table 1. Policy analysis by cancer type

Cancer Type	Strategic objectives	Policy instruments	Implementation capacity	Governance approach
Breast	It is observed that the main objective of breast cancer screening is early detection and the reduction of mortality, and that increasing survival rates through early diagnosis is also targeted.	Mammography, KETEM centers, mobile screening (mobile mammography), community-based programs, and centralized reporting systems are utilized.	It is observed that screening capacity is limited by low coverage rates (30–35%), as well as access and human resource constraints; these challenges are being addressed through mobile screening, integration with family medicine, and centralized systems.	A hybrid governance model is adopted, combining central planning with local implementation (KETEM + Family Health Centers), and involving cooperation with the private sector and professional organizations.
Cervical	Early detection, reduction of mortality, and long-term prevention of deaths are targeted; additionally, the development of a more inclusive and reliable screening model is emphasized.	Transition from a smear-based model to an HPV-based screening model; HPV testing, integration of data systems, pilot implementations, and expert consultations are the main instruments.	The current system faces low coverage (20%) and access issues; in the new model, capacity is being strengthened through family medicine, information systems, and follow-up mechanisms.	A data-driven and expertise-based governance model is observed, implemented in cooperation with scientific committees and national and international organizations.
Colorectal	Early detection in the asymptomatic period, reduction of mortality and costs, and achieving at least 70% coverage are targeted.	A comprehensive set of instruments is used, including FOBT (fecal occult blood test), colonoscopy, invitation systems, databases, information campaigns, and follow-up processes.	It is observed that the screening process is based on a multi-stage and standardized capacity including distribution, testing, evaluation, referral, and registration processes.	A hybrid governance model is adopted, based on central standards but implemented through family medicine and local units, incorporating community participation.

Source: Cancer Control Program (2013–2018)^[2], Ministry of Health^[1]

use and obesity increases the importance of lifestyle-based policy instruments. These findings demonstrate that cancer policies are directly shaped based on data analyses.

Table 1 demonstrates that, although cancer policies in Türkiye differ in terms of instruments and implementation across different cancer types, they are grounded in an integrated strategic framework centered on early detection, screening-based approaches, and capacity development. However, the methodological shift in cervical cancer (HPV-based screening), capacity and access issues in breast cancer, and the adoption of a more systematic and standardized implementation model in colorectal cancer reveal that policy practices vary across cancer types.

Analysis of Treatment and Palliative Care Policies

- **Strategic Objectives:** This section indicates that the main strategic objective is to organize cancer treatment services across the country in a planned, balanced, and accessible manner. It is also understood that the objective is not limited solely to the provision of treatment; rather, it is addressed within a multidimensional framework including the reduction of geographical inequalities, facilitation of patient access, transition to advanced treatment technologies, and improvement of quality of life. In terms of palliative care, improving quality of life, reducing pain and symptoms, and supporting both the patient and the family are among the

primary objectives. This indicates that cancer policies are oriented not only toward disease control, but also toward the holistic management of the life course.

- **Policy Instruments:** This section shows that policy instruments are structured at two levels. Within the scope of treatment policies, multilayered institutional structures such as comprehensive oncology centers, oncology diagnosis and treatment centers, oncology service units, radiotherapy centers, and proton therapy planning are utilized. In the context of palliative care, instruments such as hospital-based services, home care practices, the hospice model, day care units, mobile teams, and the Palya-Türk project are employed. This structure demonstrates that policy instruments are designed as a combination of institutional structuring, service models, and project-based implementations.
- **Implementation Capacity:** It is observed that treatment and palliative care services are built upon a strong institutional capacity. In this context, a multilayered healthcare service network has been established through comprehensive oncology centers, diagnosis and treatment centers, and service units distributed across the country. It is also understood that capacity is supported by specialized human resources, trained healthcare personnel, and palliative care teams, while

service coverage is expanded through home health-care services and integration with primary care. In terms of technological capacity, radiotherapy infrastructure and proton therapy planning stand out. This structure points to a multilayered healthcare system architecture organized at central–regional–local levels.

- **Governance Approach:** This section indicates that the governance approach exhibits a structure that combines central planning, regional distribution, and local implementation elements. The consideration of epidemiological data, geographical conditions, and transportation opportunities together in the planning process points to a data-driven and spatial planning approach. It is also observed that policy formulation at the central level, technical coordination, and field implementation are carried out together; in palliative care, a community-based and primary care-oriented model is adopted. This indicates a “steered governance” model in which the centralized administrative structure is maintained while governance elements are gradually integrated into the system.

