REPUB OF TURKEY
MINISTRY OF HEALTH
DEPARTMENT OF CANCER CONTROL

NATIONAL CANCER PROGRAM

2009-2015

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NATIONAL CANCER CONTROL PROGRAM

In the recent years cancer is on track of becoming the most important public health problem in Turkey, as well as in the rest of the world.

The Ministry cooperates with numerous national and international institutions and agencies in the fight against cancer. The Ministry has put together the National Cancer Control Program in cooperation with the following international organizations:

1. WHO (World Health Organization),
2. IARC (International Agency for Research on Cancer),
3. IACR (International Association for Cancer Registry),
4. UICC (International Union Against Cancer),
5. NCI (National Cancer Institute),
6. APOCP (Asian Pacific Organization for Cancer Prevention),
7. MECC (Middle East Cancer Consortium),
8. NHS (National Health Service)

Cancer Control Program:

A look at developed and less-developing countries reveals that cancer incidence rates and profiles differ among groups of countries. In developed countries lung and prostate cancers in men and breast and colorectal cancers in women are observed more frequently; while in less developed countries lung, stomach and liver cancers in men and breast and cervical cancers in women are more common.

In Turkey, cancers of lung, bladder and stomach are more prevalent in the male population, whereas breast cancer and colorectal cancers are more frequent in the female population. The most significant difference of Turkey from developed countries is the higher number of cancers caused by tobacco. In Turkey, incidence of lung cancer is 63%, and incidence of the cancer of the larynx is 10%, whereas the same incidences in the European Union are 55% and 8% respectively.

It is known that cancer incidence increases annually by 6% because of the tobacco problem. For men, the cancer incidence rate of 165.8/100,000 for years 1993-1998 have increased to 216.3/100,000 by year 2003. For women, the cancer incidence rate has increased from 97.3 to 152.2 in the same decade.

The Department, first of all, is focused on the programs for the prevention and screening of cancer. For this purpose, a “National Cancer Control Program” has been organized in coordination with non-governmental organizations and universities. Additionally, breast and cervical cancer screening programs are being carried out throughout the country; and from 2009 onwards also colorectal cancers have been added to the screening framework.

Another significant problem is the environmental factors. Especially mesothelioma is the most important environmental problem, and Turkey has a “National Mesothelioma Control Program” up and running.

The most important problem concerning Turkish children is passive smoking, in other words, environmental tobacco smoking. Unfortunately, every third child below 10 years old is a passive smoker.

Epidemiological studies are being carried out in various parts of Turkey regarding cancers caused by environmental factors.

A major cause of cancer development is environmental factors. That is why meticulous studies have been carried out in the recent years in regions of Turkey where there is a potential of increased cancer risk. In the **Black Sea Region**, a four-component study has been carried out in order to research the effects of the radiation caused by the accident at Chernobyl Nuclear Plant happened in 1986. According to these studies:

1. In the Black Sea region, **cancer incidence rate is 1.85%**, whereas in the control group in Isparta Eğirdir, **cancer incidence has been found 1.85%.** No difference in cancer incidence has been determined between the Black Sea Region and the control group, Isparta. **Whereas the perceived "presence of cancer" reaches to 90% in the statements of headmen, survey results revealed a ratio reaching to 90% "lack of cancer". Furthermore, no difference concerning cancer has been observed in the survey of the households migrating from Trabzon.**
2. Cancer does not exhibit an increase or distribution in the Black Sea Region, compared to other regions.
3. The impact of ionizing radiation have been studied comparatively in the cancer patients from Black Sea Region and their relatives, through cytogenetic methods taking blood samples from patients and three healthy relatives. **At the end of this study, no radiation-specific special evidence had been found.**
4. The development of cancers related with radiation, as well as the effects of radiation which can be demonstrated have been examined for Thyroid cancers. **The results of this study, also, did not indicate a difference between the Black Sea Region and the control regions.**

These research results reveal that there is no increase in cancers in the region due to Chernobyl, while the citizens are over-sensitive on this issue.

According to the results of the epidemiological research we have carried out in **Kocaeli Dilovası area, deaths caused by cancer** have surpassed those caused by cardio-vascular diseases, becoming the leading cause of death; daily measurement of **SO_2 and smoke** values have been initiated at 6 (six) different locations by Kocaeli Province Health Directorate, which contacted necessary authorities expressing the importance of cooperation for the solution of the problem.

Mesothelioma, a rare lung and peritoneal cancer globally, is 4,000 times more prevalent in the town of Tuzköy in Nevşehir province, Gülşehir County, compared to the rest of the world. This has led to the decision to relocate the town within the framework of the project formulated after year 2000 for the solution of the problem laid down in scientific studies carried out in the region since 1970.

As of now, the construction of houses has been completed, and the move from the old houses to the new settlement has been carried out. The rehabilitation of the old settlements shall be commenced.

A distinct mineral fiber called “erionite”, which is found only in the Cappadocia region in Turkey, is suspected in the development of mesothelioma. Hence a study is underway to determine whether there is a genetic interaction with exposure to erionite for the development of mesothelioma cases observed in individuals inhabiting Sarıhırdır, Karain and Tuzköy. The data gathered at the end of the study will make it possible to pre-determine the high risk group, determine target-oriented screening methods for early diagnosis, research new ways of protection from disease, and develop new methods of treatment.

Afşin-Elbistan Fossil Fuel Power Plant has commenced energy generation in the year 1984, and studies in the region on the negative effect of the power plant on the environment are underway. The chimney rehabilitation of the power plant has been completed.

There are also health problems experienced around the **Muğla Yatağan Fossil Fuel Power Plant**. Cooperation for minimizing problems continues.

The final draft of the Regulation concerning **electromagnetic fields** to be issued within the process of harmonization with the EU has been prepared by the Department, and it shall be issued in 2009.

In order to discuss the **radiation safety of medical diagnosis devices**, a meeting took place in the Department with members of TAEK, Radiology Association, General Directorate of Treatment Services, General Directorate of Primary Health Care Services, and Cancer Advisory Board. In this meeting, the shared view that there is no harm in use of radiation emitting medical diagnosis devices for diagnosis, provided that proper indication is provided and the doctor approves the use, has been emphasized; and views and recommendations supporting public’s sensitivity on health has been accepted in principle.

The Project for Early Warning, Recording, Monitoring, Analysis, and Education in Determining the Incidence of the Sub-Groups of Human Papilloma Virus (HPV), an Agent Related with Cervical Cancer, in Turkish Society:

There is not sufficient data concerning the HPV level and types in Turkish women. Hence, within the framework of the project aiming to determine the Human Papillomavirus (HPV) frequency and genotype variety, planning has been completed and work has commenced to determine HPV DNA in paraffin block and/or dissections obtained from pathology material belonging to 1500 patients diagnosed with invasive cervical cancer as of year 2000, to be received from Pathology Laboratories of the Ministry of Health’s Training and Research Hospitals, as well as 3500 liquid based cervical smear samples to be taken from women who apply to Centers for Early Diagnosis and Screening of Cancer, and to determine HPV DNA type in positive samples.

National Cancer Institute:

The regulatory impact analysis for the establishment of the National Cancer Institute is being carried out by TEPAV (Economic Policy Research Foundation of Turkey). It is intended that the law on the establishment of the National Cancer Institute should enter into force by 2010 at latest. Within the same context, the efforts for the reorganization of

the national cancer control program are going on with the technical assistance of WHO. The results shall be shared with the public at a press meeting to be held in April 28th.

Various Project Activities:

"Nutrition and Cancer" project with Başkent University in the counties of Eskişehir and Ankara, "Pharmaco-genomic Study of Stomach Cancer Genetics in Turkish Society" project with TÜBİTAK Marmara Research Center Molecular Biology Unit officials, a project to study the relationship between regional cancers and the carcinogens present in drinking water springs in Turkey with TÜBİTAK Marmara Research Center, a 3 year long project named "Hand in Hand against Cancer" "Improvement of Cancer Registries and Defending Patients" with Hope in Health Foundation and 18 separate non governmental organizations established by cancer patients and relatives of patients are being carried out.

Trainings

The standards for in-service training has been established in order to provide cancer control with the utmost quality and with a service philosophy worthy of man; in the last six years 84 health personnel have participated in the training for Self-Examination of the Breast (KKMM – Kendi Kendine Memem Muayenesi), 85 in the KETEM training, 800 in the Cancer Registry Training, 50 in the Tobacco Control Course, 268 in the Cytology and Colposcopy Course, 235 in the Course on Reproduction Health and Screening of Cervical Cancer; whereas the National Cancel Control Program Workshop has been organized with the 176 scientists who are experts on their respective fields.

Cancer Screening Services;

Cancer Early Diagnosis and Screening Centers (KETEM – Kanser Erken Teşhis, Tarama ve Eğitim Merkezleri) have been established in order to execute population based screening programs for cancers recommended by the WHO for screening. Population-based screening activities in Turkey have commenced with the KETEM project executed within the framework of the Ministry of Health and European Union MEDA (Mediterranean Development and Aid Programme) program. Under this project, 11 Centers have been established. By the end of the year 2008, the Ministry has established on its own, 84 centers in 81 provinces.

The duties of KETEMs (Cancer Early Diagnosis Screening and Training Centers) are; to organize trainings aiming to inform the health personnel and the public on the issue of cancer and to raise awareness, to provide diagnosis in early stages through population based screening programs (on breast, cervical (cervix uteri), colorectal cancers etc.) on identified risk groups in line with established screening standards, to refer the patients diagnosed with cancer to treatment centers with necessary medical guidance, to carry out patient follow-up and evaluations, and to provide as much as possible social, psychological and medical support.

- "National Standards for Breast Cancer Screening in Women" have been published on 20th July 2004.
- "National Cervical Cancer Screening Standards" have been published on 29th May 2007.

- "National Colorectal Cancer Screening Standards" have been published on 25th March 2009.
- Screening services are provided free of charge to those individuals who do not possess necessary financial means.
- Pilot screening for skin cancer are being carried out in Adana and Antalya KETEMs.
- In the year 2008 955,214 cervical smear test have been carried out in Turkey. 108,039 of these, in other words 11.3% of all smear tests have been carried out by KETEMs.
- In the year 2008 938,779 mammographies have been carried out in Turkey. 109,665 of these, in other words 11,6% of all mammographies have been carried by KETEMs.
- It is planned to have 280 KETEMs by the year 2015.
- It is planned to screen 70% of the society before 2011.

