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IRAN National Cancer Control Program (IrNCCP): Goals, Strategies, and Programs

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Abstract

Background: Annually, over 131000 new cases of cancer have been identified in Iran, with an increasing trend that is predicted to grow by 40% by 2025. The most important contributing factors to this increase are the improvement of the health service delivery system, increased life expectancy, and the aging of the population. The aim of this study was to develop Iran's "National Cancer Control Program" (IrNCCP).

Methods: The present study is a cross-sectional study that was conducted in 2013 using the method of reviewing studies and documents and focused group discussions and a panel of experts. In this study, the available evidence related to cancer status and its care in Iran and other countries, as well as national and international upstream documents, were reviewed and analyzed. Then, by analyzing the current situation in Iran and other countries and conducting stakeholder analysis with the strategic planning approach, the IrNCCP was developed with a 12-year horizon consisting of goals, strategies, programs, and performance indicators.

Results: This program has 4 main components, including Prevention, Early Detection, Diagnosis and Treatment, and Supportive and Palliative care, as well as 7 supporting components including Governance and policy-making, Cancer Research, Developing facilities, equipment, and service delivery network, Providing and managing human resources, Providing and managing financial resources, Cancer information system management and registry, and Participation of NGOs, charities, and the private sector.

Conclusion: Iran's National Cancer Control Program has been developed comprehensively with cross-sectoral cooperation and stakeholder participation. However, like any long-term health intervention, strengthening its governance structure both in terms of implementation and achievement of expected goals and evaluation and modification during the implementation of the program is essential.

Keywords: Cancer control program, Cancer, Planning, Cancer Control, Cancer Planning

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↑What is "already known" in this topic:

Due to the demographic characteristics and structure of the country's service delivery system, one of the most important non-communicable disease control programs is the National Cancer Control Program, which needs to be developed in the long term with a scientific approach and cross-sectoral cooperation and stakeholder participation.

→What this article adds:

• The IrNCCP has 4 main components, including Prevention, Early Detection, Diagnosis and Treatment, and Supportive and Palliative care, as well as 7 supporting components including Governance and policy-making, Cancer Research, Developing facilities, equipment, and service delivery network, Providing and managing human resources, Providing and managing financial resources, Cancer information system management and registry, and Participation of NGOs, charities, and the private sector.

• Strengthening the governance structure of the IrNCCP is necessary both in terms of full implementation of this program and achieving the expected goals and health outcomes, as well as in terms of evaluating the progress of this program and its improvement.

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Introduction

Cancer was the first or second leading cause of premature deaths (30-69 years) in 134 out of 183 countries in 2016 (1). In 2020, over 19 million new cases of cancer were identified worldwide, and the Age Standardized Rate worldwide was 201. In the same year, Asia had the highest incidence (49.3%), highest mortality (58.3%), and the highest 5-year prevalence (40.8%) of cancer among all continents of the world (2). Estimates show an increasing trend in cancer burden by 2040, especially in developing countries (1).

In Iran, in 2020, over 131000 new cases of cancer were identified, which indicates an Age Standardized Rate of 152.7. While the annual reports published by the Cancer Department of the Ministry of Health in 2017 show a number of more than 135 thousand. In 2020, 79,000 deaths from cancer were estimated, reflecting Age Standardized Mortality rate of 94. The most prevalent cancers of both sexes were breast, stomach, colorectal, lung, and prostate, respectively (2). Estimates in Iran show that from 2016, the trend of cancers in Iran has been increasing and by 2025 will have a growth of more than 40%, although in some cancers, this growth will be more and in others, it will be less. This growth is expected to continue until 2040 when the number of cancers will more than double compared to 2020. It is important to note that over half of this growth (28.7%) is related to the population structure of Iran, which is different from European and American countries and similar to neighboring countries (3).

The range of services available for cancer includes primary prevention, screening, and early detection, diagnosis and treatment, and supportive and palliative care, in each of which cost-effective interventions have been identified worldwide. In many countries with access to adequate health services (mostly high-income countries); cancer mortality rates have dropped dramatically. Instead, the mortality rate is high in many countries, which mainly provide services to the cancer care spectrum. Instead, the death rate is high in many countries, which mainly provide end-of-life services from the cancer care spectrum.

The results of studies show that half of the cancers are preventable and there needs to be a plan for them (1). Cancer is at the top of the economic burden list of diseases (at least 2% of world GDP). Therefore, the share of the health budget will be severely diverted to it (4). This demonstrates the importance of national cancer control programs in countries to provide services that are effective, feasible and affordable and that can be adequately covered within a country's geographical area. Undoubtedly, the earlier diagnosis is made, and the disease is identified in the early and limited stages, the easier it is to treat and the possibility of complete control and recovery would be very high (1).

A cancer control program is a strategic program designed to meet the needs of the population in order to prevent, diagnose, and treat cancer as well as provide care for the patients. According to the guidelines of the World Health Organization, such a program is designed in a 4-step process, including a pre-planning stage and 3 planning stages (5). Also, designing this program in countries, like other health policies, will be carried out in a 5-stage cycle in which all stakeholders are present and its proper management, including the five principles of transparency, participation, accountability, comprehensiveness and capacity building, is very important (1). The results of studies in 2013 showed that in addition to the predictions about the burden of cancer and its importance, this disease in Iran also has special distinguishing features that need special attention from health policymakers. The main challenges of the Iranian health system regarding cancer management included the increase in cancer incidence in Iran, the weakness of the health system to deal with the future burden of cancer, diagnosing cancer at an advanced stage instead of early diagnosis, disproportionate allocation of funds and equipment to different departments and lack of attention to prevention and early detection and insufficient training for cancer human resources (2, 3, 6-12).

In addition to the above, setting a goal of a 25% reduction in premature deaths from non-communicable diseases by 2025 as one of the nine non-communicable disease control goals in the world (13) and many other international and national upstream commitments all led to cancer being considered as an important health problem in the country both as a part of non-communicable diseases as well as an independent disease and the development of a national cancer control program in 2013 was added to the agenda.

Methods

This research is a cross-sectional study and has been done by reviewing and analysis of upstream documents and conducting focus group discussions and expert panels.

The key informants' selection criteria for focus group discussions (FGDs) were: having educational and research experience in the field of cancer and non-communicable disease or having related academic education with more than 3 years of executive experience in the field of cancer management at national or local policy-making level

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(Ministry of Health headquarter, Medical Universities and Iran's Health Delivery Network). The data collection tool was a data extraction form that was designed and used to extract data from screened studies and upstream documents. In this form in addition to the specifications of each study or document, the main findings of the study were extracted and mentioned.

The method of data analysis was qualitative content analysis. Considering that in addition to using scientific methodology, the strategic planning process was carried out to conduct this research. The working method, which describes the actions taken, was summarized in continue:

In order to achieve the high goals of the health system and to promote comprehensive health, especially to reduce cancer mortality and burden, the Cancer Department of the Ministry of Health started developing the IrNCCP in 2013, with the participation of all stakeholders and experts and through face-to-face meetings and written opinion polls. In order to realize this program and also to systematize the decision-making and policy-making process, the National Cancer Committee was formed in March 2014, and it was decided that since the prevention and control of cancer is a multi-sectorial and long-term process and the guidelines and protocols of the World Health Organization have emphasized on it, the strategic planning approach be used to develop this program. For this purpose, the first national and international upstream documents were reviewed and analyzed. With regard to the national documents, upstream documents and laws and general policies governing the country and the health system were analyzed in order to orient the goals of the program in their direction of them. The main documents and policies analyzed for this program were as follows:

- The fifth and sixth programs of political, economic, and socio-cultural development of the country (14, 15).
- General health policies.
- Vision Plan of 2025.
- Comprehensive Scientific Health Map of the country
- The regulatory law for part of the government's financial regulations.
- Financial and transaction regulations of medical universities in the country.
- National document for Prevention and Control of Non-Communicable Diseases (16).