Analysis of International Activities and Relations

- **Strategic Objectives:** This section indicates that the main strategic objective is to strengthen Türkiye’s cancer policies through international knowledge, standards, and collaborations. In this context, following scientific developments, ensuring compliance with international standards, producing knowledge, and taking an active role in global policy networks are among the primary objectives. This demonstrates that cancer policies have expanded beyond national borders and have become integrated into global health governance.
- **Policy Instruments:** This section shows that policy instruments are structured through international cooperation networks.^[2] Collaborations established with global institutions such as IARC, WHO, the European Union, UICC, and NCI, as well as regional platforms such as MECC, BSC, and APOCP, are among the key policy instruments. In addition, joint reports, international meetings, training centers, data sharing, and standard development processes are also used as fundamental instruments. This structure demonstrates that cancer policies are implemented through a network-based governance model.
- **Implementation Capacity:** This section demonstrates that Türkiye has reached a position not only as a participant, but also as an active actor at the international level. Representation within IARC’s scientific structures, the positioning of İzmir as a regional training center,

participation in regional cooperation mechanisms, and undertaking high-level roles in international organizations are among the indicators of this capacity. In addition, contributions to international report production and the development of scientific guidelines reveal that knowledge production capacity has strengthened. This indicates that Türkiye has transformed from a structure that consumes data into an actor that produces and shapes data.

- **Governance Approach:** This section shows that the governance approach is based on a multilevel and multiactor governance model. Simultaneously conducted collaborations at national, regional, and global levels, joint decision-making processes, and information sharing constitute the core elements of this structure. It is also understood that Türkiye utilizes elements of soft power in the field of health through training activities, international representation, and leadership roles. This demonstrates that cancer policies have evolved from a traditional public administration approach to a multi-level health governance model.

Analysis of the National Cancer Institute and TÜSEB Structure

Strategic Objectives: This section indicates that strategic objectives go beyond classical health policy goals. It is understood that the main objective is to increase scientific production, enhance innovation capacity, and improve global competitiveness. In this context, strengthening R&D capacity, promoting domestic production and technology development, reducing external dependency in the health sector, and establishing cancer policies on a scientific basis are among the primary objectives. It is also observed that these objectives are linked to long-term economic development and supported by the discourse of “escaping the middle-income trap.” This demonstrates that cancer policies have evolved beyond the health sector into a development-oriented strategic framework.

Policy Instruments: This section shows that the policy instruments used differ from classical health policy instruments. At the institutional level, TÜSEB and the National Cancer Institute constitute the core structures, while R&D support mechanisms, research funds, industry collaborations, and technology production processes are among the policy instruments. In addition, integration based on cooperation between universities, hospitals, and industry, affiliated systems, and the establishment of scientific research environments also stand out as important instruments. This structure demonstrates that innovation-oriented policy instruments have been adopted in cancer policies.

Implementation Capacity: This section indicates that

implementation capacity is structured through a strong institutional and financial framework. In terms of institutional capacity, an autonomous and flexible structure is envisaged; in terms of human resources, the employment of qualified researchers and the development of a specialized scientific workforce are targeted. It is observed that financial capacity is supported by public resources and project-based revenues; moreover, strong budgets, research networks, and state-supported structures—as seen in international examples—are taken as references. This demonstrates that combating cancer requires strong institutional capacity and a robust research infrastructure.

Governance Approach: This section indicates that the governance approach is based on a centralized yet flexible structure. The scientific governance model led by the state relies on a multiactor structure that brings together the public sector, private sector, and academia. In addition, project-based management, reduction of bureaucracy, rapid decision-making processes, and international integration are among the key features of this model. This can be considered an indication of a transition toward the entrepreneurial state model in cancer policies.

Analysis of Action Plans (A–E)

The presentation of action plans in tabular form within the scope of the National Cancer Control Plan demonstrates that the policy document does not merely provide a normative framework, but also contains a systematic structure oriented toward implementation. An examination of these tables shows that each action plan is built upon a comprehensive structure including strategy, activities, responsible institutions, cooperation mechanisms, timelines, potential barriers, performance indicators, and monitoring processes. This clearly indicates that cancer policies are structured within the framework of a strategic management model. The inclusion of numerous national and international actors in the action plans demonstrates that policy implementation is carried out not solely through a centralized structure, but through a multiactor and multilevel governance approach. This structure indicates that cancer policies are shaped by a network governance model. When the policy instruments included in the tables are examined, it is observed that a multilayered policy approach has been adopted, encompassing prevention, screening, environmental health, education, and care services. This demonstrates that cancer policies are not limited to the provision of healthcare services, but extend across a broader public policy domain.

The explicit identification of potential barriers in the action plans reveals that policy design is developed through a realistic approach that takes into account implementation

capacity, institutional constraints, and human resource challenges. In this respect, the plan goes beyond being a document containing only normative objectives and serves as a strategic roadmap that anticipates risks and guides the implementation process.

Furthermore, the inclusion of performance indicators and monitoring mechanisms in each action plan demonstrates that cancer policies are implemented based on measurable outcomes and a data-driven management approach. This can be considered a reflection of a performance-oriented public management approach in health policies.

In summary, the 2013–2018 period can be evaluated as a phase of “construction and expansion,” during which cancer policies became institutionalized, were disseminated at the national level, cancer registry systems were standardized, and integration into international networks was achieved. The policy framework developed during this period laid the groundwork for more advanced strategic management and governance practices in the subsequent period.