Standard Services of KETEM;

- Trainings to raise awareness
- Breast Cancer Screening
- Cervical Cancer Screening
- Colorectal Cancer Screening

Standard Staff of KETEM;

- 1 responsible physician
- At least 1 practitioner physician
- At least 1 nurse
- At least 1 midwife
- At least 1 x-ray technician
- 1 Obstetrician and Gynecologist (Consultant)
- 1 Radiologist (Consultant)
- 1 Pathologist (Consultant)
- 1 General Surgeon (Consultant)

Standard Technical Equipment of KETEM;

- 1 Mammography and processing device
- 1 USG

- 1 Microscope
- 1 Colposcope
- 1 Desktop Computer
- 1 Laptop Computer
- 1 Projector
- 1 Breast Model
- Xerox Machine

NATIONAL CANCER SCREENING STANDARDS

Breast Cancer

- On every second year two mammographies, one mediolateral oblique, the other craniocaudal, shall be carried out for every woman between ages 50-69.
- Mammographies should be examined independently by two separate radiologists.
- Although the determining screening method is the mammography, every woman participating in the screening shall be examined by a physician.

Cervical Cancer

- Smear should be taken at least once from every woman between ages 35-40.
- Smears should be repeated with five year intervals.
- Screening should be ended for 65 year old women with negative results in the most recent two tests.
- Cytological follow-up of cases where total hysterectomy had been carried out for benign gynecological reasons is unnecessary.
- Screening should be ended for cases hysterectomized for CIN II/III, in the event of three documented technically adequate negative cytologies and the lack of abnormal/positive cytology in the previous 10 years.
- HIV-infected / immunosuppressive treated cases should be tested twice in the first year, and if negative should be tested annually.

Colorectal Cancers

- Annual Occult Blood Test (GGK – Gizli Kan Testi) in stool for every man and women between ages 50-70.
- Colonoscopy should be carried out once in every 10 years.
- GGK should be able to demonstrate quantitatively the presence of hemoglobin in the stool through the use of polyclonal or monoclonal antibodies, and the antigens to be used in tests should be sensitive only to human hemoglobin.

Cancer Registration System in Turkey

Cancer Registration is the start of “cancer control” activities. Once a database is set up, it becomes possible to study etiological or causal agents and to take appropriate measures to prevent cancers.

The history of cancer registration activities in Turkey has not been very long. Although the institutionalization of cancer control activities in Turkey began in 1940s, it would not be a mistake to state that the cancer registration efforts began with the inclusion of cancer cases within the diseases for which notification is compulsory as listed in General Hygiene Law no 1593, article 57 in 1982 according to the ministerial circular dated 14.09.1982 and numbered 5621. In the global picture, Hamburg Cancer Registry had been established in 1926 with official status being granted in 1929, becoming a fully operational population based cancer registry by 1937. Also the cancer registry in Slovenia publishes incidence, prevalence and survival rates for Slovenian population since 1950. As these examples show, cancer registration activities globally started in the early decades of 1900s in many developed countries.

With the introduction of compulsory notification of cancer, the “Cancer Control Department” had been established in 1983 by the Decree with the Force of Law no. 181, in order to execute cancer registration activities. One of the fundamental duties of the Cancer Control Department is to gather quality cancer registers in a reliable and accurate way.

In 1991, “İzmir Cancer Incidence and Data Gathering Project” (İKİP – İzmir Kanser İnsidansı ve Veri Toplama Projesi) had been commenced with a protocol signed by Ministry of Health of the Republic of Turkey, Turkish-American Health Research Center and the Ege University. KİDEM (Kanser İzlem ve Denetim Merkezi – Cancer Monitoring and Control Center), established within İzmir Health Directorate on 13th March 1993, had been tasked with the coordination of project activities. The objective of the project which took start with the establishment of hospital based cancer registries in some hospitals had been stated as registering, statistically monitoring and evaluating cancer cases within the borders of İzmir province from a single center, and the project moved on to establish the core of KİDEM.

On 30th December 1991 Ege University Cancer Control Implementation and Research Center (EÜKAM – Ege Üniversitesi Kanserle Savaş Uygulama ve Araştırma Merkezi) had been established for the execution of project activities. On 13th March 1993, İzmir Cancer Monitoring and Control Center (KİDEM - Kanser İzlem ve Denetim Merkezi) under Province Health Directorate had been established and the task of coordination of project activities had been assigned to this center. The organization, in time, turned into a population based cancer registry, starting to gather data from İzmir hospitals diagnosing cancer with a team which received cancer registry personnel training.

Yet the logic behind the establishment of population based cancer registries proved elusive within the existing health system, and for various reasons, cancer registries had been established in also 29 more provinces. The staff of such centers has received training. Whether the pioneering centers worked effectively or not, or how should the cancer registry system function in Turkey were not extensively considered and thought out during the establishment of these numerous centers. Such centers had been established sometimes on demand from provincial administrations, and sometimes by the will of the Department.

In year 2000, it was impossible to acquire accurate data from almost none of the 29 centers (except İzmir). In that year, cancer registry activities had been evaluated by the Department. It has been realized that the arrival of cancer registry forms on paper since year 1982 constituted a substantial burden for the Department, and the Department was unable to allocate time for other tasks. The migration to computerized environments in each and every provincial health directorate paved the way for the idea that the forms could be collected from provinces online. Trainings in year 2000 for staff from 81 provinces provided for the collection of forms by the Department on electronic media. Within the following year all the forms awaiting processing at the Department had been entered into the computers and from that date on, all cancer registry forms had been sent to the Department on electronic media.

Those years saw the establishment and commencement of activities of National Cancer Advisory Board. The following decisions regarding cancer registration system had been taken by the advisory board and the officials of the Department:

- 29 Centers did not work effectively,
- Only activities of İzmir Cancer Registry were successful and it was the single reliable source of data in Turkey,
- 29 centers were mostly redundant for cancer registration needs of Turkey,
- **"Active Cancer Registration System"** should be utilized in a lesser number of select centers according to the example of İzmir Cancer Registry, and a country projection should be prepared.
- Making use of existing centers, taking into account their capacities and activities,
- Meetings in the chosen provinces with, first of all, the Governor, and Provincial Health Director, University officials, Chiefs of Medicines, and Mayors; training them on the issue that active cancer registration system has been adopted, and the province in question is one of those centers,
- Initiation of a systematical personnel training program following the completion of personnel appointments for the provincial directorate cancer registry and hospitals.

In the light of all these considerations, 12 provinces, Edirne, Trabzon, Samsun, Erzurum, Eskişehir, Ankara, Antalya, İzmir, Kayseri, Şanlıurfa, Adana, and Bursa, have been incorporated for cancer registration activities. Recently provinces of Kocaeli (with Dilovası being the leading location for the cancer-caused death toll) and Van (representing the Eastern region) have also been included, and the number of provinces reached 14.

Among active Cancer Registries in Turkey, first **İzmir Cancer Registry** received membership in WHO/ IARC/IACR (World Health Organization / International Cancer Research Agency / International Association of Cancer Registries) in 1995, and in ENCR (European Network of Cancer Registries) in 1997 through its international publications. In year 2004, with the official membership of Turkey, it became involved with the United Cancer Registry Project executed within the framework of MECC (Middle East Cancer Consortium).

In year 2002, WHO IARC have made use of İzmir cancer registry data for Globocan, hence certifying the quality of data from that province.

In year 2002, very intensive works had been executed on Active Cancer Registration System. Trainings and meetings had been carried out in order to inform the administrative cadres of the provinces concerned. The appointments of cancer registration personnel had been made and their basic trainings, refreshment trainings 1 year after the basic training, and finally on-site training and inspection activities had been carried out, making it possible to execute works to identify and remedy hitches in provinces.

In year 2004, Turkey became an official member of the Middle East Cancer Consortium (MECC) with the signature of the Minister. Activities took a form of cooperation with MECC.

The officials of the National Cancer Advisory Board and the Department have reviewed the Active Cancer Registration System in year 2006. Through Cancer Epidemiology and Cancer Registration Advisory Sub-Committee decision of 05.01.2006, through the examination of the activities of the provinces within the framework of active cancer registration system, the provinces which are able to collect quality registrations with minor interventions were identified in order to make effective use of available resources and to obtain results within the shortest possible time frame, and it had been decided that the Department should publish data from these provinces. Trainings concerning these provinces were intensified after year 2006, and through the execution of a wide-ranging and intensive training program, such provinces had been inspected individually. These provinces are:

- ANKARA
- ANTALYA
- SAMSUN
- ERZURUM
- TRABZON
- İZMİR
- EDİRNE
- ESKİŞEHİR.

Such activities came to fruition and the data from **İzmir** and **Antalya** cancer registries were referred to in the book "**Cancer in Five Continents**". Data from Samsun and Trabzon provinces shall also reach a quality level worthy of a place in the said book within a few years.

Data in Turkey are currently being collected through active and passive systems.
Passive System; Cancer registration form filled out by physicians or other health professionals are sent to the Provincial Health Directorate and entered into the computer program. Provincial Health Directorate Cancer Registry sends quarterly the data entered into the computer program to the Cancer Control Department via electronic medium.

Active system; is the transcription of data obtained by cancer registry personnel via research on patient files to cancer registration forms in accordance with IARC and MECC standards.

Active Cancer Registration Activities Executed in Turkey;

The following work scheme had been applied in active registration activities executed in 14 provinces.

— Cancer Registries Regulation had been published in the Official Gazette dated 14.12.2000 and numbered 24260, in order to establish the legal infrastructure for Cancer Registries.
— Concerned health executives of each province had been informed at the outset. The information campaign had commenced at the level of governorship. The administration's support had been garnered on the issue.
— Population and hospital structures as well as other resources of each province had been assessed and cancer registration personnel needs had been identified.
— Standard Training programs had been formulated within the framework of IARC and MECC standards with the experience of İzmir cancer registry in mind.
— Cancer Registration Form to be utilized had been revised.
— The appointment of cancer registration personnel took place.
— Personnel trainings took place.
— Following 6 months or 1 year of field work by the staff, refreshment trainings took place.
— An inspection team had been organized and training and inspection activities took place for periodical inspections of centers beginning with year 2006. Hence the trained personnel had been visited in the field, their activities had been inspected, and on-to-one staff trainings had been carried out on the deficiencies observed.
— During the visits to provinces, also problems stemming from provincial administration or hospital administrations were tried to be identified and solved.
— Cancer data are confidential according to "Cancer Registries Regulation published in the Official Gazette dated 14.12.2000 and numbered 24260, and Cancer Registries Confidentiality Directive dated 24.01.2006 and numbered 60".
— The project "Ahead in the Fight Against Cancer" in cooperation with the Hope in Health Foundation had been initiated in year 2008, and it had been aimed to strengthen cancer registration in Samsun, Erzurum, İzmir, and Antalya provinces.

Trainings carried out within Active Cancer Registration System;

1- Basic Cancer Registration Trainings
- A total of 10 Cancer Registration Trainings were conducted.
- At each training, an average of 30 KKE (Kanser Kayıt Elemanı – Cancer Registry Personnel) had been trained.
- It is a 5-day training.
- 303 personnel had been trained.

2- SEER Abstract Staging Training
- A total of 4 SEER Abstract Staging Trainings took place.
- At each training, an average of 27 KKE had been trained.
- It is a 5-day training.
- 108 personnel had been trained.

3- CANREG-4 Computer Program
- Canreg-4 Computer Program Training is being given to computer users.
- It is a 5-day training.
- 51 personnel had been trained.