Regarding the international documents and scientific orientations, upstream documents, guidelines, and international obligations were reviewed and analyzed. The most important of which were:

1. UN Sustainable Development Goals (17).
2. UHC2030 Objectives (18).
3. Global action plan for the prevention and control of NCDs 2013-2020 (13).
4. Cancer control: knowledge into action. WHO guide for effective program planning (5).
5. Cancer control framework in the Eastern Mediterranean region of the WHO (19, 16).
6. Seventieth World Health Assembly: Cancer prevention and control in the context of an integrated approach (20).

In the next step, the situation of Iran in terms of cancer burden and risk factors, as well as facilities and equipment, were analyzed with the help of specialized subcommittees, and the status of cancer service delivery as well as its distribution in the country, were identified. At the same time, a study was conducted on other countries and while examining the burden of the disease and its risk factors, the status of facilities, equipment and how to provide cancer care in them was extracted as a basis for comparing the situation in Iran with other countries. Also, the clinical guidelines for providing standard cancer care were reviewed. A stakeholder analysis was performed to find out the views of stakeholders involved in cancer planning. Stakeholders were first identified and then classified into two main groups of stakeholders outside the health system and stakeholders within the health system. Stakeholders outside the health system included organizations, institutions and individuals outside the health system, whether inside or outside the country and stakeholders within the health system, including organizations, institutions, associations, and individuals within the health system which were involved in the field of cancer management and control. The views and opinions of stakeholders about the program under development were obtained in various ways, including participating in meetings, sending correspondence, etc. One of the main methods for obtaining stakeholder opinions was to use specialized committees and subcommittees, which in some ways were the network of stakeholders of the program and withholding the meetings of these committees, the stages of program development (including setting goals, and determining strategies and programs) were completed with a 12-year horizon. In the process of developing each component of the program, first, the opinions of experts were gathered by holding a meeting with specialized subcommittees. In these meetings, the current situation and upstream requirements were first stated, and individuals as experts were consulted about challenges, priorities, goals, and strategies. In the next stage and after reaching a consensus on these programs, the opinions of experts of the Ministry of Health were obtained. Figure 1 shows the conceptual model used to develop the IrNCCP.

Finally, the Comprehensive IrNCCP was developed containing two general sections of main and supporting components, consisting of goals, strategies, programs, and performance indicators. It is worth mentioning that, after the declaration of the COVID-19 pandemic, according to the needs assessment conducted in March 2017, developing a cancer-specific guideline for COVID-19 prevention and care targeting the general population as well as the specialized groups became the agenda and after conducting the study phase and obtaining the opinion of experts, this guideline was prepared and announced.

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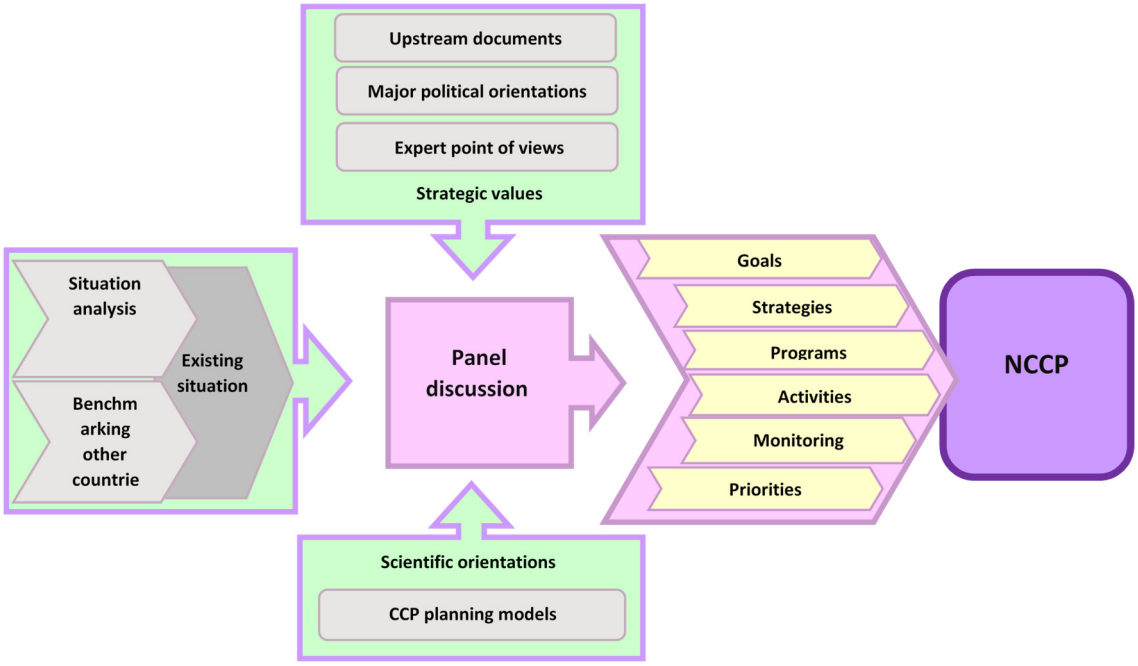

Fig. 1. IrNCCP conceptual framework

Results

The IrNCCP has been developed in 11 components, of which 4 are main components, and 7 components support the main ones. The 4 main components include Prevention, Early Detection, Diagnosis and Treatment, and Supportive and Palliative care, and 7 supporting components include Governance and policy-making, Cancer Research, Developing facilities, equipment, and service delivery network, Providing and managing human resources, Providing and managing financial resources, Cancer information system management and registry, and Participation of NGOs, charities, and the private sector. The results of the existence of supporting components were studies that showed that most of these programs could not be implemented in full or even partially because they did not pay attention to the sections that support the main sections. The results of studies show that 81% of the member countries of the World Health Organization have plans to control cancer, but only 10% of them have been funded and implemented (1). Tables 1-11 demonstrate the details of this program listed separately in goals, strategies, and programs as well as performance indicators for each of the components.

In developing the IrNCCP, performance indicators to

Table 1. Summary of Goals, Strategies, Programs, and Performance indicators related to "Governance and policy-making" (G)[1]

Performance Indicators	• Number of new laws and regulations to improve cancer control • Preparing the "National Cancer Control Program" document • Formation of "National Committee for Cancer Control" • Establishment of "National Cancer Control Center" • Periodic publication of performance reports	
Goal 1 (G-G1): Management based on planning and priorities		
Strategy 1 (G-G1S1) Having a comprehensive national program	G-G1S1P1	Developing the "National Cancer Control Program" document
Goal 2 (G-G2): Determination of the program governance at the national level		
Strategy 1 (G-G2S1) Having a unified, appropriate and efficient organizational structure at the national level	G-G2S1P1	Establishing the "National Cancer Control Center"
Goal 3 (G-G3): Obtaining legal support for cancer management programs		
Strategy 1 (G-G3S1) Identifying notices and instructions inconsistent with the upstream documents in the field of cancer and correcting them at the level of the Ministry of Health	G-G3S1P1	Review and identify notices and instructions inconsistent with upstream documents for all the eleven components of cancer management
Strategy 2 (G-G3S2) Correcting laws incompatible with cancer control	G-G3S2P1	Review and identify laws that are incompatible with cancer control and correcting them
Strategy 3 (G-G3S3) Include legal measures to control cancer in upstream laws	G-G3S3P1	Develop and adopt new upstream laws to improve cancer control in the general population and care for patients and their families

[1]. The letter G is the first letter of the word Governance, which is used to indicate the goals, strategies and programs of this section

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Table 2. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer Research" (R)[1]

Performance Indicators	• Availability of documentation of national cancer research priorities • Number of commissioned studies based on the priorities and prerequisites of the National Cancer Control Program • Amount of grants allocated to the subject of cancer to the total grants for research projects • Number of researches based on available databases • Effective presence or membership in international cancer-related organizations (including the International Agency for Research on Cancer, IARC) • Number and amount of grants provided for investment in the field of cancer research by non-governmental organizations to the total grants for cancer research projects • Number and amount of research grants for priority applied projects related to the National Cancer Control Program to the total grants allocated to cancer-related research projects