Analysis of the 2021 Türkiye Cancer Program Document

The analysis of the 2021 Türkiye Cancer Program document constitutes a comprehensive strategic framework that addresses cancer control not merely as a treatment-oriented healthcare service domain, but as a holistic public policy field encompassing data production, prevention, screening, diagnosis, treatment, palliative care, international cooperation, and institutional structuring.^[3] In this section, the program is analyzed within the framework of a strategic management perspective across the dimensions of strategic objectives, policy instruments, implementation capacity, and governance approach. The study consists of the opening statements, advisory subcommittees, introduction, and various sections of the document. These sections are based on a wide range of subtopics, from cancer types to screening, prevention, and palliative care. Each main heading and subheading in the document has been subjected to analysis. Each section has been examined around four main analytical dimensions.

The findings presented in this section are based on the 2021 National Cancer Control Program^[3] document published by the Ministry of Health of the Republic of Türkiye. In order to enhance readability, repetitive in-text citations have been limited.

Analysis of the Minister of Health’s Foreword

- **Strategic Objectives:** The foreword emphasizes that cancer is the second leading cause of death both globally and in Türkiye, and it is stated that the disease will impose a significant burden on the health system

in the future.^[3] In this context, the main strategic objective is identified as reducing the cancer burden, increasing early detection, and preventing cancer-related deaths. It is also clearly stated that cancer control should be carried out in a comprehensive manner through registration systems, epidemiological analyses, prevention, and screening activities. This indicates that strategic objectives are structured on a systematic and data-driven health management approach.

- **Policy Instruments:** The policy instruments presented in the foreword are grouped under four main axes: cancer registry systems, epidemiological research, prevention policies, and national screening programs. In particular, the implementation of standardized screening programs for breast, cervical, and colorectal cancers and the prioritization of interventions targeting risk factors stand out. This indicates that policy instruments are integrated around prevention, data production, and screening.
- **Implementation Capacity:** The foreword indicates that implementation capacity has been strengthened particularly through data production and international integration. The attainment of IARC standards by cancer registry systems, the international recognition of data quality, and Türkiye's emergence as a regional training center are among the key indicators of this capacity. In addition, prevention programs conducted in cooperation with various institutions and widespread screening services demonstrate the institutionalization of implementation capacity. This indicates that capacity has been strengthened not only at the national level, but also at the international level.
- **Governance Approach:** The foreword shows that the governance approach is based on a data-driven, planned, and continuity-oriented structure. The preparation of the Phase III program following the evaluation of Phase I and Phase II programs demonstrates that policy processes are conducted through a cyclical and learning-based management approach. Furthermore, the emphasis on inter-institutional cooperation and international integration indicates the adoption of a multiactor governance model. This demonstrates that continuity, institutional learning, and data-driven governance have been strengthened in cancer policies.

Analysis of Historical Development

- **Strategic Objectives:** When the historical development process is examined, it is observed that cancer policies in Türkiye were initially based on the objectives of institutionalization and raising awareness, and over time evolved into a systematic cancer control model.

The establishment of institutional structures since the 1940s, the development of registry systems after the 1980s, and the implementation of national programs in the 2000s indicate that strategic objectives have become increasingly planned and comprehensive. This process demonstrates that objectives have developed through stages of institutionalization, system-building, and national strategy formation.

- **Policy Instruments:** It is observed that policy instruments have significantly diversified over time. While institutional structuring and educational activities were prominent in the early periods, in later stages cancer registry systems, screening centers (KETEM), national screening standards, environmental risk programs, and digital health systems have been introduced. This indicates that policy instruments have evolved from simple practices into a multilayered and integrated structure.
- **Implementation Capacity:** The document shows that implementation capacity has increased significantly over the years. The expansion of cancer registry systems across the country, the enlargement of the KETEM network, the integration of the family medicine system, and the digitalization of data systems demonstrate that capacity has become institutionalized. This development indicates that Türkiye has been able to disseminate implementation capacity nationwide in cancer policies.
- **Governance Approach:** It is observed that the governance approach has gradually evolved into a more coordinated and multiactor structure over time. The development of national programs, cooperation with international organizations, and the involvement of various institutions in the process demonstrate that the governance approach has evolved from a centralized structure to a more integrated governance model. This indicates that institutional learning and systematic planning approaches have been strengthened in cancer policies.

Evaluation of Data and Epidemiological Findings

The statistical data presented in the document show that the cancer burden in Türkiye has been increasing over time and is particularly higher among men. Projection data indicate that this increase will continue in the future, reinforcing the necessity of policy intervention. When cancer types are examined, lung cancer is the most common type among men, while breast cancer is the most common among women. This highlights the importance of risk factor-based and targeted policies. In addition, the higher rates of early-stage detection in cancer types where screening programs are implemented demonstrate the effectiveness of screening policies.