4- Quality Control Trainings
- Quality Control Trainings are provided to just Provincial Health Directorate personnel,
- Are 5-day trainings,

- With 17 personnel trained.

Data Collected via Active Cancer Registration System;

Demographical Data:

1. Name(s) –Name, Surname, Father's name
2. Address, Avenue and Town at the date of diagnosis
3. Birth place
4. National identity number
5. Age at diagnosis
6. Date of birth
7. Sex

Medical Data:

- Diagnosis date:
  1. Is used to determine incidence year and the survival period.
  2. Is the date on which the doctor had declared the patient as a cancer patient.
- Method of Diagnosis:
  1. Anatomical (topographical) location
  2. Histological (morphological) type
  3. Behavior
  4. Grade
  5. Laterality
  6. Tumor order
  7. Stage at diagnosis
- Treatment data:
  1. Surgery
  2. Radiotherapy
  3. Chemotherapy
  4. Hormone therapy
  5. Immunotherapy
  6. Other therapies
  7. Treatment date(s)
  8. The order of surgery and radiation

Data Sources in Active Cancer Registration System;

- Medical record keeping;
  - Hospitals
  - Clinics
  - Doctor's practices
  - Pathology laboratories
  - Radiation (oncology) therapy centers
- Medical record keeping:
  - Medical oncology centers
  - Hospices
  - Forensic centers

- Death certificates

Confidentiality in Active Cancer Registration System;

In the Right to Privacy and Confidentiality section of the European Charter of Patient Rights, Rome November 2002, it is stated that "Every individual has the right to the confidentiality of personal information, including information regarding his or her state of health and potential diagnostic or therapeutic procedures, as well as the protection of his or her privacy during the performance of diagnostic exams, specialist visits, and medical/surgical treatments in general."

According to article 5, paragraph (f) of the Patient's Rights Regulation put into force by the Ministry of Health, "confidentiality of the private and family life of the patient is sacrosanct, save for the cases allowed by law, and medical necessities."

In this perspective, Cancer Registries are responsible with the confidentiality of the collected data. This responsibility requires the regulation of legislation on the issue of the confidentiality of cancer registration records. For this purpose, the Ministry of Health, Department of Cancer Control had issued and put into effect the "**Cancer Registries Confidentiality Directive**" dated 24.01.2006 and numbered 60.

The purpose of this directive is to determine the rules to be observed in order to ensure the confidentiality of the data during the operation of Cancer Registries. The directive covers any kind of data collection, data evaluation, and opening of data for use within the framework of activities Cancer Registries.

Patient's rights to confidentiality extend to the post-mortem period. On the national level, the Ministry is responsible primarily for the data in the database, whereas on the provincial level, Provincial Directorates are responsible. All official correspondence on the issue shall be carried out by Health Directorates or persons authorized by them.

To ensure the application of the rules written in this directive, to solve the arising problems, to carry out periodical inspections are the responsibility of Health Directors or persons authorized by them. Every permanent or temporary personnel at centers sign a written notification on the issue of confidentiality. Centers periodically review the measures taken for the confidentiality of data. Persons untrained on the issue of confidentiality and persons who have not signed the notification on confidentiality can not be appointed to data collecting centers.

Quality Control in Active Cancer Registration System;

In order to reach at correct conclusions on the cancer burden in a given population, accurate and complete cancer registration data is required.

COMPARABILITY

Statistics produced by the cancer registry should be comparable for different societies and/or time periods. The basic pre-requisite of comparability is the adoption of universal standards and rules. Data items and relevant terms should be defined clearly, a guideline on "rules and definitions" should be prepared, and changes made should be documented.

Use (confidentiality) of data and information on
Data items to be collected,
Case database of inclusion,
Date of diagnosis,
Method of diagnosis,

Multiple primary,
Primary location,
Stage of disease, etc.
Should be provided in this document.

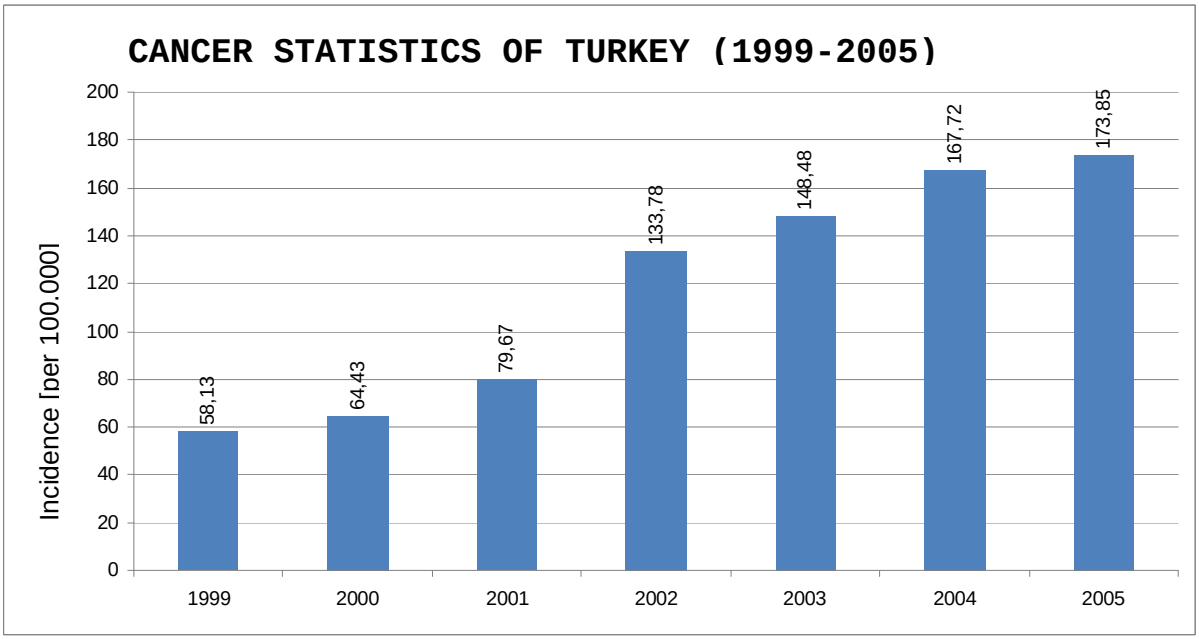
Guidelines utilized in the formulation of rules:
WHO / IARC / IACR (World Health Organization / International Agency of Cancer Research / International Association of Cancer Registries)
ENCR (European Network of Cancer Registries)
SEER (Surveillance, Epidemiology, and End Results, USA)
MECC (Middle East Cancer Consortium)

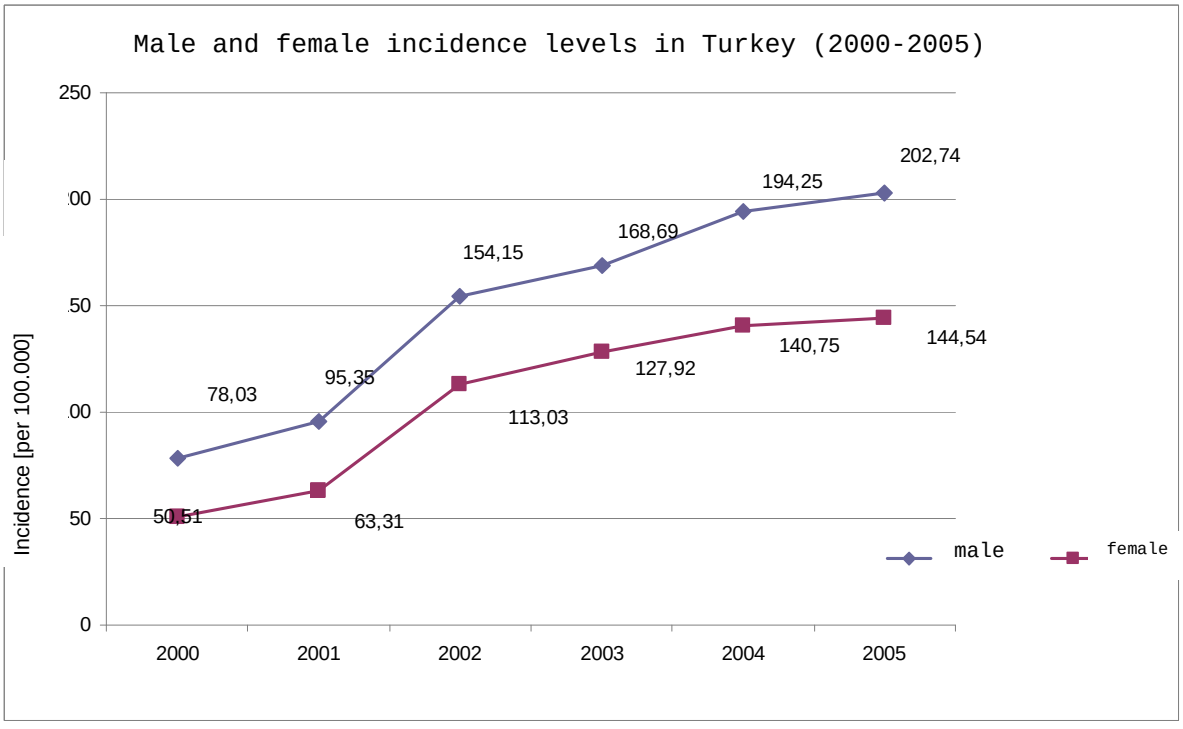
ACCURACY precise, correct, complete

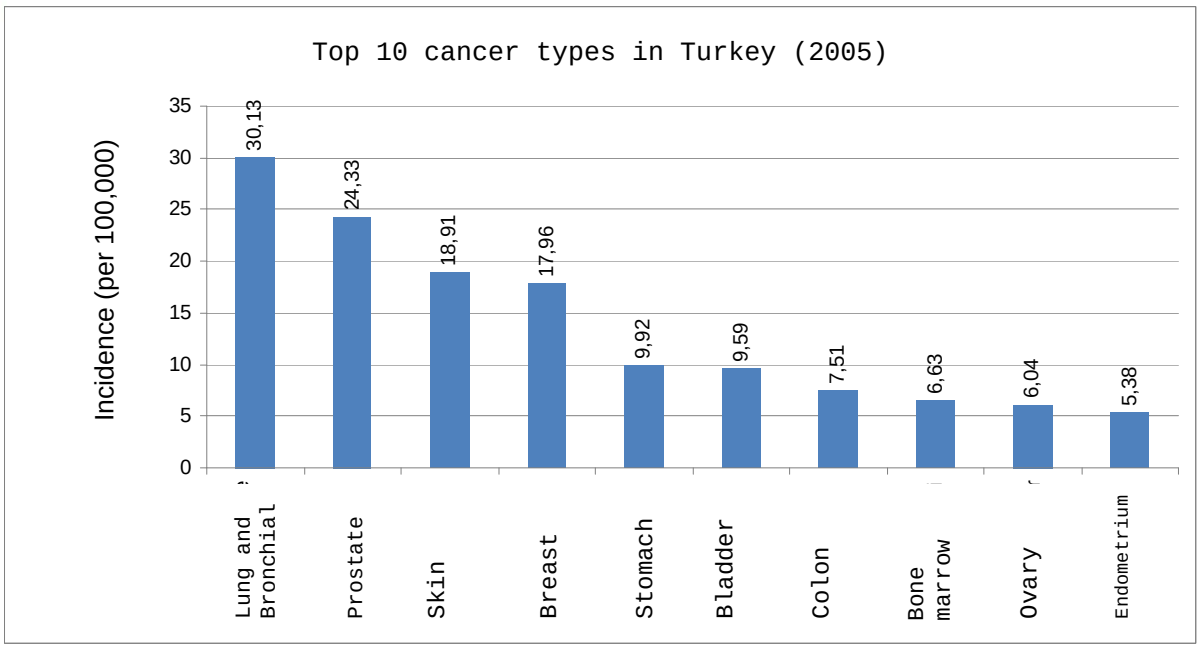
1) Completeness
The extent of the presence in the database of cancer registry of all cancer cases occurring in the target population
Methods of measuring completeness:
1) Data sources
2) Independent case research
3) Historical data method