Goal 1 (R-G1): Identify the current position and future prospects of cancer research		
Strategy 1 (R-G1S1) Evaluate the current situation, and identify deficiencies and needs and planning for cancer research	R-G1S1P1	Preparing a comprehensive document for the development of cancer research in Iran
	R-G1S1P2	Determining national priorities for cancer research
Goal 2 (R-G2): Facilitate and develop cancer research in all its dimensions		
Strategy 1 (R-G2S1) Policy-making to optimize research conditions in the field of cancer	R-G2S1P1	Determining cancer research hubs to delegate national and regional research missions
	R-G2S1P2	Effective presence or membership in international cancer-related organizations (including the International Agency for Research on Cancer, IARC)
	R-G2S1P3	Implement incentive policies in evaluating centers that propose and implement projects based on national needs in the field of cancer
	R-G2S1P4	Facilitate the licensing process and establishment of non-governmental research centers in the field of cancer
	R-G2S1P5	Incentive policies for linking two or more central databases to conduct data-driven research as well as research that is based on artificial intelligence
Strategy 2 (R-G2S2) Balanced development and distribution of cancer research infrastructure and facilities	R-G2S2P1	Centralized supply and distribution of consumer and capital equipment in accordance with the mission of cancer research hubs
	R-G2S2P2	Development of cancer biobanks
	R-G2S2P3	Quantitative and qualitative development of research laboratories
	R-G2S2P4	Establishment of governmental or non-governmental research service centers
Strategy 3 (R-G2S3) Improving the credibility of cancer research and their optimal distribution	R-G2S3P1	Increase the funding and allocate special funds to cancer research projects
	R-G2S3P2	Prioritize research grants for applied priority projects related to the National Cancer Control Program
	R-G2S3P3	Involve NGOs, charities and private sector in investing in cancer research in the form of social responsibility
Goal 3 (R-G3): Develop cancer research to meet national needs		
Strategy 1 (R-G3S1) Order and participate in conducting research required for policy-making and planning in the field of cancer	R-G3S1P1	Define research based on the priorities and prerequisites of the National Cancer Control Program and order them to research centers
	R-G3S1P2	Define research based on regional priorities and order them to cancer research hubs
	R-G3S1P3	Identify technological, product-oriented and new needs in the field of cancer and announce or order them to universities and research centers
	R-G3S1P4	Define and assign research based on existing databases

[1] The letter R is the first letter of the word Research, which is used to indicate the goals, strategies and programs of this section

assess the achievements of each of the components of this program were extracted with the consensus of stakeholders so that the program could be monitored.

Discussion

The IrNCCP was prepared with the efforts of many stakeholders, which led to the creation of opportunities in the country's health system. One of the most important opportunities was the experience of group cooperation in the form of an inter-sectoral strategic team in the country that can be used as a model for other health interventions. Another opportunity was to use evidence to prioritize and make policy. As mentioned, comprehensive studies were conducted both on national and international upstream documents and on identifying the current situation of Iran and other countries. All of these provided the basis for evidence-informed policymaking. Therefore, the model proposed for the IrNCCP is one of the most comprehensive models presented in the world and even higher than the standards of the World Health Organization.

Cancer control framework in the Eastern Mediterranean region of the WHO has introduced six key components including governance, Prevention, Early Diagnosis, Management, Palliative Care, and surveillance and research. IrNCCP has financial management, human resources, infrastructure, and non-governmental organizations com-

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Table 3. Summary of Goals, Strategies, Programs, and Performance indicators related to "Development of facilities, equipment and service delivery network" (I)[1]

Performance Indicators	• Availability of the document for "National Cancer Care Network Development " • Number of new or replaced linear accelerators for centers to the total accelerators required for the year • Availability of the regulation for establishment and operation of the "Centers for Prevention and Early detection of cancer" (Type 1) • Number of cancer centers that provide outpatient supportive and palliative care services to all cancer centers • Availability of the regulation for establishment and operation of the "Centers for Diagnosis and treatment of cancer" (Type 2) • The number of public health centers and bases where FIT testing is available to all authorized centers to provide this service • Availability of the regulation for establishment and operation of the "Comprehensive Cancer Centers" (Type 3) • Number of public health centers and bases where HPV sampling for cervical cancer is performed to all authorized centers to provide this service • Availability of regulation for establishment and operation of the "Outpatient Supportive and Palliative Care Centers for cancer" • Number of centers in which the preparation of chemotherapy drugs is done by automatic and semi-automatic closed methods to all centers providing chemotherapy services • Number of centers for Prevention and Early detection of cancer (type 1) available according to the standard developed to all required centers of this type • Number of new and cost-effective drugs that are annually included in the list of drugs and are covered by insurance • Number of centers for Diagnosis and treatment of cancer (Type 2) available according to the standard developed to all required centers of this type • Availability of oral morphine • Number of Comprehensive Cancer Centers (Type 3) available according to the standard developed to all required centers of this type • Setting up a network of specialized cancer laboratories • Number of existing centers whose physical structure has been upgraded according to standards to the total number of existing centers

Goal 1 (I-G1): Identifying priorities for cancer equipment and infrastructure		
Strategy 1 (I-G1S1) Needs assessment for cancer equipment and infrastructure	I-G1S1P1	Spatial program and preparing the document for the development of the national cancer care network (cancer facilities, equipment and infrastructure)
Goal 2 (I-G2): Improving the standards of facilities, equipment and centers delivering cancer services		
Strategy 1 (I-G2S1) Standardization of the facilities, equipment and infrastructure for cancer care	I-G2S1P1	Preparing, announcing and implementing the regulations for the establishment and exploitation of cancer centers
Goal 3 (I-G3): Equitable access to facilities, equipment and, services		
Strategy 1 (I-G3S1) Improving existing cancer infrastructure according to the standards of "Development of National Cancer Care Network" document	I-G3S1P1	Development of existing cancer centers to be upgraded to the standard type of "chemotherapy outpatient center"
	I-G3S1P2	Development of existing cancer centers to be upgraded to the standard type "center for the diagnosis and treatment of cancer" (Type 2)
	I-G3S1P3	Development of existing cancer centers to be upgraded to the standard type of "comprehensive cancer center" (Type 3)
	I-G3S1P4	Development of existing cancer centers to include "outpatient supportive and palliative care center"
Strategy 2 (I-G3S2) Infrastructure development to establish new cancer centers according to the standards of "Development of National Cancer Care Network" document	I-G3S2P1	Development of "centers for prevention and early detection of cancer" (Type 1)
	I-G3S2P2	Development of "centers for the diagnosis and treatment of cancer" (Type 2)
	I-G3S2P3	Development of "comprehensive cancer centers" (Type 3)
Strategy 3 (I-G3S3) Equipping cancer centers according to the standards of "Development of National Cancer Care Network" document	I-G3S3P1	Equipping "outpatient chemotherapy centers"
	I-G3S3P2	Equipping "centers for prevention and early detection of cancer" (Type 1)
	I-G3S3P3	Equipping "centers for the diagnosis and treatment of cancer" (Type 2) (existing and new ones)
	I-G3S3P4	Equipping "comprehensive cancer centers" (Type 3) (existing and new ones)
	I-G3S3P5	Equipping "outpatient supportive and palliative care centers"
	I-G3S3P6	Development of Cancer Laboratory Network and Establishment of "cancer reference laboratory"
Strategy 4 (I-G3S4) Facilitating access to novel medications and treatments for cancer	I-G3S4P1	Provide access to modern, effective and cost-effective systemic treatments
	I-G3S4P2	Provide access to radiopharmaceuticals effective in the diagnosis and treatment of cancer
	I-G3S4P3	Improving access to effective therapies in supportive and palliative care, especially oral opioids
Strategy 5 (I-G3S5) Provide consumer equipment for cancer care programs	I-G3S5P1	Providing consumer equipment for cancer prevention and early detection programs (including cervical HPV testing and biopsy equipment and FIT set)
	I-G3S5P2	Provision of equipment for cancer diagnosis and treatment programs (including equipment required for automatic and semi-automatic closed methods of chemotherapy preparation, radiotherapy fixation, etc.)