Analysis of the Development Phases of the National Cancer Control Program

- **Strategic Objectives:** When the development phases of the National Cancer Control Program are examined, it is observed that the main strategic objective is to address cancer control within a comprehensive system encompassing registration, prevention, screening, and treatment stages. This approach demonstrates that cancer control is structured within a multistage policy framework. Furthermore, the alignment of the program with international scientific developments and the aim of positioning Türkiye as a model country in this field indicate that strategic objectives carry a global perspective.
- **Policy Instruments:** It is observed that the policy instruments used within the program are multilayered, encompassing both health system components and international cooperation mechanisms. While cancer registry systems, prevention policies, screening programs, and treatment services stand out as national instruments, standard-setting and policy harmonization are achieved through collaborations with international organizations. This demonstrates that policy instruments are integrated with global health governance.
- **Implementation Capacity:** It is observed that implementation capacity is strengthened through multiactor cooperation structures, scientific advisory mechanisms, and phased program implementations. The execution of the program in different phases indicates that practices are updated based on experience. Activities conducted with international organizations and technical support mechanisms demonstrate that capacity is supported by international knowledge and experience.
- **Governance Approach:** The governance approach of the program exhibits a structure in which central coordination and multiactor participation are carried out together. The shaping of processes under the coordination of the Ministry of Health through collaboration with international organizations and scientists indicates that decision-making mechanisms are formed through broad stakeholder participation. In addition, the phased planning of the program demonstrates that the governance approach is based on strategic planning principles.

Analysis of the Core Principles of the National Cancer Control Program

- **Strategic Objectives:** When the core principles of the National Cancer Control Program are examined, it is

observed that the main strategic objective is to co...
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- **Governance Approach:** The document indicates that the governance approach of the National Cancer Control Program is based on a multisectoral and multiactor governance model. The implementation of the program in an integrated manner with different public institutions, health units, and policy areas demonstrates that a coordination-based governance approach has been adopted. Furthermore, the design of the program to encompass all segments of society, the planning of interventions targeting specific groups, and its association with comprehensive health reforms indicate that the governance approach exhibits an inclusive and holistic structure.

Analysis of the Cancer Registry System

- **Strategic Objectives:** This section indicates that the main strategic objective of the cancer registry system is to determine the cancer burden by collecting complete and accurate data on all cancer cases in the country. The definition of a population-based active cancer registry system as the “gold standard” for determining cancer incidence in a given population highlights the strategic importance of this system. It is also stated that cancer registration is not merely a data collection process; rather, it serves multidimensional objectives such as understanding the causes of cancer, conducting survival analyses, and evaluating the quality of diagnosis and treatment. In this context, the strategic objective is understood to be ensuring that cancer control policies are shaped on a scientific and data-driven basis. This demonstrates that the approach, which was predominantly focused on data collection and system building during the 2013–2018 period, has evolved into a more advanced strategic stage in the 2021 program, where data are directly used in policy design.
- **Policy Instruments:** This section shows that policy instruments are largely based on data production and data management. The active cancer registry system, cancer registry centers, standardized data collection forms, and electronic data systems are among the main instruments. In addition, the adoption of international standards and training programs stand out as policy instruments aimed at improving data quality. In this respect, policy instruments constitute a multi-layered structure based on technical, institutional, and international standards.
- **Implementation Capacity:** This section demonstrates that the cancer registry system in Türkiye has significantly developed and become institutionalized over

Table 2. Situation analysis by cancer type

Cancer type	Strategic objectives	Policy instruments	Implementation capacity	Governance approach
Lung	Highest burden across all regions → priority risk area	Tobacco control policies, early detection programs	High prevalence in Türkiye and Western Asia → intervention capacity is critical	Risk-oriented, prevention-focused policy approach
Prostate	High prevalence in developed countries (USA, Northern Europe) → targeting linked to aging	Screening programs (PSA), early detection	Strong screening infrastructure in the USA and Europe	Proactive health management (early diagnosis-oriented)
Colorectal	Moderate to high prevalence across all regions → universal policy area	Screening (colonoscopy), lifestyle policies	Increasing trend in Türkiye and Western Asia	Prevention and early detection implemented together
Stomach	More prominent in Western Asia and Türkiye	Nutrition policies, early diagnosis	Regional concentration → targeted intervention required	Region-specific, risk-based governance
Liver	Prominent in Africa and Asia → infection-related	Vaccination (Hepatitis B), infection control	Limited capacity in low-income regions	Health governance focused on global inequalities
Breast	Most common cancer among women across all regions	Screening (mammography), awareness campaigns	Very high detection rates in the USA and Europe	Strong system focused on early detection
Cervical	High in Africa → low in developed countries	HPV vaccination, screening	Low capacity and high inequality in Africa	Governance addressing global health inequalities
Thyroid	Notably high rates in Türkiye	Diagnostic technologies, imaging	Possibility of overdiagnosis	Re-evaluation of diagnostic policies

Source: 2021 Cancer Control Program, Ministry of Health^[3]

time. The process that began with the transition to an active registry system has gradually expanded across the country. The achievement of sufficient data quality in certain provinces and the coverage of large population segments indicate that a substantial level of implementation capacity has been reached. Moreover, the collection of data from multiple sources demonstrates that the system has a comprehensive structure. In this context, it is understood that implementation capacity has developed through institutional expansion, human resource training, and the strengthening of data infrastructure.