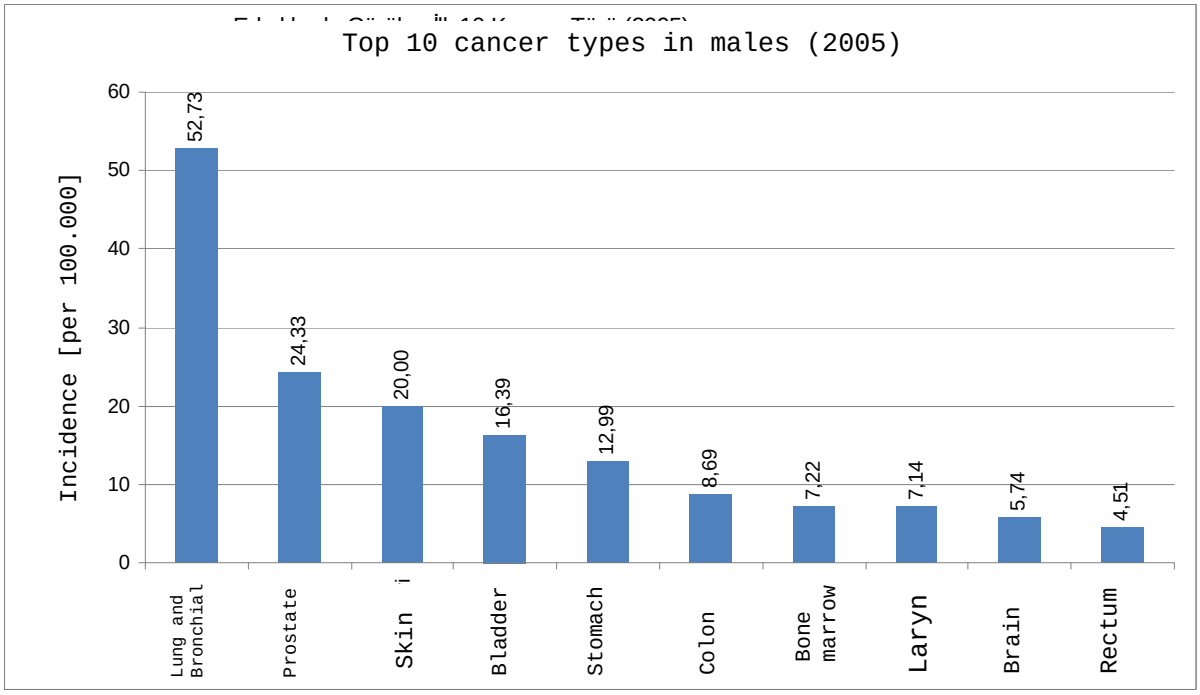
2) Validity
The ratio of cases defined in the registry with their properties matching the reality can be ascertained by reviewing sources, accuracy of documents, abstracting, coding, and recording skills.

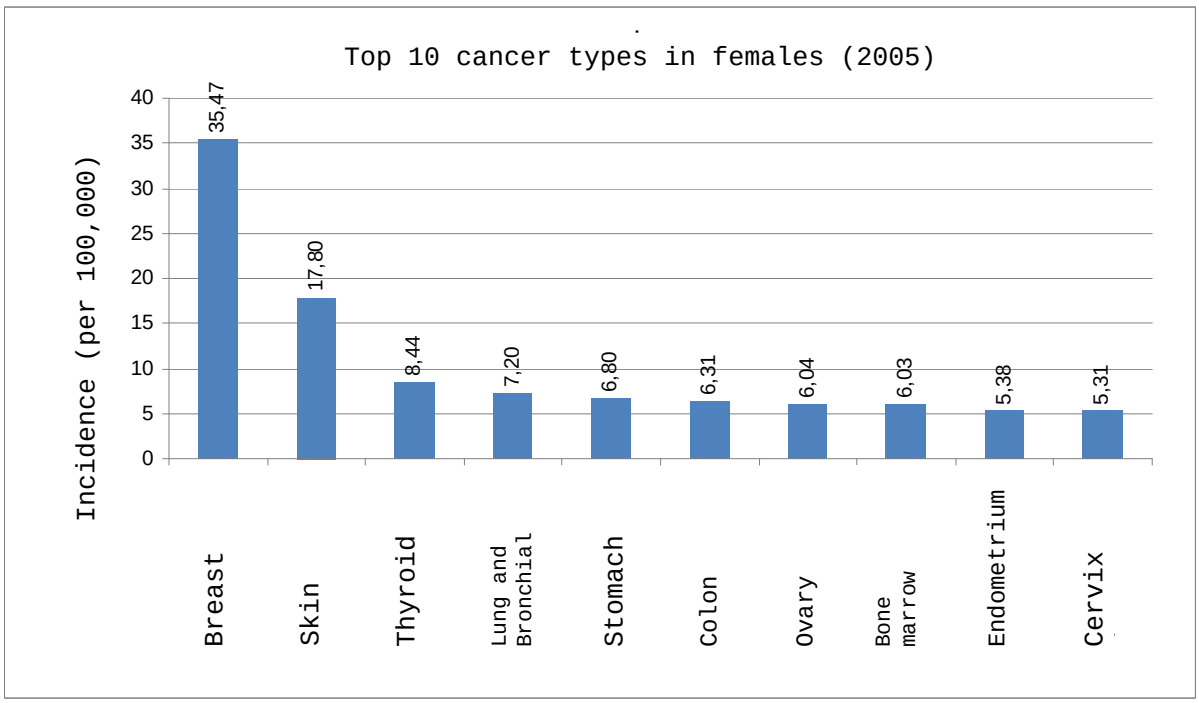
Latest data obtained via Active Cancer Registration System;


CANCER STATISTICS OF TURKEY (1999-2005)
Incidence [per 100.000]
200
180
160
140
120
100
80
60
40
20
0
58,13
64,43
79,67
133,78
148,48
167,72
173,85
1999
2000
2001
2002
2003
2004
2005


Male and female incidence levels in Turkey (2000-2005)
Incidence [per 100.000]
250
00
50
00
50
0
78,03
95,35
154,15
168,69
194,25
202,74
50,51
63,31
113,03
127,92
140,75
144,54
male
female
2000
2001
2002
2003
2004
2005


Top 10 cancer types in Turkey (2005)
Incidence (per 100,000)
35
30
25
20
15
10
5
0
30,13
24,33
18,91
17,96
9,92
9,59
7,51
6,63
6,04
5,38
Lung and Bronchial
Prostate
Skin
Breast
Stomach
Bladder
Colon
Bone marrow
Ovary
Endometrium


Top 10 cancer types in males (2005)
Incidence [per 100.000]
60
50
40
30
20
10
0
52,73
24,33
20,00
16,39
12,99
8,69
7,22
7,14
5,74
4,51
Lung and Bronchial
Prostate
Skin
Bladder
Stomach
Colon
Bone marrow
Laryn
Brain
Rectum


Top 10 cancer types in females (2005)
Incidence (per 100,000)
40
35
30
25
20
15
10
5
0
35,47
17,80
8,44
7,20
6,80
6,31
6,04
6,03
5,38
5,31
Breast
Skin
Thyroid
Lung and Bronchial
Stomach
Colon
Ovary
Bone marrow
Endometrium
Cervix

NATIONAL CANCER ADVISORY BOARD

National Cancer Advisory Board had been established to provide advisory opinion on; the formulation of national policies regarding cancer; taking measures of protection from cancer; seeking solutions to problems faced in the diagnosis, treatment, and follow-up of cancer patients; directing cancer related activities to areas where action is required; ensuring coordination; informing the society on cancer-related issues; and preparing action plans.

The duties of the Board are as follows:

a) To act as a consultant on the formulation of the National Cancer Policy and the development of action plans,
b) To provide recommendations to solve the problems faced in diagnosis, therapy, and follow-up of cancer patients,
c) To provide scientific advise to the Ministry whenever necessary,
d) To provide recommendations to direct scientific studies on cancer country-wide.
e) To carry out activities in order to coordinate public, private, and non-governmental organizations active on the issue of cancer,
f) To provide recommendations in order to ensure the information and awareness of the society on the issue of cancer,
g) To establish sub-committees on required topics, and to delineate their fields of activity,
h) To discuss and decide upon the sub-committee reports.

Advisory sub-committees had been set up within the Advisory Board in order to carry out studies on issues related with cancer.

Advisory sub-committees on cancer

- Epidemiology and Cancer Registration
- Medical Geology
- Preventive Oncology
- Clinical Research
- Treatment of Cancer and Medical Ethics

- Human Resources
- Social and Psychosocial Support
- Early Diagnosis and Screening
- Alternative Medicine and Complementary Medicine
- Radiation Safety

What Needs To Be Done in Turkey on the Issue of Primary Protection:

Primary Protection Group Report

Risk factors where prioritized measures are needed on the issue of primary protection against cancer have been assessed. Tobacco use, infections, environmental and occupational factors, obesity and the lack of physical activity have been identified as the priority risk factors for Turkey. Risk factors have been examined under separate categories for their prevalence in the society, respective preventive activities and institutions concerned are different.

1. Risk Factor: Tobacco use

The objective is to reduce consumption, to prevent new smokers, and to eliminate the passive exposure to tobacco smoke, taking into consideration the proven cause and effect relation between the tobacco use and cancers, as well as the prevalence of use. Set targets on the course towards that objective is to increase the number of those who do not use tobacco products to 80% for those above age 15, and 100% for those below age 15, by the year 2012.

The strategies formulated to reach those objectives are as follows:

a) Banning tobacco products smoking in closed quarters

With the amendment of law no 4207; it has been decided to communicate to the people, establishment owners and managers the reasons for the ban applying to indoors as well as the sanctions of those who do not comply with the ban, to create an awareness and consciousness on the issue, to effectively implement the provisions of the law, to ensure a standard in implementation, and to apply administrative sanctions.