[1]. The letter I is the first letter of the word Infrastructure, which is used to indicate the goals, strategies and programs of this section

ponents in addition to WHO emphasized parts (19). The study, which globally evaluated different countries' cancer control programs showed that the major of middle and upper-income countries have weaknesses in areas such as early detection (eg. breast cancer), cancer diagnosis and treatment (radiotherapy, essential drugs), cancer research

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Table 4. Summary of Goals, Strategies, Programs, and Performance indicators related to "Providing and managing Human resources" (H)[1]

Performance Indicators	• Availability of Cancer management training course • Availability of chemotherapy training course for pharmacists • Availability of the training course for cancer information management and registration • Number of training courses held in cancer information management and registration • Availability of a cancer prevention and early detection training course for Behvarzs, midwives and health network physicians • Number of training courses held for cancer prevention and early detection • Availability of cancer supportive and palliative care training course for nurses and physicians • Number of training courses held for cancer supportive and palliative care • Availability of the training course for auditing and quality assurance of radiotherapy • Number of training courses for auditing and quality assurance of radiotherapy • Availability of radiotherapy physics training course • Number of radiotherapy physics training courses held

Goal 1 (H-G1): Identify the priorities of supply and empowerment of human resources		
Strategy 1 (H-G1S1) Cancer human resource needs assessment	H-G1S1P1	Geo-spatial program and preparing a document for the development of human resources in the field of cancer
Goal 2 (H-G2): Expanding the oncology knowledge		
Strategy 1 (H-G2S1) Expanding knowledge of cancer control	H-G2S1P1	Designing a cancer control training course
	H-G2S1P2	Designing an information management and cancer registration training course
	H-G2S1P3	Designing a cancer research training course
Strategy 2 (H-G2S2) Expanding knowledge of cancer care	H-G2S2P1	Designing training courses on cancer prevention and early detection (including for service providers at the health network level and for specialized groups)
	H-G2S2P2	Designing cancer diagnosis and treatment courses (including chemotherapy, radiotherapy physics, auditing and quality assurance of radiotherapy)
	H-G2S2P3	Design of cancer supportive and palliative care training courses (including for nurses, general practitioners, psychology and nutrition graduates)
Goal 3 (H-G3): Having capable human resources in all aspects of the cancer control and care program		
Strategy 1 (H-G3S1) Human resource training	H-G3S1P1	Holding vocational skills training courses
Strategy 2 (H-G3S2) Identify and compensate for human resource shortages	H-G3S2P1	Recruiting human resources in service centers

[1] The letter H is the first letter of the word Human resources, which is used to indicate the goals, strategies and programs of this section.

and program finance especially for vulnerable groups. In this regard, the IrNCCP has clear objectives and programs (21). It should be noted that the objectives, programs and strategies of IrNCCP are very consistent with the outlines of European countries' cancer control programs (22).

Developing the IrNCCP, like other health system policies and health interventions, was accompanied by many challenges, the most important of which are:

Identify and resolve conflicts between stakeholders: Cancer is a complex disease, and controlling it requires the participation of different levels of the health system, from prevention to treatment and in different occupational groups from primary care providers to specialized caregivers. On the other hand, control of cancer risk is not in complete control of the health system, and most of these factors are affected by the social determinants of health in some way. Therefore, in order to control cancer, it is necessary for different sectors of the country to cooperate in this field, and inter-sectoral cooperation should be done to implement the health approach in all policies. Therefore, one of the most important parts of formulating a national cancer control program in Iran was identifying stakeholders inside and outside the health system and resolving conflicts between these groups in the form of a joint group to finally develop a program that is relatively approved by all stakeholders.

Weakness of information systems to extract the data required by the program: Planning for cancer required a variety of information on the current state of cancer and related services. It was necessary to collect disease burden information by types of cancer and identify risk factors in Iran. On the other hand, it was necessary to identify the available resources (financial, human, physical), facilities, and equipment, as well as services being provided for cancer, in order to accurately identify the current situation and to be able to set appropriate goals based on resource optimization for it. However, the existing databases in each of these sectors and at each level of service provision were separate and unconnected, and it was not possible to integrate them due to the inconsistency of the definition of the concepts used. During the development of this program, the required information was collected, cleared and categorized from various information sources as much as possible, and if necessary, statistical estimates and expert opinions were used to show the current situation of the country in the most realistic way possible.

Establishment and consolidation of the Cancer Control Program governance: As mentioned, participation of dif-

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Table 5. Summary of Goals, Strategies, Programs, and Performance indicators related to "Providing and managing Financial resources" (F)[1]

Performance Indicators

- Having specific financial resources for important components of the National Cancer Control Program
- Prescription-based service insurance coverage and providing services in accordance with guidelines and standards
- Increasing the insurance coverage for prevention and early detection services in the framework of national programs and referral system
- Insurance coverage based on the standard package of supportive and palliative care tariffs with emphasis on outpatient services and home care
- Payment and insurance coverage based on the service standard of HPV-Pop Smear test
- Insurance coverage based on the standard package of tariffs for radiotherapy services based on the type of cancer and the affected organ
- Payment and insurance coverage based on the service standard of radiotherapy using arch therapy (IMRT and VMAT)
- Increase the share from tariff for providers of national early detection programs in the framework of electronic referral and registration system
- Payment and insurance coverage based on the service standard of stereotactic radiotherapy (SRS and SBRT)
- Increase the share from tariff for pathology service providers in the framework of electronic registration of structured reports
- Payment and insurance coverage based on the service standard of radiotherapy using particle therapy (proton and carbon)
- Increase the share from tariff for centers with higher degrees of accreditation-based standard
- Payment and insurance coverage based on the service standard of reconstructive surgeries for cancer patients
- Develop and implement a package of financial support for cancer patients
- Payment and insurance coverage based on the standard of prescribing novel cost-effective drugs