- **Governance Approach:** This section indicates that the governance approach exhibits a structure based on standards, aligned with international frameworks, and focused on quality. The clear definition of quality criteria in the cancer registry system demonstrates that governance is built upon data quality. Furthermore, the evaluation of data quality according to international criteria and the establishment of regular reporting mechanisms indicate that the governance approach is based on continuous monitoring and auditing. Cooperation with international organizations also demonstrates that the governance model is aligned with global standards and reflects a governance approach consistent with international norms.

As shown in Table 2, when the regional distribution of cancer types is examined, it is observed that the cancer burden is not only biological, but also directly related to socioeconomic development, health infrastructure, and policy preferences. In particular, higher rates of early detection in developed countries lead to higher observed incidence in certain cancer types (such as prostate and breast cancer), while the high prevalence of cervical cancer in regions such as Africa reflects inequalities in access to healthcare services. Türkiye, on the other hand, exhibits a mixed profile, showing notable patterns in certain cancer types, particularly lung and thyroid cancers.

Moreover, the high rates observed in thyroid cancer and the possibility of overdiagnosis constitute a strategic area of discussion in terms of the efficient use of resources within the health system. This situation indicates that an increase in diagnostic capacity does not always correspond to policy effectiveness, and that resource allocation and policy priorities need to be reconsidered. These findings demonstrate that Türkiye addresses its cancer policies not only at the national level, but also within the framework of global health inequalities and comparative governance. This approach indicates the adoption of a “global health governance” perspective in policy analysis.

Analysis of Primary Prevention Policies

- **Strategic Structure:** The document defines primary prevention as the main approach aimed at preventing

cancer before it occurs. In this context, it is stated that genetic factors play a limited role in the development of cancer, while environmental and behavioral factors are more determinant. Accordingly, tobacco use, dietary habits, alcohol consumption, infections, and environmental exposures are identified as the main risk factors for cancer. Therefore, it is observed that the strategic approach in the document is based on preventive policies aimed at avoiding the emergence of cancer.

- **State Capacity and Governance:** The document indicates that primary prevention activities are not limited solely to the health system, but are addressed through programs implemented in different fields. In this context, it is stated that efforts targeting cancer-related risk factors encompass multiple policy areas. This demonstrates that cancer control policies are carried out within a holistic structure involving multiple institutions and policy domains. This structure corresponds to the model defined in public administration literature as the “whole-of-government approach,” which refers to the integrated management of different policy areas toward a common health objective.
- **Policy Instruments:** The document shows that policy instruments used in primary prevention are shaped around interventions targeting risk factors. In this context, interventions addressing tobacco use, unhealthy nutrition, obesity, alcohol consumption, and infections are identified as policy instruments. In addition, it is emphasized that environmental factors also play a role in cancer development, highlighting the importance of regulations in these areas. Thus, it is understood that policy instruments are not limited to treatment services, but also encompass preventive interventions.
- **Risk and Implementation Dimension:** The document clearly states that cancer is largely associated with preventable risk factors. In particular, the role of tobacco use, dietary errors, and environmental exposures in the development of cancer is emphasized. This demonstrates that cancer control policies are structured based on concrete risk factors and that preventive interventions are identified as the primary policy domain.

Analysis of Secondary Prevention (Cancer Screening) Policies

- **Strategic Structure:** The document states that the secondary prevention approach is based on the early detection of cancer. The fact that many cancers cannot be completely prevented through primary prevention and that prognosis is better when diagnosed early

makes screening programs a fundamental strategy. Accordingly, early detection is positioned as one of the core components of cancer control policies.

- **State Capacity and Governance:** The document shows that cancer screening services are carried out through institutional structures. In this context, Cancer Early Diagnosis, Screening, and Training Centers (KE-TEM) operate as primary healthcare service providers. In addition, it is stated that integration with the family medicine system has been achieved to expand screening services and that community-based screening programs are implemented nationwide. This demonstrates that screening policies are conducted through an institutionalized and widespread healthcare system network.
- **Policy Instruments:** The document indicates that the main policy instruments used in secondary prevention are screening programs. In this context, national screening programs for breast, cervical, and colorectal cancers are implemented. It is understood that methods such as mammography, HPV-DNA testing, and fecal occult blood testing are used in these programs. In addition, it is stated that mobile screening practices and pilot projects have been developed to increase the effectiveness of screening programs.
- **Implementation and Risk Dimension:** The document emphasizes that certain technical criteria must be met for the implementation of a screening program. It is stated that screening tests must have high sensitivity and specificity values. However, it is also noted that false-positive results may create psychological and economic costs; therefore, the accuracy of tests is of critical importance. Furthermore, it is emphasized that high-risk groups should be targeted in order to increase the effectiveness of screening programs. This indicates that the approach, which focused on increasing screening rates during the 2013–2018 period, has evolved into a more mature strategic framework in the 2021 program, incorporating dimensions of quality, accuracy, and cost-effectiveness.
- **Access and Implementation Challenges:** The document states that the coverage rates of screening programs have not reached the desired levels and that this situation is associated with various structural problems. These problems include insufficient specialist personnel, difficulties in access to services, and lack of awareness. It is also indicated that practices such as the integration of family medicine into the process and the development of mobile screening services have been implemented to address these challenges.