The activities recommended for Turkey and also adopted world-wide are; to underline in the media especially the relationship between passive tobacco smoking and cancer through broadcasts at the times stipulated in the law; the planning by relevant Non Governmental Organizations of meetings where public administrators, establishment operators and the public will come together; and organization of in-service meetings in order to inform the law enforcement about the law. Furthermore, it has been stipulated to set up a phone line for reporting the violations of the tobacco law.

The institutions concerned are the Ministry of Interior, civilian administrators and law enforcement agencies, the Ministry of Health, the Ministry of National Education, the Ministry of Culture and Tourism, TAPDK (Tobacco and Alcohol Markets Regulatory Authority), RTÜK (Radio and Television Supreme Council), TRT (Turkish Radio and Television Corporation), and Municipalities, all of which are stipulated to cooperate with non governmental organizations such as Tourism operators, Federation of Hotel Operators, TESK (The Confederation Of Turkish Tradesmen And Craftsmen), patients associations, associations concerned with consumer rights.

The requirements of this article on measures are intended to be fulfilled till 19.7.2009. Looking at the experience of similar countries and the literature, potential obstacles in this process have been identified as the obstructive activities of the tobacco industries on the implementation of the law, wrong beliefs

of establishment owners suspecting a decrease in profits, and inadequate information on the part of the public and public officials about the law, and it had been recommended that the executives of the institutions concerned should focus on these issues in determining strategies and activities.
Measures of success for an activity shall be the increase in the number of applications to clinics for quitting smoking and the decrease in the number of complaints about the violations of the law. Cancer registry records for the years after the law, public support in public surveys, compliance ratios of establishments and institutions, and changes in the profitability of establishments have been identified as parameters which can be utilized in monitoring.

b) Increasing the prices of tobacco products

The strategy adopted as the most important strategy for preventing the youth from starting smoking, as per the results of World Bank and numerous scientific studies, is to increase the prices of tobacco prices to a level reducing the consumption. The most important activity for reaching that target is to place a tax on prices separately, independent from the percentage of individual box, and to increase to the same level as with the European sale prices.

The institutions concerned are the Ministry of Finance, the Ministry of Interior, and TAPDK, while it has been recommended that activities should be completed within the year 2009, in cooperation with consumers associations and various non governmental organizations.

The most probable obstacles foreseen in the path towards reaching the objective are the illegal trade practices and the market-grab of the tobacco industry. Experience of other countries as noted in the literature demonstrate that the tobacco industry tries to prevent the price increases claiming that smuggling would increase as a result, while facilitating smuggling using organized crime as sub-contractors in many countries. Under this light, for the prices to become an effective means of reducing consumption, not only tax percentages, but also unit prices should be increased to the levels in European countries. The recommended monitoring parameters are the records of illegal trade, Ministry of Finance Product Monitoring System records, and the changes in percentage of population smoking.

c) Implementation of the prohibition of advertisements, promotions and sponsorships

Advertisement bans laid down in laws no 4207 and 4733 are very important measures preventing the youth from starting smoking. Furthermore, it has been found to be effective on the motivation to quit by smokers.

To inform non governmental organizations and local administrations on the issue of sponsorship ban and to monitor and notify the placement of latent advertisements and products are essential for reaching the objectives of the law. On this issue, the primary responsibility lies with the Ministry of Health, RTÜK, and the Ministry of Interior, while it has been recommended that activities should be completed within the year 2009, in cooperation with the Ministry of Industry and Trade (Advertisement Board), Press Council, Consumer Rights Association, and TRT.
Potential obstacles foreseen in the path towards reaching the objective are the tactics of the tobacco industry as well as the uninformed or ill-advised members of the media on the issue.

The indicators of progress on the issue are the records of expenses in the tax declarations in the Ministry of Finance, as well as determining advertisement perceptions of children, youth and adult groups through surveys. The criteria for monitoring lie with RTÜK records.

d) Media campaigns

It is scientifically proven that continuous on-target media campaigns on the issue of health impact of smoking are very effective. As a high-priority activity, it is recommended that continuous on-target programs and press meetings explaining the relationship between cancer and smoking should be carried out by non governmental organizations and the Ministry of Health regularly. The institutions concerned are non governmental organizations, the Ministry of Health, RTÜK, and TRT, while cooperation with the Ministry of National Education, The Society of Journalists, and TURÇEV is deemed necessary. The activities should be continuous. In the meantime, the potential obstacle is the cross-sector connections of the tobacco industry and media. The monitoring of success should be carried out via public perception surveys.

e) Product controls and presence of warning signs on packages

Legal regulation requiring the presence of graphic warnings on cigarette boxes has been identified by the World Health Organization as an important strategy reducing the tobacco use.

The activities recommended within this framework are; establishment of independent and scientifically accredited laboratories compliant with international norms, carrying out inspections of nicotine, carbon monoxide, and tar levels in addition to carcinogenic substances in tobacco and tobacco products for compliance with EU standards, and informing the public about the results. Moreover, the practices of analysis for compliance with standards in accredited laboratories of tobacco or tobacco products produced, imported, or collected from the market, and the results to be shared with the public, while measured formaldehyde, nitrogen, hydrogen cyanide, and benzene levels on each box and package of tobacco products to be provided have been adopted.

Institutions concerned are TAPDK and the Ministry of Health, and they are advised to complete the objective activities within the year 2009.
Among potential obstacles are the stance of the tobacco industry and the lack of qualified personnel. The measure of success is the completion of accreditation, inspection intervals and counts for production facilities and products, standard-compliance of tar, nicotine and carbon monoxide releases as well as other substances. Monitor parameters have been identified as the number of tobacco products (samples) analyzed, reporting and comparison of regular analyses, monitoring and control records concerning firms who do not carry out standards-compliant production.

f) Medical support for quitting smoking

Integration of quitting smoking with first-step treatment services, provision of reimbursement for treatment, financial awarding of the activities of physicians who cause patients to give up smoking or who provide trainings, allocation of 5% of taxes on cigarettes for the fight against tobacco addiction as in other countries shall be beneficial.

YÖK (Higher Education Council), the Ministry of Health, the Ministry of National Education, Schools of Medicine, Turkish Physicians Association (TTB), the Ministry of Labor and Social Security, and TRT are the institutions of primary responsibility, whereas it is aimed that these should complete the activities within the year 2009 in cooperation with medical professions associations, private establishments, SGK (Social Security Institution), private health insurances, and TÜİK (Turkish Statistical Institute).
Among potential obstacles are the inability of include the issue in the curriculum because of the intensity of medical education, and the uncontrolled non-evidence-based treatment methods. The scale of success, on the other hand, would be measured by the proportion of smokers quitting, and the increase of the share of preventive medicine in physicians' performance score tables.

2. Risk Factor: Infection

Among the measures to reduce infection-related cancer morbidity and mortality, protection against Hepatitis-B infection and Human Papilloma Virus infection, as well as injection safety have been identified as priorities.

a) Hepatitis-B infection:

Objective is to reduce the prevalence of Hep-B in the population.
Targets are; to reduce the Hepatitis-B prevalence in the population to below 5% by the end of year 2010, to reduce the Hepatitis-B prevalence among those under age 20 to below 1% by the end of year 2010, and to increase the infancy vaccination rates country-wide to above 90%.

Among the strategies required to achieve the stated objectives are the dissemination of vaccination services for adults.

Hence, the execution of "Come on grown-ups, to vaccination" campaign is a major activity. In addition, to increase the awareness for adult immunization and extension of target risk groups identified for Hepatitis-B immunization are other activities for the realization of the strategy.

The responsible institution is the General Directorate of Primary Health Care Services, while it is advised to complete activities before the end of year 2010 in cooperation with the Chief of General Staff, the Ministry of Interior, Chambers, General Directorate of Social Services, and Anadolu Agency. Potential obstacles concerning the process are foreseen as the activities of groups opposing vaccines, problems in acquiring vaccines, and logistical problems concerning vaccination.

The criteria to indicate progress of activities are immunization percentages, HbsAg carry rate, and a decrease in liver cancer incidence.

During monitoring, cancer registry data on immunization percentage (lot studies),
HbsAG carry rate (prevalence studies) should be taken as monitoring parameters.

The second age group which needs to be vaccinated is the age of adolescence. The continuation of vaccination services' penetration in the adolescent age as well as the catch-up campaigns for primary education age group should be another activity for the realization of the strategy.
Again, the responsible institution is the General Directorate of Primary Health Care Services, while it is advised to cooperate with the Ministry of National Education, and General Directorate of Social Services. As in the adults age group potential obstacles are the activities of groups opposing vaccines, problems in acquiring vaccines, and logistical problems concerning vaccination.
The indicator of progress is the immunization percentage, while the monitoring parameter is the results of school vaccination activities.
The third age group which needs to be vaccinated is the age of infancy. For the continuation of vaccination services' penetration in the infancy, the completion of primary immunization within the framework of GBP (extended immunization program) as well as the application of the first dose of the Hepatitis-B vaccine within 48 hours of birth is necessary.
The responsible institution regarding the issue is the General Directorate of Primary Health Care Services, while cooperation with the General Directorate of General Treatment Services, General Directorate of Mother and Child Health and Family Planning, and General Directorate of Social Services is necessary.Also for this age group, the indicator of progress is the immunization percentage, while the monitoring parameter is adopted as Form 013.

The penetration of vaccination for all age groups should be complete by the end of year 2010.

b) Human Papilloma Virus Infection

It is intended to control the incidence of cervical cancer in the population.
The objective is to ensure that cervical cancer incidence in the population does not exceed 8 per hundred thousand by the end of the year 2010.

In order to achieve the target, the strategy for adult age group is to increase awareness.
Integrated with reproduction health programs, public education and training of groups under risk would be on-target activities. The responsible institution is the General Directorate of Mother-Child Health and Family Planning, while cooperation should be ensured with the Ministry of National Education and Chief of Staff. Potential obstacle might be the issue of cultural acceptance. Progress indicator has been determined as incidence not exhibiting an increase, while the cancer registry data is the means of monitoring and control. As the activity oriented towards the adolescent age group, the development and advocacy of an awareness of healthy sexual intercourse has been identified. Therefore, study of healthy sexual intercourse education is a high priority. Institutions concerned are the General Directorate of Mother-

Child Health and Family Planning, Ministry of National Education, General Directorate of Social Services, and the Chief of Staff. Potential obstacle is, again, thought to be the problem of cultural acceptance. Progress indicators are the studies of knowledge and attitude, while monitoring and control parameter is the descriptive and cross-sectional study date. It is stipulated to complete the activities for each age group by the end of year 2010.

c) Injection safety

The objective is to prevent infectious diseases caused by injection safety problems. A strategy formulated to achieve the objective is to provide medical personnel with safe injection skills. The penetration of the practice of safe syringe disposal, ensuring the proper disposal of safe syringe waste bins, dissemination and ensuring the continuity of trainings for medical personnel have been determined as the activities to be implemented in order to realize the strategy.