Goal 1 (F-G1): Having sustainable financial resources		
Strategy 1 (F-G1S1) Estimating and providing required financial resources	F-G1S1P1	Estimation of the required financial resources of the programs according to the "National Cancer Control Program Document"
	F-G1S1P2	Estimating the net price of new and high-demand services
Goal 2 (F-G2): Optimized resource management through the improved access to services		
Strategy 1 (F-G2S1) Balancing the tariff of essential services in the field of cancer	F-G2S1P1	Reforming the tariff for cancer pathology services based on net price
	F-G2S1P2	Reforming the tariff for cancer radiology services based on net price
	F-G2S1P3	Reforming the tariff for cancer surgery services based on net price
	F-G2S1P4	Reforming the tariff for radiotherapy services based on net price
	F-G2S1P5	Reforming the tariff for chemotherapy services based on net price
Strategy 2 (F-G2S2) An approach based on increasing the insurance coverage of basic and high-demand services	F-G2S2P1	Development of a basic cancer insurance package
	F-G2S2P2	Increasing the insurance coverage of prevention and early detection services in the form of national programs and referral system
Strategy 3 (F-G2S3) An approach based on increasing the number of cost-effective services covered by insurance	F-G2S3P1	Payment and insurance coverage based on HPV-Pop Smear test service standard
	F-G2S3P2	Payment and insurance coverage based on service standard of radiotherapy by arch therapy (IMRT and VMAT)
	F-G2S3P3	Payment and insurance coverage based on service standard of radiotherapy by stereotactic radiosurgery (SRS and SBRT)
	F-G2S3P4	Payment and insurance coverage based on service standard of radiotherapy by particle therapy (carbon and proton)
	F-G2S3P5	Payment and insurance coverage based on the service standard of special reconstructive surgeries for cancer patients
	F-G2S3P6	Payment and insurance coverage based on the standard of prescribing cost-effective new drugs
Goal 3 (F-G3): Optimized resource management through the participation in service standardization with an insurance and tariff approach		
Strategy 1 (F-G3S1) A payment approach based on guidelines and service standards guidelines and standards of services	F-G3S1P1	Payment and insurance coverage of services based on prescribing and providing services in accordance with guidelines and standards
Strategy 2 (F-G3S2) A payment approach based on service leveling	F-G3S2P1	Payment and insurance coverage of services based on service leveling in accordance with standards, especially in the form of referral system
Strategy 3 (F-G3S3) An approach based on service package payment	F-G3S3P1	Payment and insurance coverage based on the standard package of supportive and palliative care tariffs with emphasis on outpatient services and home care
	F-G3S3P2	Payment and insurance coverage based on the standard package of radiotherapy service tariffs in accordance with the type of cancer and the affected organ
	F-G3S3P3	Payment and insurance coverage based on the standard package of multidisciplinary consultations
Strategy 4 (F-G3S4) An approach based on incentive payment for standard service providers	F-G3S4P1	Incentive payment for service providers of national cancer early detection programs in the form of electronic registration and referral system
	F-G3S4P2	Incentive payment for pathology service providers in the form of electronic registration of structured reports
	F-G3S4P3	Incentive payment for prescribers of chemotherapy prescriptions in the form of electronic registration of protocols and prescriptions
	F-G3S4P4	Incentive payment for radiotherapy service providers in the form of electronic treatment plan registration
Strategy 5 (F-G3S5) An approach based on incentive payment for standard centers	F-G3S5P1	Higher payment for centers with higher standards based on accreditation
Goal 4 (F-G4): Financial protection of service recipients		
Strategy 1 (F-G4S1) Management and consolidation of supportive financial resources	F-G4S1P1	Development and implementation of financial support packages for cancer patients

[1]. The letter F is the first letter of the word Financial resources, which is used to indicate the goals, strategies and programs of this section.

ferent levels of the health system in cancer prevention and control is essential, and it was necessary to determine an official organizational structure to direct the program. The Ministry of Health, the Deputy of health, the Deputy of therapeutic affairs, the Deputy of Research and Technology and the National Committee for Non-communicable

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Table 6. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer information management system and registry" (RI)[1]

Performance Indicators	• Availability of an integrated cancer information management system (CIMA) with the ability to record basic information • Availability of the protocol for access and use of cancer registry data • Availability of an integrated cancer information management system (CIMA) with the ability to record structured pathology reports • Availability of cancer stage information by implementing structured pathology reports • Availability of an integrated cancer information management system (CIMA) with the ability to register and manage cancer early detection services • Availability of disease survival information by connecting to the death registration system • Availability of regular annual national and international reports • Availability of the website for the National Cancer Control Secretariat (Cancer Department) • Annual trend of quality indicators of the National Population Based Cancer Registry Program in terms of timing, histological confirmation percentage (MV%) and percentage confirmed by death alone (DCO%) • Availability of basic and essential cancer information dashboard

Goal 1 (RI-G1): Integrated policy-making for cancer information system and registration		
Strategy 1 (RI-G1S1) Determine the governance and policy-making reference of the cancer information management and registration program	RI-G1S1P1	Integrated and coordinated management of cancer information and registration at the national and university levels
Goal 2 (RI-G2): Having a comprehensive and integrated information infrastructure		
Strategy 1 (RI-G2S1) Designing an integrated cancer information management system (CIMA)	RI-G2S1P1	Developing the system for recording basic cancer information: Population Based Cancer Registration (PBCR)
	RI-G2S1P2	Developing the system for recording essential cancer information: disease stage (T, N) based on structured pathology reports
	RI-G2S1P3	Developing the system for recording essential cancer information: Early detection of cancer
	RI-G2S1P4	Developing the system for recording essential cancer information: Clinical Based Cancer Registration (CBCR) including diagnosis, stage of the disease (T, N, M), survival, medical, pharmacological, and palliative care
	RI-G2S1P5	Developing the system for exchanging information with the main systems of the health system
	RI-G2S1P6	Developing the system for recording information regarding infrastructure, equipment, service centers, support and charity centers and human resources in all aspects of the national program
	RI-G2S1P7	Developing the system for recording comprehensive information of research centers, researches, research projects and cancer researchers
Goal 3 (RI-G3): Improving the standards of cancer information management system and registration		
Strategy 1 (RI-G3S1) Standardization of cancer information registration	RI-G3S1P1	Developing protocols for Population Based Cancer Registration (PBCR)
	RI-G3S1P2	Developing protocols for recording structured pathology reports
	RI-G3S1P3	Developing protocols for recording cancer early detection information
	RI-G3S1P4	Developing protocols for Clinical Based Cancer Registration (CBCR)
Strategy 2 (RI-G3S2) Standardization of cancer information exchange	RI-G3S2P1	Developing the document for the exchange of unstructured pathology reports with laboratory information systems (LIS)
	RI-G3S2P2	Developing the document for the exchange of structured pathology reports with laboratory information systems (LIS)
	RI-G3S2P3	Developing the document for the exchange of death and survival information with death registration system and the National Organization for Civil Registration
	RI-G3S2P4	Developing the document for Clinical Based Cancer Registration (CBCR)
Strategy 3 (RI-G3S3) Standardize the review and application of rules related to financial, insurance and clinical guidelines	RI-G3S3P1	Develop a document for reviewing and applying rules related to financial and insurance guidelines and support packages for cancer patients
	RI-G3S3P2	Develop a document for reviewing and applying rules related to cancer-related standards and guidelines
Strategy 4 (RI-G3S4) Standardize the exploitation of cancer information	RI-G3S4P1	Developing protocols for accessing and using cancer registry data
Goal 4 (RI-G4): Having reliable and comprehensive cancer information		
Strategy 1 (RI-G4S1) Actively collect information from various cancer information sources	RI-G4S1P1	Collection and Adjustment of Population Based Cancer Registration (PBCR) Information
	RI-G4S1P2	Collection and Adjustment of Clinical Based Cancer Registration (CBCR) Information
Strategy 2 (RI-G4S2) Direct information recording in the Cancer Information Registration System (CIMA)	RI-G4S2P1	Direct recording of structured pathology reports
	RI-G4S2P2	Direct recording of cancer early detection information
	RI-G4S2P3	Direct recording of Clinical Based Cancer Registration (CBCR)
Strategy 3 (RI-G4S3) Gather information through communication with other systems	RI-G4S3P1	Exchange and receive unstructured pathology reports from laboratory information systems (LIS)
	RI-G4S3P2	Exchange and receive structured pathology reports from laboratory information systems (LIS)
	RI-G4S3P3	Exchange and receive information on death and disease survival from death registration systems and the National Organization for Civil Registration
	RI-G4S3P4	Exchange and Receive Clinical Based Cancer Registration (CBCR) from Hospital Information Systems (HIS), Private offices, Clinics and Insurance Organizations

[1] The letters RI are the initials of the words Registry and Information, which are used to indicate the goals, strategies and programs of this section.