Analysis of Tertiary Prevention Policies

- **Strategic Objectives:** Within the scope of tertiary prevention policies, the main strategic objective is observed to be extending the life expectancy of individuals diagnosed with cancer and improving their quality of life. In this context, improving access to treatment, strengthening patient follow-up systems, and expanding palliative care services come to the forefront. However, it is noteworthy that strategic objectives are mostly expressed in general terms and that a more limited framework is presented in terms of measurable performance indicators and long-term outcomes.
- **Policy Instruments:** It is understood that the policy instruments used in tertiary prevention are primarily focused on healthcare service delivery. In this context, the development of oncological treatment services, the expansion of specialized units in hospitals, the acceleration of treatment processes following early diagnosis, and the provision of palliative care and support services are among the prominent instruments. However, these instruments are largely concentrated on the clinical and service delivery dimension, remaining relatively limited in terms of social support mechanisms, patient rights, or holistic care models.
- **Implementation Capacity:** In tertiary prevention policies, implementation capacity is shaped by the existing infrastructure and human resources of the healthcare system. In this regard, hospital infrastructure, specialized healthcare personnel, and diagnostic and treatment technologies stand out as key elements. However, it is observed that implementation capacity is not homogeneous in terms of regional inequalities, differences in access to services, and resource distribution; this situation may be determinative for policy outcomes.
- **Governance Approach:** In the context of tertiary prevention policies, it is observed that a clear and systematic framework regarding the governance approach is addressed only to a limited extent in the document. It is understood that treatment processes are evaluated primarily from a healthcare service delivery perspective, and that there is no clearly defined approach regarding governance mechanisms, inter-institutional coordination, or multistakeholder management models. This indicates that tertiary prevention policies are predominantly treated as a technical field focused on service delivery. This situation corresponds to what is defined in the strategic management literature as an "implementation gap," referring to the disconnection between policy objectives and implementation pro-

cesses. While a more developed governance model is observed in the areas of prevention and screening, a more traditional and service delivery-oriented structure persists in treatment and care processes.

Analysis of International Cooperation and Institutional Structuring

- **Strategic Positioning:** When the relationships established with international organizations are examined, it is observed that Türkiye is actively integrated into global governance networks in the field of cancer policies. In particular, collaborations with institutions such as the World Health Organization, the International Agency for Research on Cancer, and the Union for International Cancer Control demonstrate that national policies are shaped in alignment with international norms and standards. In this context, it is noteworthy that Türkiye is positioned not only as a policy implementer, but also as an actor participating in knowledge production and decision-making processes.
- **Policy Instruments and Cooperation Mechanisms:** It is observed that international cooperation is conducted through various policy instruments. In this context, participation in international meetings and summits, joint research and data production, the development of cancer registry systems, as well as training, technical support, and capacity-building activities are among the prominent instruments. In particular, the positioning of the İzmir Cancer Registry Center as an IARC HUB indicates that Türkiye assumes the role of a central country that not only utilizes data, but also contributes to regional capacity building.
- **Institutional Capacity and Knowledge Production:** When evaluated in terms of institutional capacity, international cooperation demonstrates that Türkiye has reached a certain level of maturity in cancer registration, epidemiological data production, and scientific contributions to policy development processes. However, it is observed that this capacity is more concentrated in technical and data-driven areas, remaining relatively limited in terms of policy design and governance innovation.
- **Governance Model and Multi-Level Structure:** This section shows that cancer policies are addressed within a multilevel governance structure. While coordination is maintained at the national level by the Ministry of Health, relationships established with global organizations (WHO, IARC), regional networks (EUROMED, SEEHN), and civil society and international unions (UICC) demonstrate that policy processes have evolved into a multiactor structure. However, it is also observed

that a clear governance model regarding the coordination mechanisms of this multiactor structure is not explicitly defined in the document.

Strategic Priorities and Policy Alignment

The strategic priorities highlighted in international documents largely overlap with Türkiye's practices. In particular, there is strong alignment in areas such as prevention and the fight against risk factors, early diagnosis and screening programs, palliative care services, and the strengthening of cancer registry systems. This demonstrates that national cancer policies are highly aligned with global health policies.