The principal institutions tasked with this activity are the General Directorate of Primary Health Care Services and the Ministry of Environment and Forestry. The cooperating institutions shall be the General Directorate of Treatment Services and the General Directorate of AÇSAP (Mother-Child Health and Family Planning). It is necessary to carry out the activities before the end of year 2012. Potential obstacle has been considered as the inability to change the practical habits of medical personnel. Progress indicators would be the penetration of safe waste bins and the research data concerning knowledge, attitudes and behavior of medical personnel. Monitoring parameters would be the frequency of safe waste bins as well as descriptive and cross-sectional study data.

Encouragement of injection safety for substance addictions and drug abuse has been defined as another important strategy. To reduce the prevalence of substance addiction and to ensure the use of safe syringes in substance use are activities to realize the strategy. The responsible institution is the General Directorate of Primary Health Care Services, while cooperation with the Ministry of National Education, the Ministry of Interior, and Universities is expected. It is intended to complete such activities by year 2012. Uncontrolled substance use has been considered as the potential obstacle. Progress indicators would be knowledge, attitude and behavior research data, while monitoring parameter has been defined as descriptive and cross-sectional study data.

3. Risk Factor: Occupational and Environmental Factors

The objective is to reduce the frequency of cancers due to environmental and occupational factors.

Targets are to prevent known environmental carcinogens, contact with asbestos and arsenic, to protect all employees from occupational factors stemming from the work environment and causing cancer, and to raise awareness in parties concerned with work health and safety.

One strategy devised to achieve targets is to prevent occupational and environmental contact with asbestos. Activities to carry out with this purpose is to

determine unregistered establishments and to take necessary measures within the framework of laws and regulations, to prevent the use of white soil for domestic purposes in rural areas, to plan education and awareness-raising activities, to establish diagnosis - treatment centers in areas where the disease is observed intensely, and to finalize the studies previously commenced with international cooperation.

The responsible institution is the Ministry of Health, while cooperation with the Ministry of Environment and Forestry, the Ministry of Labor and Social Security, Universities, MTA (Mineral Research and Exploration), Labor Unions, non governmental organizations, professional associations, and media is recommended. The lack of manpower, insufficient awareness on the part of the people, and high costs of measures have been considered as potential obstacles. The indicator of progress would be a decrease in the number of cancer cases, while the monitoring parameters are ensuring initial examinations and long-term follow-up of workers.

Another strategy is to prevent contact with environmental arsenic. Therefore carrying out and repeating water analyses, determining arsenic rates of fossil fuels, and preventing wide-ranging use is necessary. The responsible and cooperating institutions are
the Ministry of Environment and Forestry, Universities – Toxicology departments, non governmental organizations, municipalities, MTA, and media.

In order to reduce the contact with radon, yet another environmental factor, it has been stipulated that radon map should be updated; hence cooperation is required between Turkish Atomic Energy Agency, the Ministry of Environment and Forestry, Universities, non governmental organizations, professional associations, and media. Again, within this framework, it is necessary to ensure the implementation of regulations concerning high-tension lines and GSM base stations.

Moreover, in order to minimize the diseases caused by other environmental factors;
It has been decided to take necessary measures through the cooperation of the Ministry of Environment and Forestry, the Ministry of Health, the Ministry of Labor and Social Security, Universities and Labor Unions on the issue of preventing wastes by ship disassembly yards and disallowing such attempts, on the issue of inspection of stone quarries and jean abrasion shops.

It has been recommended to effect reductions of biomass which cause domestic pollution and the use of unrefined biological fuels; organization of trainings to create an awareness aimed at ensuring indoors ventilation; provision of good and proper ventilation mechanisms and heating and cooking systems; cooperation between the Ministry of Environment and Forestry and the Ministry of Labor and Social Security on the one hand, and Universities, Labor Unions, non governmental organizations and professional associations on the other on this issue,

Air pollution (macro-environment); preventing contact with industrial pollution, traffic and particles as well as diesel exhaust gases and reducing air pollution, providing public trainings to create an awareness and consciousness on preventing exposure to sun-light.

Extension of occupational health and safety practices to all employees,
The implementation of Occupational Health and Safety Draft Law and campaigns for raising awareness and education on this issue by the Ministry of Health and the Ministry of Labor and Social Security together with Labor and Employer's Unions, Universities, Professional Associations, non governmental organizations, preparation of algorithm and diagnosis manuals for cancers caused by occupational factors, in order to raise awareness of occupational health and safety professionals (business physician, work safety expert, etc.) employers and workers, ensuring the prevention (such as asbestos or smoking) at commencement of employment examinations, and making early diagnosis possible through periodical examinations; establishment of an e-library to facilitate access to data related with national and international organizations.

The Ministry of Health and the Ministry of Labor and Social Security shall be responsible on this issue.

The establishment of occupational health related scientific structures within training and research hospitals as well as schools of medicine in universities, measurement of occupational and environmental carcinogens, establishment of accredited private and public laboratories, to emphasize the development of mesothelioma research on the issue of interaction between the environment and genetics, and acting in cooperation between the Ministry of Health, YÖK, the Ministry of Labor and Social Security, the Ministry of National Education, and professional associations has been recommended.

4. Risk factor: obesity, diet, inactivity

The objective is to inspire the habit of a balanced and adequate diet in the society and to raise awareness within the society about the positive impact of physical activity on health.
The target is to inspire the habit of a balanced and adequate diet in 90% of the society by the year 2012, and to reduce the prevalence of cancer caused by physical inactivity.

One of the strategies identified to reach the target, taking into consideration the lack of data on the issue in Turkey, is to carry out studies to research the relationship between the nutritional habits and cancer development, and ensure the evaluation of the data. With this purpose, it has been recommended to establish an advisory board to study the relationship between nutritional habits and cancer, composed of relevant public institutions and agencies, universities, non governmental organizations, private sector, and professional organizations.

The responsible institutions for this activity had been planned as the Ministry of Health, the Ministry of Agriculture and Rural Affairs, universities, Population Studies Institute, and TÜİK. Cooperation during the studies with the World Health Organization and non governmental organizations had been stipulated. It has been planned to complete this activity by the end of year 2012. Among the potential obstacles, one might think of difficulties in ensuring coordination and inability to secure sufficient manpower. The indicator of progress have been set as the establishment and renewal with five year intervals of advisory

boards, while the monitoring parameter had been laid down as progress analysis survey data.
Another activity planned for the realization of the stated strategy is to ensure the flow of data. The responsible institution on this issue would be the Ministry of Health and KETEM, whereas cooperation with the Ministry of Agriculture and Rural Affairs, universities, World Health Organization, non governmental organizations, and TÜİK is recommended. Potential obstacles to this activity might be the inability to secure coordination, failure to set up technical equipment on time, and a lack of political determination. Progress indicators would be the data gathered, as well as the political determination employed under the light of such data, while the monitoring parameter would be the data to be obtained from research to be conducted.

The second strategy has been determined as the encouragement nourishment with breast milk as the first step of a balanced and adequate diet. Increasing the numbers of baby-friendly hospitals and provinces, continuing the on-the-job trainings of medical personnel, informing the society, execution of the activity by the Ministry of Health and non governmental organizations and universities, in cooperation with the Ministry of National Education (Public Education Centers), Turkish Armed Forces, TRT, and other media agencies, in a continuing manner, has been recommended. Potential obstacles have been identified as the attempts of the private sector against the breast milk and legal restrictions on the leaves granted to feeding moms. The indicator of progress is that babies breast-fed for 6 months to reach a rate of 50%, while the monitoring parameter is set as annual AÇSAP reports and Population Health Research Data for Turkey (TNSA).

The third strategy have been considered as increasing education and information activities necessary for improving the awareness of the public in order to ensure healthy nourishment. The activities to realize this goal has been identified as to continue to training of trainers; to update nourishment and cancer modules; to prepare knowledge, education, and communication materials; to make use of social role models (artists, athletes, politicians etc.) and so on. It has been recommended to execute the activities continuously by the Ministry of Health, the Ministry of National Education, universities, non governmental organizations in cooperation with Turkish Armed Forces, media, TRT, local governments and the Ministry of Interior. As potential obstacles, the lack of reflection of such activities on the performance of medical personnel, dissemination of incorrect information on visual communication media by unqualified persons, and the popularity of non-evidence based methods can be named. Indicator of progress would be the correct information counts in the media, as well as decreases in prevalence and incidence rates of relevant cancer types, and the determination through research of behavioral change in the society.

Important roles are reserved for dieticians in inspiring an adequate and balanced diet habit as well as raising awareness in the public. Within this framework, it has been decided to increase the current numbers of dieticians, and to legislate the occupational law of dieticians. Furthermore, it has been deemed appropriate to cover the fight against obesity, weight loss programs and consultations for healthy nutritional habits under SGK. The Ministry of

Health is responsible with this activity, and will act in cooperation with universities and Dieticians Association of Turkey. The criteria of success would be the increase in the number of dieticians, and the legislation of occupational law in question.

The fourth strategy has been adopted as providing on-the-job trainings for first-step medical personnel on the issue of healthy nourishment. With this purpose, organization of educative training programs to be completed in year 2012, preparation of training modules by the Ministry of Health in cooperation with the World Health Organization and universities is recommended. Potential obstacles can be the absence of the issue in the performance model of the medical personnel, frequent change of duties and posts by the medical personnel, the difficulties in the integration of training modules, and the difficulties in coordination among institutions. The indicator of progress would be the number of trained personnel, while the monitoring parameter would be the tracking of the success in turning the training into behavior, determined through pilot studies.

Moreover, it has been recommended to include the issue of the relationship between nourishment and physical activity with cancer in the education curriculum of medical personnel.

It is important to ensure the cross-sectional penetration of aforementioned strategies. With this purpose, the creation of a web of communication by the Ministry of Health with the Ministry of Interior, Labor and Employer's Unions, Civil Servant Unions, media, the Presidency of Religious Affairs, the Ministry of National Education, the Ministry of Agriculture and Rural Affairs, the Ministry of Labor and Social Security, universities, non governmental organizations, Turkish Armed Forces, TRT, and TÜİK. The numbers of workshops held on the issue and participants, and the activity reports would serve as progress and monitoring indicators.

The strategy to raise awareness in the society on the issue of positive impact of physical activity on health has been adopted in addition to the nourishment information. With this purpose, it has been recommended to build easily accessible, adequate and safe play grounds and sports fields, to complete landscaping, to organize media campaigns to direct the society to physical activity and to raise awareness, and to increase the number of municipalities and cities participating in the healthy cities association. Local governments, Provincial Directorates of Youth and Sports, the Ministry of Labor and Social Security, and the Ministry of National Education has been deemed responsible for these activities, and they are expected to cooperate with universities, non governmental organizations and sports clubs. Increasing the playgrounds and parks, the changes in the rates of cancer related with physical activity, and the number of municipalities participating in the healthy cities association would be considered as indicators of progress.