Diseases were all structures that participated directly in this program and on the other hand, the World Health Organization recommended considering a structure separate from other non-communicable diseases for the management of cancer. Therefore, there needed to be a directing unit to coordinate matters related to these structures and unify them. Due to the separation of health and treatment deputies in the Ministry of Health, there were many chal-

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Table 6. Continued

Goal 5 (RI-G5): Use information systems to manage cancer programs		
Strategy 1 (RI-G5S1) Manage financial support programs for cancer patients	RI-G5S1P1	Managing financial support for cancer patients based on the exchange of financial and insurance information from hospital information systems (HIS), private offices, clinics, insurance companies and non-governmental organizations and charities
Strategy 2 (RI-G5S2) Management of national standards and clinical guidelines	RI-G5S2P1	Managing national standards and clinical guidelines based on direct registration or exchange of Clinical Based Cancer Registration (CBCR) from hospital information systems (HIS), private offices, clinics and insurance companies
Goal 6 (RI-G6): Improve access to cancer information		
Strategy 1 (RI-G6S1) Facilitate communication between cancer management and service providers, patients and the public	RI-G6S1P1	Launching the website of the National Cancer Control Secretariat (Cancer Department)
Strategy 2 (RI-G6S2) Access to aggregate cancer information	RI-G6S2P1	Launching and providing access to the basic and essential aggregate cancer information dashboard
	RI-G6S2P2	Launching and providing access to the Cancer Spatial Information Dashboard, including infrastructure, equipment, service centers, support and charity centers, research centers and human resources in all aspects of the national program
Strategy 3 (RI-G6S3) Access to personal cancer information	RI-G6S3P1	Provide access to personal cancer information based on the submission of approved research projects with an ethical code

Table 7. Summary of Goals, Strategies, Programs, and Performance indicators related to "Participation of NGOs, charities, and private sector" (N)[1]

Performance Indicators	• Creating a network of NGOs and cancer charities • Number of non-governmental, private and charitable centers and institutions providing supportive and palliative care • Number of contracts implemented by non-governmental organizations regarding the construction, equipment and exploiting all types of cancer centers to the total number of new cancer centers • Number of joint campaigns and training programs with non-governmental, private and charitable organizations and institutions • Number of non-governmental, private and charitable centers and institutions participating in the National Cancer Early Detection Program

Goal 1 (N-G1): Increase the capacity, empowerment and avoidance of parallel work of non-governmental organizations and charities in the field of cancer		
Strategy 1 (N-G1S1) Creating synergies and defining common national goals	N-G1S1P1	Forming a network of non-governmental organizations and cancer charities
Goal 2 (N-G2): Increasing the participation of NGOs, private sector and charities in cancer control programs		
Strategy 1 (N-G2S1) Encouraging the contribution of NGOs, private sector and charities	N-G2S1P1	Determining the role and position of NGOs, private sectors and charities in cancer control programs and encouraging their contribution
Goal 3 (N-G3): Increasing the participation of NGOs, private sector and charities in cancer care programs		
Strategy 1 (N-G3S1) Encouraging the contribution of NGOs, private sector and charities	N-G3S1P1	Determining the role and position of NGOs, private sectors and charities in cancer care programs and encouraging their contribution

[1] The letter **N** is the first letter of the word **NGO**, which is used to indicate the goals, strategies and programs of this section.

lenges to managing conflict of interest in this area. After some follow-ups, the structure of the Cancer Department was finally upgraded organizationally, the National Cancer Control Secretariat was established, and directing the IrNCCP was entrusted to this unit. Nevertheless, the deputy of therapeutic affairs did not cooperate with the secretariat, which became a challenge to advance cancer control programs. This issue needs to be resolved so that the official structure under the name of the Cancer Department is responsible for leading the program as well as coordinating with other departments inside and outside the Ministry of Health.

Management changes in the steering team: Strategic planning is a long-term process that requires a consolidated steering team during planning and even implementation. Unfortunately, in Iran, the management period is very short, which makes the sustainability of programs difficult, and this is more important for health programs that require long-term planning. This problem happened in the process of developing the IrNCCP.

In designing this program, every effort was made to prepare a comprehensive program. However, due to the mentioned challenges and the fact that continuous improvement is essential in any planning process, after a few years of implementing the program, it was decided to update it, taking into account the following:

Designing an evaluation framework for the program: For each component, performance indicators, as well as the expected output of each program, were determined. However, considering guidelines (19) and internal necessities, there is a need to design a comprehensive assessment framework for the whole program and evaluate its progress, which is ongoing.

Updating the previous estimates: As mentioned, there was a lack of data in the assessments of the current situation, especially in the available resources and facilities, as well as in the cancer registration system, and this data was the basis for the program's estimates. Now, a few years after the implementation of this program and the completion of the information, it is necessary to review the current situation with more complete data and, if there are major changes, to update the estimates based on these numbers.

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Table 8. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer Prevention" (P)[1]

Performance Indicators	• Availability of the spatial program for evaluating cancer risk factors based on common cancers of each province • Prevalence of tobacco consumption • Number of campaigns held to inform and educate the public about cancer prevention • Prevalence of inadequate physical activity • Number of health centers and bases where public education packages are taught • Prevalence of alcohol consumption • Percentage of anti-HPV vaccination coverage relative to the total target population of the program • Average percentage of sodium consumption • Prevalence of weight gain and obesity

Goal 1 (P-G1): Identifying national and regional priorities in the field of cancer prevention		
Strategy 1 (P-G1S1) Needs assessment for national and regional interventions based on cancer type and associated risk factors	P-G1S1P1	Develop a general policy for the development of cancer prevention in Iran at the national and provincial levels
Goal 2 (P-G2): Promoting public health in the field of cancer prevention		
Strategy 1 (P-G2S1) Self-care education and public health promotion in the field of cancer prevention based on national programs	P-G2S1P1	Raising public awareness at the community level based on national programs (including for people and policymakers)
	P-G2S1P2	Promoting public awareness at work environment level based on national programs
	P-G2S1P3	Promoting public awareness at school level based on national programs
Strategy 2 (P-G2S2) Self-care education and public health promotion in the field of cancer prevention based on regional priorities	P-G2S2P1	Promoting public awareness at society level based on regional priorities (including for people and policymakers)
	P-G2S2P2	Promoting public awareness at work environment level based on regional priorities
	P-G2S2P3	Promoting public awareness at school level based on regional priorities
Goal 3 (P-G3): Promoting individual health		
Strategy 1 (P-G3S1) Individual-centered interventions based on national programs	P-G3S1P1	Increasing personal Knowledge, Attitude, and Practice (KAP) at public health network level based on national programs
	P-G3S1P2	Managing common non-communicable risk factors (NCD) at public health network level based on national programs
	P-G3S1P3	Managing cancer-specific risk factors at public health network level based on national programs (with a focus on HBV ،HCV and HPV)
	P-G3S1P4	Managing cancer-specific risk factors at work environment level based on national programs (including asbestos)
Strategy 2 (P-G3S2) Individual-centered interventions based on regional priorities	P-G3S2P1	Increasing personal Knowledge, Attitude, and Practice (KAP) at public health network level based on regional priorities
	P-G3S2P2	Managing cancer-specific risk factors at public health network level based on regional priorities (including helicobacter pylori)
	P-G3S2P3	Managing cancer-specific risk factors at work environment level based on regional priorities
Gola 4 (P-G4): Decreasing the burden of cancer risk factors		
Strategy 1 (P-G4S1) Determining the framework for promotion of inter-sectoral collaboration	P-G4S1P1	Preparation and implementation of a comprehensive document for promotion of inter-sectoral collaboration to decrease burden of cancer risk factors
Strategy 2 (P-G4S2) Extending the inter-sectoral collaboration to control tobacco use	P-G4S2P1	Implementation of Framework Convention on Tobacco Control (FCTC)
Strategy 3 (P-G4S3) Extending the inter-sectoral collaboration to improve nutrition	P-G4S3P1	Implementation of the Iran sixth development program about quality of food production especially the percentage of saturated fats, salt, sugar, food additives and packaging methods
Strategy 4 (P-G4S4) Extending the inter-sectoral collaboration to improve physical activity	P-G4S4P1	Improving physical activity in the society
Strategy 5 (P-G4S5) Extending the inter-sectoral collaboration to control occupational and environmental risk factors	P-G4S5P1	Management of exposures to occupational and environmental risk factors
Strategy 6 (P-G4S6) Extending the inter-sectoral collaboration to control infectious risk factors	P-G4S6P1	Management of exposures to infectious risk factors
Strategy 7 (P-G4S7) Extending the inter-sectoral collaboration to control risk factors based on regional priorities	P-G4S7P1	Control risk factors based on regional priorities