Analysis of the Cancer Burden in the World and in Türkiye

- **Strategic Objectives:** This section clearly demonstrates that cancer is a major public health problem at both global and national levels and that it constitutes an increasing disease burden. An examination of global data shows that cancer is one of the leading causes of death worldwide, creating significant pressure on health systems with millions of new cases and deaths annually. In the case of Türkiye, it is stated that cancer is the second leading cause of death after circulatory system diseases and accounts for a substantial proportion of total deaths. In this context, the main strategic objective of this section is understood to be supporting policy development processes aimed at reducing the cancer burden on a data-driven basis. This section does not directly produce policy; rather, it provides a strategic foundation that demonstrates the necessity of policy intervention.
- **Policy Instruments:** In this section, it is observed that epidemiological data and statistics are used as the main instruments rather than classical policy tools. In particular, analyses of cancer incidence, mortality, geographical distribution, and gender-based differences are conducted using data from the International Agency for Research on Cancer, World Health Organization statistics, as well as national databases in Türkiye and data from the Turkish Statistical Institute. The primary policy instrument used in this section is identified as evidence-based policymaking.
- **Implementation Capacity:** This section indirectly reveals Türkiye's implementation capacity in the field of cancer. In particular, the existence of a national cancer registry system, data production capacity, integration with international data systems, and competence in statistical production and reporting indicate that Türkiye has reached a certain level of technical and ana-

lytical capacity in cancer policies. However, the data also show that the cancer burden is increasing and that there is a concentration in certain cancer types. This indicates that, although capacity exists, it is under significant demand pressure due to the increasing disease burden.

- **Governance Approach:** Although a clearly defined governance model is not explicitly presented in this section, the approach used highlights data-driven decision-making, a focus on risk groups, gender- and region-based differentiation, and global comparison. This indicates that cancer policies are evolving from a classical reactive approach toward a proactive and data-oriented governance model. In this context, the section demonstrates that effective policy development cannot be achieved without measurement and data production.

Analysis of Cancer Action Plans

- **Strategic Objectives:** An examination of cancer action plans shows that strategies do not remain at the level of general objectives; rather, they are structured in detail with concrete activities, responsible institutions, and timelines. The linkage of each strategy to a specific implementation framework aims to ensure that cancer policies are carried out in a planned and phased manner. This demonstrates that cancer policies have evolved from being merely guiding documents into actionable and measurable strategic plans.
- **Policy Instruments:** It is observed that the policy instruments used in the action plans have a broad and multilayered structure. In this context, education and awareness activities, screening programs and health-care services, control of environmental risks, institutional structuring and technical infrastructure, as well as data production and registry systems are used together. In addition, the involvement of various institutions indicates that policy instruments are not limited to the health sector. This demonstrates that cancer policies are implemented through a multisectoral and holistic public policy approach.
- **Implementation Capacity:** Action plans reveal implementation capacity through concrete indicators. The clear identification of responsible and collaborating institutions, the determination of completion timelines, the establishment of performance indicators, and the definition of monitoring and evaluation mechanisms demonstrate that cancer policies are not limited to the planning phase, but that implementation and monitoring capacities are also systematically structured. At the same time, the tables explicitly identify potential

Table 3. Comparison of the 2013–2018 National Cancer Control Plan and the 2021 National Cancer Control Program

Analysis dimension	2013–2018 National Cancer Control Plan ^[2]	2021 National Cancer Control Program ^[3]	Strategic evaluation
Strategic objectives	Reducing the cancer burden, early detection, and prevention are the main objectives. Over time, treatment and palliative care have also been included in the system.	Cancer control is addressed within the integrated framework of registration–prevention–screening–treatment; a data-driven and sustainable system is targeted.	Objectives have evolved from a classical public health approach to a systematic and data-driven strategic model.
Policy instruments	Classical public health instruments such as screening programs, cancer registries, tobacco and obesity policies are used.	Digital data systems, international collaborations, epidemiological analyses, and integrated policy instruments come to the forefront.	Policy instruments have evolved from a single-dimensional structure to a multi-layered and technology-supported structure.
Implementation capacity	Focused on system building and nationwide dissemination (KETEM, integration of family medicine).	Institutionalization has increased, data quality has improved, and Türkiye has become an actor producing international capacity.	Capacity has shifted from the expansion phase to institutionalization and internationalization.
Governance approach	A centralized and program-based classical management structure is dominant.	A data-driven, multi-actor, and internationally integrated governance model has been adopted.	Governance has transformed from a centralized model to a multi-level governance model.

Source: 2021 Cancer Control Program^[3], Ministry of Health- Cancer Control Program ^[2] (2013-2018), Ministry of Health

risks such as personnel shortages, coordination problems, infrastructure deficiencies, and lack of public participation that may arise during the implementation process. This indicates that the policy structure is designed within a framework that anticipates implementation challenges.

- **Governance Approach:** An examination of the overall structure of the action plans shows that a governance model extending beyond the classical hierarchical management approach has been adopted. The involvement of numerous institutions, the collaboration of national and international actors, and the establishment of data-sharing and coordination mechanisms demonstrate that cancer policies are implemented within a multiactor structure. Furthermore, performance indicators and monitoring mechanisms indicate that the governance approach is based on a results-oriented and measurable structure. This demonstrates that cancer policies are addressed within a framework of strategic management, network-based governance, and performance-oriented management.