REPORT OF PRIMARY PROTECTION GROUP
Risk Factors to be Controlled: 1) Tobacco 2) Infection 3) Environmental and occupational factors 4) Obesity

The objective is to reduce consumption, to prevent new smokers, and to eliminate the passive exposure to tobacco smoke, taking into consideration the proven cause and effect relation between the tobacco use and cancers, as well as the prevalence of use							
Targets 1. To increase the number of those who do not use tobacco products to 80% for those above age 15, and 100% for those below age 15, until the year 2012.							
Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
1. Banning tobacco products smoking in closed quarters **a.** With the amendment of law no 4207; to communicate to students, the people, establishment owners and managers the reasons for the ban applying to indoors as well as the sanctions of those who do not comply with the ban, to create an awareness and consciousness on the issue **b.** To effectively implement the provisions of the law, to ensure a standard in implementation, and to apply administrative sanctions	● To underline in the media especially the relationship between passive tobacco smoking and cancer through broadcasts at the times stipulated in the law ● The planning by relevant Non Governmental Organizations of meetings where public administrators, establishment operators and the public will come together ● Organization of in-service meetings in order to inform the law enforcement about the law ● Harmonization of regulations and curriculum with the provisions of law • Setting up a phone line for reporting the violations of the tobacco law	• Ministry of Interior, Civilian administrators and law enforcement • Ministry of Health • Ministry of National Education • Ministry of Culture and Tourism • TAPDK • RTÜK • TRT • Municipalities • Provincial Tobacco Control Boards	• Tourism operators • Federation of hotel operators • TESK • Patients' associations • Consumer Rights associations	19.7.2009	● Obstructive activities of the tobacco industries on the implementation of the law ● Wrong beliefs of establishment owners suspecting a decrease in profits ● Inadequate information on the part of the public and public officials about the law	● Number of applications to clinics for quitting smoking ● Decrease in the number of complaints about the violations of the law ● Changes in the profitability of establishments ● Public support in public surveys	● Cancer registry records for the years after the law ● Public surveys ● Compliance rates of establishments and institutions ● Profitability of businesses

2. Increasing the prices of tobacco products (to increase the prices of tobacco prices, which is identified as the most important means of preventing the youth from starting smoking, to a level reducing the consumption)	● To place a tax on prices separately, independent from the percentage of individual box, and to increase to the same level as with the European sale prices	• Ministry of Finance • Ministry of Interior • TAPDK	• Consumers' Associations • NGOs	2009	● Illegal trade ● Market-grab practices of the tobacco industry ● Inability to prevent single sales	● Increase unit prices to the levels in European countries ● Decrease in smoking rates ● Decrease in box of cigarette sales	● Records of legal trade ● Ministry of Finance Product Monitoring System records ● Smoking rates
3. Implementation of the prohibition of advertisements, promotions and sponsorships (Bans laid down in laws no 4207 and 4733 are very important measures preventing the youth from starting smoking. Furthermore, it has been found to be effective on the motivation to quit by smokers.)	● To inform NGOs and local governments on the issue of sponsorship ban ● To monitor and notify the placement of latent advertisements and products ● To conduct surveys for determining advertisement perceptions of children, youth and adult groups	• Ministry of Health • RTÜK • Ministry of Interior • TAPDK	• Ministry of Industry and Commerce (Advertisement Board) • Press Council • Consumer Rights Association • TRT	2009	● Tactics of tobacco industry ● Uninformed or ill-advised members of the media on the issue	● Changes in records of expenses in the tax declarations in the Ministry of Finance ● Results of surveys to determine advertisement perceptions of children, youth and adult groups	● RTÜK records ● Tax declarations in the Ministry of Finance ● Surveys to determine advertisement perceptions of children, youth and adult groups

4. Media campaigns	● continuous on-target programs and press meetings explaining the relationship between cancer and smoking to be carried out by NGOs and the Ministry of Health	• NGOs • Ministry of Health • RTÜK • TRT • General Directorate of Youth and Sports	• Ministry of National Education • The Society of Journalists • TURÇEV	Continuously	● Cross-sectoral relationship between the media and the tobacco industry	● Results of public perception surveys	● Public perception surveys
5. Presence of warning signs on packages	● Legal regulation requiring the presence of graphic warnings on cigarette boxes	• TAPDK • Ministry of Health	• NGOs	2009		● Changes in visibility and perception levels ● Decrease in smoking rates	● Visibility and perception research
6. Medical support for quitting smoking	● Integration of quitting smoking with first-step treatment services ● Provision of reimbursement for treatment to quit ● Financial awarding of the activities of physicians who cause patients to give up smoking or who provide trainings	• YÖK • Ministry of Health • Ministry of National Education • Medical Schools • TTB • Social Security Institution	• Medical Professional Associations • Private establishments • SGK • Private health insurances • TÜİK	2009	● inability of include cigarette quitting methods in the curriculum because of the intensity of medical education ● uncontrolled non-evidence-based treatment methods	● Decrease in quitting rates ● Increased physicians performance scores due to making patients quit smoking	● Quitting rates ● Physicians' performance scores

	● allocation of 5% of taxes on cigarettes for the fight against tobacco addiction as in other countries ● Assistance to, and monitoring of web sites which provide support for quitting smoking	• TRT • Ministry of Finance					
7. Carrying out inspections of nicotine, carbon monoxide, and tar levels in addition to carcinogenic substances in tobacco and tobacco products for compliance with EU standards, and informing the public about the results	● establishment of independent and scientifically accredited laboratories compliant with international norms ● Providing necessary training to laboratory personnel ● analysis for compliance with standards in accredited laboratories of tobacco or tobacco products produced, imported, or collected from the market, and sharing the results with the public ● to provide measured formaldehyde, nitrogen, hydrogen cyanide, and benzene levels on each box and package of tobacco and tobacco products	• TAPDK	• WHO • Ministry of Health • TSE (Turkish Standards Institution) • Universities • EU • ISO • Media • Consumers' associations • NGOs	2009	● Bureaucracy and slow progress ● The attitude of the tobacco industry ● The attitude of the media under the influence of the tobacco industry	● inspection intervals and counts for production facilities and products ● standard-compliance of tar, nicotine and carbon monoxide releases as well as other substances	● Accreditation reports ● Regular analysis reports ● monitoring and control records concerning firms who do not carry out standards-compliant production

I.TOBACCO RELATED CANCERS
II. MEASURES TO REDUCE INFECTION-RELATED CANCER MORBIDITY AND MORTALITY

IIA. Hepatitis B

Objective: to reduce the prevalence of Hep-B in the population							
Targets: 1- to reduce the Hepatitis-B prevalence in the population to below 5% until the end of year 2010 2- to reduce the Hepatitis-B prevalence among those under age 20 to below 1% until the end of year 2010 3. and to increase the infancy vaccination rates country-wide to above 90% by the end of year 2010							
Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
1. Increasing the penetration of vaccination services for adults	● execution of "Come on grown-ups, to vaccination" campaign ● to increase the awareness for adult immunization ● extension of target risk groups identified for Hepatitis-B immunization	• General Directorate of Primary Health Care Services	• Ministry of National Defense • Ministry of Interior • Professional Associations • General Directorate of Social Services • Media agencies	End of 2010	● activities of groups opposing vaccines ● problems in acquiring vaccines ● logistical problems concerning vaccination	● Increase in immunization percent ● Decrease in HbsAg carry rate ● decrease in liver cancer incidence	● immunization percentage (lot studies) ● HbsAg carry rate (prevalence studies) ● Cancer registry data
2. Continuation of vaccination services' penetration in the adolescent age	● Continuation of catch-up campaigns for primary education age group	• General Directorate of Primary Health Care Services	• Relevant units of the MoH • Ministry of National Education • General Directorate of Social Services • Media	Continuously	● activities of groups opposing vaccines ● problems in acquiring vaccines ● logistical problems concerning vaccination	● Increase in immunization percent	● Results of school and dorm-wide vaccination activities
3. Continuation of vaccination services' penetration in the infancy	● application of the first dose of the Hepatitis-B vaccine within 48 hours of birth ● completion of primary immunization within the framework of GBP (extended immunization program)	○ General Directorate of Primary Health Care Services	○ Relevant units of the MoH ○ General Directorate of Social Services	Continuously	● activities of groups opposing vaccines ● problems in acquiring vaccines ● logistical problems concerning vaccination	● Increase in immunization percent	● Form 013

IIB. HPV

Objective: To control the prevalence of HPV carrying rate in the population							
Targets: 1- To ensure that cervical cancer incidence in the population does not exceed 8 per hundred thousand until the end of the year 2010							
Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
1. To increase awareness in the adult age group on HPV as a factor causing cervical cancer	● Integrated with reproduction health programs, public education ● training of groups under risk ● HPV-Cervical Cancer awareness surveys	• General Directorate of Mother-Child Health and Family Planning	• Relevant units of the MoH • MoNE • Ministry of Interior • Ministry of National Defense • Presidency of Religious Affairs • Media agencies • NGOs • Leaders of the society	Continuously	● Difficulty of cultural acceptance	● Positive change in survey results ● Incidence not exhibiting an increase	● HPV-Cervical Cancer awareness surveys ● Cancer registry data
2. At the adolescence age, development and advocacy of an awareness of healthy sexual intercourse	● Reproduction health and safe sex education ● Media studies ● Healthy sexual life surveys	• General Directorate of Mother-Child Health and Family Planning	• Relevant units of the MoH • Ministry of National Education • Ministry of Interior • Ministry of National Defense • Presidency of Religious Affairs • Media agencies • NGOs • Leaders of the society	Continuously	● Problems in cultural acceptance	● Change of knowledge, information and behaviors at adolescent age	● Descriptive and cross-sectional studies
3. Formulation of the HPV vaccine policy of Turkey	● Determination of HPV types prevalent in Turkish society ● Activities to inform the target audience ● Cost-efficiency analyses	• KSDB (Head of Cancer Control Department)	• Relevant units of the MoH • Universities • TR Hospitals	31.12.2009	● Opposing campaigns ● High costs	● Determination of HPV types prevalent in Turkish society ● Determination of HPV prevalence	● Final reports of type determination and prevalence studies