[1]. The letter P is the first letter of the word Prevention, which is used to indicate the goals, strategies and programs of this section

Adding a component for childhood cancers: The IrN-CCP is a complete program that pays attention to all types

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Table 9. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer Early Detection" (E)[1]

Performance Indicators	• Availability of clinical practice guidelines as well as protocols for managing early detection services for Breast cancer • Proportion of people evaluated in level 2 to all the people in need of evaluation in the early detection program for Colorectal cancer • Availability of clinical practice guidelines as well as protocols for managing early detection services for Cervical cancer • Average time between level 1 and 2 evaluations for those in need of referral in the Breast cancer early detection program • Availability of clinical practice guidelines as well as protocols for managing early detection services for Colorectal cancer • Average time between level 1 and 2 evaluations for those in need of referral in the Cervical cancer early detection program • Proportion of women 30-69 years old who have been evaluated at least once in the Breast cancer early detection program in the healthcare network • Average time between level 1 and 2 evaluations for those in need of referral in the Colorectal cancer early detection program • Proportion of women 30-49 years old who have been evaluated at least once in the Cervical cancer early detection program in the healthcare network • Proportion of patients affected with Breast cancer identified in the framework of national Breast cancer early detection program to all newly diagnosed breast cancer cases in each year • Proportion of men and women 50-69 years old who have been evaluated at least once in the Breast cancer early detection program in the healthcare network • Proportion of patients affected with Cervical cancer identified in the framework of national Cervical cancer early detection program to all newly diagnosed Cervical cancer cases in each year • Proportion of people evaluated in level 2 to all the people in need of evaluation in the early detection program for Breast cancer • Proportion of patients affected with Colorectal cancer identified in the framework of national Colorectal cancer early detection program to all newly diagnosed Colorectal cancer cases in each year • Proportion of people evaluated in level 2 to all the people in need of evaluation in the early detection program for Cervical cancer

Goal 1 (E-G1): Identifying national and regional priorities for early detection of cancer		
Strategy 1 (E-G1S1) Needs assessment for national and regional interventions based on the type of intervenable cancers for early detection	E-G1S1P1	Develop a general policy for the development of early detection of cancer in Iran at the national and provincial levels
Goal 2 (E-G2): Promoting public health in the field of cancer early detection		
Strategy 1 (E-G2S1) Self-care education and public health promotion in the field of cancer early detection	E-G2S1P1	Raising public awareness at the community level (including for people and policymakers) on early detection of cancer
	E-G2S1P2	Raising public awareness at workplaces about early detection of cancer
	E-G2S1P3	Raising public awareness at schools about early detection of cancer
Goal 3 (E-G3): Improving the standards of cancer early detection services		
Strategy 1 (E-G3S1) Standardization of prescribing cancer early detection services	E-G3S1P1	Develop the clinical practice guideline for prescribing Breast cancer early detection services
	E-G3S1P2	Develop the clinical practice guideline for prescribing Cervical cancer early detection services
	E-G3S1P3	Develop the clinical practice guideline for prescribing Colorectal cancer early detection services
	E-G3S1P4	Develop the clinical practice guideline for prescribing cancer early detection services based on regional priorities
Strategy 2 (E-G3S2) Standardization of the process of cancer early detection services	E-G3S2P1	Develop the protocol for managing services related to Breast cancer early detection
	E-G3S2P2	Develop the protocol for managing services related to Cervical cancer early detection
	E-G3S2P3	Develop the protocol for managing services related to Colorectal cancer early detection
	E-G3S2P4	Develop the protocol for managing cancer services based on regional priorities
Strategy 3 (E-G3S3) Standardize the monitoring and evaluation process for cancer early detection services	E-G3S3P1	Develop audit and quality assurance protocols for cancer early detection services
	E-G3S3P2	Develop protocols for monitoring and accreditation of cancer early detection centers
Goal 4 (E-G4): Expanding cancer prevention and early detection in the country		
Strategy 1 (E-G4S1) Personal self-care education and health promotion in the field of cancer early detection	E-G4S1P1	Increase personal Knowledge, Attitude, and Practice (KAP) inside and outside the healthcare network in the field of cancer early detection
Strategy 2 (E-G4S2) Step-by-step development of cancer early detection programs at the healthcare network level	E-G4S2P1	Implementation of Breast cancer early detection program at the level of healthcare network
	E-G4S2P2	Implementation of Cervical cancer early detection program at the level of healthcare network
	E-G4S2P3	Implementation of Colorectal cancer early detection program at the level of healthcare network
Strategy 3 (E-G4S3) Development of cancer early detection programs outside the healthcare network	E-G4S3P1	Implementation of Breast cancer early detection program outside the health care network
	E-G4S3P2	Implementation of Cervical cancer early detection program outside the health care network
	E-G4S3P3	Implementation of Colorectal cancer early detection program outside the health care network
Strategy 4 (E-G4S4) Improving the quality of cancer early detection services in the country	E-G4S4P1	Implementation of the audit and quality assurance program for cancer early detection
	E-G4S4P2	Implementation of the protocols for monitoring and accreditation of cancer early detection centers

[1] The letter E is the first letter of the word Early Detection, which is used to indicate the goals, strategies and programs of this section

of cancer in different ages and genders. But in general, addressing this target group in cancer programs is one of the most important weaknesses of the world's cancer programs in high and middle-income countries (21). However, given that in the years following the development of this program, the World Health Organization published a new initiative (called GICC) to pay special attention to childhood cancers, revising the program and designing a specific component for childhood cancers is on the agenda.

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Table 10. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer Diagnosis and Treatment" (T)[1]

Performance Indicators	• Number of clinical practice guidelines developed for cancers to the whole target cancer group • Availability of the protocol for auditing and quality assurance of chemotherapy services • Number of clinical practice guidelines developed for expensive or new anticancer drugs to all target drugs • Availability of protocols for auditing and quality assurance of radiotherapy services • Availability of the protocol for managing chemotherapy services • Number of clinical practice guidelines for costly or new anticancer drugs that have been implemented to all developed clinical guidelines • Availability of the protocol for managing radiotherapy services • Number of centers where protocols for auditing and quality assurance of radiotherapy services have been implemented to all cancer centers with radiotherapy equipment • Availability of the protocol for managing multidisciplinary counseling services in the field of cancer	
Goal 1 (T-G1): Identify national and regional priorities in the field of cancer diagnosis and treatment		
Strategy 1 (T-G1S1) Needs assessment of national and regional interventions based on the type of cancers requiring specific interventions for diagnostic and therapeutic services	T-G1S1P1	Develop a general policy for the development of cancer diagnosis and treatment in Iran at the national and provincial levels
Goal 2 (T-G2): Increase public awareness and participation in the field of diagnosis and treatment of cancer		
Strategy 1 (T-G2S1) Self-care education and public health promotion in the field of cancer diagnosis and treatment	T-G2S1P1	Increase public awareness at the community level (including for people and policymakers) about cancer diagnosis and treatment
Goal 3 (T-G3): Improving the standards of cancer diagnosis and treatment services		
Strategy 1 (T-G3S1) Standardization of prescribing cancer diagnosis and treatment services	T-G3S1P1	Develop national clinical guidelines for prescribing services for the diagnosis and treatment of common cancers
	T-G3S1P2	Develop national clinical guidelines for radiotherapy services in 3D, IMRT, VMAT, Stereotactic radiotherapy, Particle therapy, Brachytherapy and Radiopharmaceuticals
	T-G3S1P3	Develop national clinical guidelines for prescribing commonly used and specific drugs
Strategy 2 (T-G3S2) Standardize the process of cancer diagnosis and treatment services	T-G3S2P1	Develop the protocol for managing chemotherapy services
	T-G3S2P2	Develop the protocol for managing radiotherapy services in 3D, IMRT, VMAT, Stereotactic radiotherapy, Particle therapy, Brachytherapy and Radiopharmaceuticals
	T-G3S2P3	Develop the protocol for managing cancer surgery services
	T-G3S2P4	Develop the protocol for managing pathology services related to cancer
	T-G3S2P5	Develop the protocol for managing radiology services related to cancer
	T-G3S2P6	Develop the protocol for managing nuclear medicine services related to cancer
	T-G3S2P7	Develop the protocol for managing multidisciplinary counseling services in the field of cancer
	T-G3S2P8	Develop the protocol for managing telemedicine services in the field of cancer
Strategy 3 (T-G3S3) Standardize the monitoring and evaluation process for cancer diagnosis and treatment services	T-G3S3P1	Develop audit and quality assurance protocols for chemotherapy services
	T-G3S3P2	Develop audit and quality assurance protocols for radiotherapy services in 3D, IMRT, VMAT, Stereotactic radiotherapy, Particle therapy, Brachytherapy and Radiopharmaceuticals
	T-G3S3P3	Develop audit and quality assurance protocols for cancer surgery services
	T-G3S3P4	Develop audit and quality assurance protocols for pathology services related to cancer
	T-G3S3P5	Develop audit and quality assurance protocols for radiology services related to cancer
	T-G3S3P6	Develop audit and quality assurance protocols for nuclear medicine services related to cancer
	T-G3S3P7	Develop the protocol for monitoring and accreditation of cancer diagnosis and treatment centers