Strategic Transformation of Cancer Policies in Türkiye: A Comparative Analysis (2013–2018 and 2021)

In this section, the transformation of cancer policies in Türkiye within the framework of the 2013–2018 National Cancer Control Plan^[2] and the 2021 National Cancer Control Program^[3] is analyzed comparatively across the dimensions of strategic objectives, policy instruments, implementation capacity, and governance approach. Accordingly, the struc-

tural changes and strategic orientation of cancer policies over time are evaluated within a holistic framework.

The strategic evaluation based on Table 3 demonstrates that cancer policies in Türkiye have undergone a significant transformation over time. First, it is understood that cancer policies have evolved from fragmented and limited interventions into a holistic system approach, and that policy processes have increasingly adopted a data-driven (evidence-based policy) structure. This transformation also points to a process of “policy learning” in the public administration literature, indicating that Türkiye has incorporated experiences from previous planning periods into new policy designs. In this context, it can be argued that cancer policies have evolved in line with the “learning organization” approach.

Along with this transformation, Türkiye has moved beyond being merely a policy implementer and has become an actor that produces capacity at the international level and contributes to knowledge sharing. Furthermore, it is noteworthy that the governance approach has shifted from a centralized and static structure toward a coordination-oriented and learning-based (phase-based) model, while policy instruments have expanded from classical public health interventions to an integrated, digital, and multisectoral structure. In this framework, the most significant achievement can be identified as the establishment of an institutionalized and measurable cancer policy system.

Despite this transformation, it is also observed that certain structural limitations persist. In particular, the relatively weak governance dimension in tertiary prevention (treatment) stems from the fact that this field is largely treated

as a technical and clinical service delivery domain, which limits the integration of treatment processes with a public policy perspective. In addition, although data production and technical capacity have significantly improved, the dimension of strategic governance innovation (policy innovation) remains relatively limited.

Similarly, despite the presence of a multiactor governance structure, the lack of clearly and systematically defined inter-institutional coordination mechanisms emerges as a significant shortcoming. Moreover, although policy instruments have diversified, the limited level of public participation and behavioral change processes indicates a critical gap in terms of “stakeholder management” and “demand-side governance” in the strategic management literature. This suggests that while supply-side capacity has been strengthened in policy design, the effective participation of society in policy processes has not yet been sufficiently achieved.

It is also understood that policies in the field of tertiary prevention (treatment) are largely shaped around service delivery, while governance and strategic management dimensions remain weaker compared to other levels of prevention. Finally, despite the diversification of policy instruments, public participation and behavioral change continue to constitute a critical area of weakness.

Discussion

This study aimed to analyze the strategic transformation of cancer control policies in Türkiye within the framework of the 2013–2018 National Cancer Control Plan^[2] and the 2021 National Cancer Control Program.^[3] The findings indicate that cancer policies have evolved over time from a limited structure focused solely on healthcare service delivery into a data-driven, multiactor, and holistic public policy domain. In terms of strategic objectives, it is observed that the classical public health approach centered on early detection and prevention has evolved into a more comprehensive structure that incorporates sustainability, system integration, and quality of life. Similarly, policy instruments have expanded beyond basic interventions such as screening programs and registry systems to include digital data infrastructures, international collaborations, and multisectoral intervention areas. Implementation capacity, on the other hand, has not remained limited to the expansion of services, but has strengthened in terms of institutionalization, data quality, and the production of international capacity.

From the perspective of governance, there has been a transition from a centralized and program-based structure to a multilevel and multiactor governance model based on data-driven decision-making processes. This transformation

demonstrates that cancer policies have evolved into a hybrid model in which strategic management, network governance, and performance-based management approaches are applied together within the broader context of public administration, rather than being confined solely to the health system. In this regard, the transformation indicates that Türkiye’s cancer policies have followed a phased development trajectory, moving from a stage of “construction and expansion” to a stage of “integration and institutionalization.” In this sense, the study provides both theoretical and empirical contributions that strengthen the position of cancer policies within the public administration literature.

However, the analysis also indicates that certain structural limitations persist. In particular, despite the presence of a multiactor governance structure, the lack of clearly and systematically defined coordination mechanisms, the relatively weak governance dimension in tertiary prevention, and the limited level of public participation and behavioral change processes emerge as key challenges that may affect policy effectiveness. This suggests that, although cancer policies in Türkiye have matured in terms of technical and institutional capacity, there remain areas requiring further development in terms of governance innovation and stakeholder engagement.

Conclusion

In conclusion, cancer policies in Türkiye have undergone a significant transformation along the axes of strategic management and data-driven decision-making. However, for the sustainability of this transformation, there remains a need to strengthen governance capacity and to establish more clearly defined and functional multiactor coordination mechanisms. Future studies should examine the implementation-level impacts of cancer policies using field data, develop comparative analyses, and explore the relationship between governance capacity and policy outcomes.

Disclosure

Ethics Committee Approval: This study was based exclusively on the analysis of publicly available policy documents and did not involve volunteers, patients, human participants, animals, interventions, identifiable personal data, or patient records. Therefore, ethics committee approval and informed consent were not required.

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