Conclusion

The IrNCCP, which has been developed with a strategic planning approach, is very comprehensive, pays attention to all the required dimensions, and can be used as a model for planning other health interventions in Iran as well as countries in a similar situation. Considering scientific evidence for decision-making, cross-sectoral cooperation and stakeholder participation are among the highlights of this program. However, this program, like other programs, needs strengthening in its governance structure. Stabilization and strengthening of the official directing structure in all health interventions, especially interventions with long-term health consequences, lead to the full implementation of the interventions and at the same time the sustainability of resources and, consequently, achieving the expected health outcomes of the program. It is suggested that due to the long implementation period of this program, its directing structure be strengthened so that its implementation process is not disrupted. Also, since assessing the progress of the program is one of the main pillars of planning, it is suggested that evaluating the progress and achievements of short-term and long-term goals and their health consequences are carried out by the mentioned governance structure and the program get modified and improved during the implementation process taking into account the assessment results. Given that having databases for cancer control planning and extracting the achievements and results is one of the main pillars of the program, the creation, and integration of databases related to planning and monitoring the progress of designed interventions is another important aspect that is suggested to be strongly considered by the relevant official directing structure.

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Table 10. Continued

Goal 4 (T-G4): Expanding quality cancer diagnosis and treatment services in the country		
Strategy 1 (T-G4S1) Self-care education and promotion of personal health in the field of cancer diagnosis and treatment	T-G4S1P1	Increase personal Knowledge, Attitude, and Practice (KAP) inside and outside the healthcare network in the field of cancer diagnosis and treatment
Strategy 2 (T-G4S2) Expanding quality cancer diagnosis and treatment programs in the country	T-G4S2P1	Implementation of national clinical guidelines for cancer diagnosis and treatment
	T-G4S2P2	Implementation of national clinical guidelines for prescribing commonly used and specific drugs
	T-G4S2P3	Implementation of national clinical guidelines for radiotherapy services in 3D, IMRT, VMAT, Stereotactic radiotherapy, Particle therapy, Brachytherapy and Radiopharmaceuticals
	T-G4S2P4	Implementation of the protocols for managing cancer diagnosis and treatment services
	T-G4S2P5	Implementation of the protocols for multidisciplinary counseling in the field of cancer
	T-G4S2P6	Implementation of the protocols for managing telemedicine services in the field of cancer
Strategy 3 (T-G4S3) Improving the quality of cancer diagnosis and treatment services in the country	T-G4S3P1	Implementation of audit and quality assurance protocols related to cancer diagnosis and treatment services
	T-G4S3P1	Implementation of monitoring and accreditation protocols for cancer diagnosis and treatment centers

[1] The letter T is the first letter of the word Treatment, which is used to indicate the goals, strategies and programs of this section.

Table 11. Summary of Goals, Strategies, Programs, and Performance indicators related to "Cancer Supportive and Palliative care" (SP)[1]

Performance Indicators

- Availability of clinical practice guidelines as well as the protocol for managing services of at-home supportive and palliative care
- Availability of end-of-life supportive and palliative care clinical practice guidelines
- Availability of clinical practice guidelines as well as the protocol for managing services of outpatient supportive and palliative care
- Number of cancer centers providing at-home supportive and palliative care to all cancer centers
- Availability of clinical practice guidelines as well as the protocol for managing services of inpatient supportive and palliative care
- Number of cancer centers providing outpatient supportive and palliative care to all cancer centers

Goal 1 (SP-G1): Identify national and regional priorities for cancer supportive and palliative care		
Strategy 1 (SP-G1S1) Needs assessment of appropriate national and regional interventions for cancer supportive and palliative care	SP-G1S1P1	Develop a general policy for the development of cancer supportive and palliative care in Iran at the national and provincial levels
Goal 2 (SP-G2): Increase public awareness and participation in cancer supportive and palliative care		
Strategy 2 (SP-G2S1) Self-care education and public health promotion in the field of cancer supportive and palliative care	SP-G2S1P1	Raising public awareness at the community level (including for people and policymakers) about cancer supportive care and palliative care
Goal 3 (SP-G3): Improving the standard of cancer supportive and palliative care		
Strategy 1 (SP-G3S1) Standardization of prescribing supportive and palliative care for cancer	SP-G3S1P1	Develop the clinical practice guideline for prescribing supportive and palliative care at home
	SP-G3S1P2	Develop the clinical practice guideline for prescribing outpatient supportive and palliative care
	SP-G3S1P3	Develop the clinical practice guideline for prescribing inpatient supportive and palliative care
	SP-G3S1P4	Develop the clinical practice guideline for end-of-life supportive and palliative care
Strategy 2 (SP-G3S2) Standardize the process of cancer supportive and palliative care services	SP-G3S2P1	Develop the protocol for managing at-home supportive and palliative care services
	SP-G3S2P2	Develop the protocol for managing outpatient supportive and palliative care services
	SP-G3S2P3	Develop the protocol for managing inpatient supportive and palliative care services
Strategy 3 (SP-G3S3) Standardize the monitoring and evaluation process for cancer supportive and palliative care	SP-G3S3P1	Develop the audit and quality assurance protocol for cancer supportive and palliative care services
	SP-G3S3P2	Develop the protocol for monitoring and accreditation of cancer supportive and palliative care centers
Goal 4 (SP-G4): Expanding cancer supportive and palliative care services in the country		
Strategy 1 (SP-G4S1) Self-care education and personal health promotion in the field of cancer supportive and palliative care	SP-G4S1P1	Increase personal Knowledge, Attitude, and Practice (KAP) inside and outside the healthcare network in the field of cancer supportive and palliative care
Strategy 2 (SP-G4S2) Development of cancer supportive and palliative care program at the level of health care network	SP-G4S2P1	Implementation of at-home cancer supportive and palliative care program at the level of health care network
	SP-G4S2P2	Implementation of outpatient cancer supportive and palliative care program at the level of health care network
Strategy 3 (SP-G4S3) Development of cancer supportive and palliative care programs outside the health care network	SP-G4S3P1	Implementation of at-home cancer supportive and palliative care program outside the health care network
	SP-G4S3P2	Implementation of outpatient cancer supportive and palliative care program outside the health care network
Strategy 4 (SP-G4S4) Improving the quality of cancer supportive and palliative care in the country	SP-G4S4P1	Implementation of the audit and quality assurance protocols for cancer supportive and palliative care
	SP-G4S4P2	Implementation of monitoring and accreditation protocols for cancer supportive and palliative care centers

[1] The letter SP is the first letters of the words Supportive and Palliative, which is used to indicate the goals, strategies and programs of this section.

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Conflict of Interests

The authors declare that they have no competing interests.

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