IIC. INJECTION SAFETY

Objective: To prevent infectious diseases caused by injection safety problems,							
Targets: 1- To ensure that all medical personnel practices safe injections by year 2012							
Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
1. Safe injection and safe syringe disposal	● Penetration of the practice of safe syringe disposal ● ensuring proper disposal of safe syringe waste bins ● Dissemination and ensuring the continuity of trainings for medical personnel ● Knowledge, attitude, and behavior studies for medical personnel on needle-tip injuries	• Primary Health Care Services • General Directorate of Treatment Services • Ministry of Environment and Forestry	• Relevant units of the MoH • Local Governments • NGOs	2012	● Attitudes and behavior of medical personnel	● penetration of safe waste bin use. ● Positive change in knowledge, attitude, and behavior of medical personnel ● Decrease in the number of needle-tip injuries	● frequency of safe waste bin use, ● Descriptive and cross-sectional study results ● Needle-tip injury records
2. Encouragement of injection safety for substance addictions and drug abuse	● To reduce the prevalence of substance addiction ● To ensure the use of safe syringes in substance use	• General Directorate of Primary Health Care Services	• Ministry of National Education • Ministry of Interior • Universities	2012	● Uncontrolled substance use	● Fall in the number of substance addicts ● Positive behavioral changes in substance addicts	● Descriptive and cross-sectional study results ● Number of substance addicts

III. REDUCING THE FREQUENCY OF CANCERS DUE TO ENVIRONMENTAL AND OCCUPATIONAL FACTORS

Objective: To reduce the frequency of cancers due to environmental and occupational factors

Targets: To prevent contact with known carcinogens,

Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
1. To prevent occupational and environmental contact with asbestos	● to determine unregistered establishments ● to take necessary measures in accordance with the legislation**.** **Penetration of occupational health and safety practices to all employees** ● to prevent the use of white soil for domestic purposes in rural areas ● To integrate diagnosis - treatment services to relevant centers in areas where the disease is observed densely ● ensuring initial examinations and long-term follow-up of workers * to protect all employees from occupational factors stemming from the work environment and causing cancer, and to raise awareness in parties concerned with work health and safety * **preventing wastes by ship disassembly yards**. Ensuring the inspection of	• Ministry of Labor and Social Security • Ministry of Health • Ministry of Environment and Forestry • Ministry of Industry and Commerce	• Undersecretariat of Maritime Affairs • Universities • MTA • Unions • Non governmental organizations • Professional Associations • Media • GEMİSANDER	2010 Continuous training activities	● Lack of manpower ● Inadequacy of public education ● Cultural limitations ● Costs a) New technologies in industry b) Relocation of settlements	● Rise in the numbers of workers who were subject to initial examinations and long-term follow-up Results of sectional study depicting an increase in awareness by the population under risk ● Fall in the incidence of workers with pneumoconiosis and cancer (long-term) Decrease in the population of the incidence of asbestos related cancers	● Initial examinations and long-term follow-up of workers ● Number of pneumoconiosis and cancer patients

	stone quarries Inspection of jeans factories' abrasion shops						
2. To prevent contact with environmental arsenic	● Periodical analyses in **drinking water**, measurement and publication of arsenic levels Implementation and control of the Regulation on waters for human consumption published in the Official Gazette dated 17.2.2005 and numbered 25730 To reduce the arsenic rates in drinking water to WHO's acceptable levels Finding alternative water springs and establishing treatment plants ● Determination of arsenic levels in fossil fuels, and prevention of the use of those with high levels	• Ministry of Health • Municipalities • Ministry of Environment and Forestry Ministry of Agriculture and Rural Affairs	• Universities - Toxicology • Non governmental organizations • MTA • Media	Continuously from the beginning of the year 2009	Cost of improving laboratory infrastructure Political obstacles	Decrease of arsenic levels in water samples	● Reference laboratory data
3. Protection from Environmental and Occupational Radiation	• Updating radon map • Taking measures to minimize radon gas leaks to buildings	• TAEK • Ministry of Environment and Forestry • Ministry of Health • Telecommunication Authority • Ministry of Labor and Social Security	• Ministry of Public Works and Settlement • Ministry of Tourism • Ministry of Energy and Natural Resources • Universities • Non governmental	2012 2009 – For high-tension	Cost Socio-cultural defense of the society Defense by the firms because of increases in cost Defensive stance of GSM operators	Publication and updating of radon reading maps Decreases in indoors radon levels Decreases in the measurements of radiation leaks	**Radon reading maps** **Indoors radon levels** **Measurement of radiation leaks from radiology departments** **Number of units**

a) Reducing contact with radon **b) Control of nuclear waste** **c) Control of radiology centers / departments** **d) Control of high-tension lines, cell phone use, and GSM base stations**	• Raising the awareness of the people on potential effects of radon gas • Establishment of radiation safety programs in health centers • Regulations • Public education • Reducing the use of cell phones particularly during childhood and adolescence		organizations • Professional Associations • Media			from radiology departments Increase in the number of units implementing radiation safety programs Increasing the distance of GSM base stations to residence areas Decrease of the use of cell phones during childhood and adolescence	**implementing radiation safety programs** **Number of cell phones used during childhood and adolescence**

4. Preventing over-exposure to sunlight	● Implementation of systems to protect from sunlight Public education activities	Ministry of Health Ministry of Agriculture and Rural Affairs Ministry of Environment and Forestry Ministry of Culture and Tourism	NGOs Media	2010	Wide-spread cultural and behavioral approach	Decrease in the incidence of skin cancer	Incidence of skin cancer
5. Reducing indoors and outdoors air pollution **a) To effect reductions of biomass which cause domestic pollution and the use of unrefined biological fuels and to ensure indoors ventilation** **b) Air pollution (macro-environment); preventing contact with industrial pollution, traffic and particle matter, as well as exhaust gases**	Replacement of solid fuels to efficient and clean sources of energy such as LPG, natural gas, electricity and solar power In case use of biomass is necessary, the use of better furnaces with better ventilation Development of efficient ventilation systems (chimney, windows, etc.) Protection of especially children and youth from the fuel smokes caused by such biomass Carrying out public educations on the issue of outdoors air pollution Preparation of guidelines including measures concerning outdoors air pollution	Local governments Ministry of Health Ministry of Industry and Commerce Ministry of Energy and Natural Resources Ministry of Environment and Forestry	• Universities • Non governmental organizations • Media	2012	Behavior of the industry	Reduction of measured outdoors air pollution levels Increase in the use of healthy energy sources	**Outdoors particle and SO_2 readings** **Indoors particle readings**

IV. CONTROL OF OBESITY, DIET and INACTIVITY RELATED CANCERS

Objective: To inspire the habit of a balanced and adequate diet in the society, within the framework of National Obesity Control Program

To raise awareness in the society on the positive impact of physical activity on health

Target: To instill the habit of a balanced and adequate diet in 90% of the society until the year 2012,
To reduce the prevalence of cancer related with physical inactivity, until the year 2012

Strategies	Activities	Responsible Institution(s)	Institution(s) to Cooperate	Completion Date	Potential Obstacles	Indicators of Progress	Data for Monitoring and Control
1) To decrease preparing and cooking techniques which constitute risk factors related with the development of cancers	Campaign activities to be organized in order to increase the knowledge level of the people on the issue (media etc.) Inspection of non-sanitary enterprises and quality controls for food	• Ministry of Health	• Ministry of Agriculture and Rural Affairs • Universities • NGOs	2012	● Failure to cooperate	● Fall of unhealthy food consumption	● Current situation analysis survey ● Progress analysis survey
2) Adequate consumption of foods that protect from cancer	encouragement nourishment with just breast milk for the first six months as the first step of a balanced and adequate diet Study of the relationship between dietary habits and cancer in Turkey The preparation of an healthy diet manual for protection from cancer ● Increasing the numbers of baby-friendly hospitals and provinces	• Ministry of Health	• Turkish Armed Forces • TRT • Media • Ministry of National Education (Public Education Centers)	Continuously	Marketing tactics of the industry ● Lack of legal regulations related with working moms and use of leaves	To increase of the rate of babies fed with just breast-milk for 6 months to 50% Preparation of National Healthy Diet Manual	Annual ACSAP reports ● Population Health Research Data for Turkey (TNSA)

3) Storage and conservation of food under sanitary conditions, and ensuring food safety	Inspections for compliance with the legislation Raising awareness in the public via the media	• Ministry of Health Ministry of Agriculture and Rural Affairs • Ministry of National Education	• NGOs • Universities • Ministry of National Education • TAF • Media • TRT • Local Governments • Ministry of Interior	Continuously	● Presence of unqualified persons with commercial motives on visual and printed media ● Popularity of non-evidence based methods	● News items in the media on the issue ● Performing studies concerning behavioral change ● Positive change in diet-related cancer type data (prevalence and incidence rates) Number of establishments inspected annually	● Diet-related cancer type data (prevalence and incidence rates)
4) Increasing education and information activities necessary for improving the awareness to ensure balanced and adequate nourishment **a) Public education** **b) First-step medical professionals** **c) Pre-school, primary, and secondary education** **d) Dieticians**	● Preparation of education modules ● Carrying out and disseminating trainings of trainers ● Continuation of trainings of trainers ● Updating of diet and cancer modules ● Preparation of Knowledge, Education, and Communication materials	• Ministry of Health Ministry of National Education SGK	• WHO • Universities • Media • Turkish Association of Dieticians	Continuously from 2010 on	● Lack of connection between such activities with financial bonuses for medical personnel ● Mobility of medical personnel ● Difficulties of integrating training modules into the system ● Failure to secure inter-institutional cooperation	● The number of trained medical personnel The number of trained pre-school, primary and secondary educational institutions ● Legislation of occupational law for dieticians ● Determination of the level of increase in the number of dieticians ● Coverage of	● Carrying out of pilot studies for the success of such trainings ● Drafting of occupational law for dieticians ● Determination of the number of dieticians

	● Use of Social role models (artists, athletes, politicians etc.) ● Cover weight-loss and nutrition consultancy programs under SGK • **Legislation of dietician occupation law** • **Increasing the number of dieticians**					weight-loss programs under SGK	
5. Increasing cross-sectoral cooperation	● Raising awareness by ensuring participation in meetings on the relationship of diet and obesity with cancer ● To provide a communication network between stakeholders	• Ministry of Health	• Ministry of Interior Ministry of Agriculture and Rural Affairs • Ministry of Labor and Social Security • Ministry of National Education • Presidency of Religious Affairs • Universities • NGOs • TAF • TRT Unions • Media • TÜİK	2012	● Indifference of sectors	● Number of meetings, workshops, and rate of participants ● Presentation of activity reports	● Monthly activity reports
6) Inclusion of the relationship of diet and physical activity with cancer in the curriculum of medical personnel training schools and vocational schools	● Regulation of curriculum	• YÖK • Ministry of National Education • Ministry of Health	• Inter-University Council • Universities	2012	● Lack of Inter-institutional communication	● Implementation of the curriculum ● The number of institutions implementing the curriculum	● Implementation of the curriculum

7) Increasing physical activity in the population, and preventing inactivity	● to build easily accessible, adequate and safe play grounds and sports fields ● to organize media campaigns to direct the society to physical activity and to raise awareness ● To complete landscaping for this purpose ● to increase the number of municipalities and cities participating in the healthy cities association	• Ministry of Interior, General Directorate of Special Administrations Local Governments • General Directorate of Youth and Sports • Ministry of Labor and Social Security • Ministry of National Education	• Universities • NGOs • Sports Clubs	2012	● Lack of adequate budget or financial resources ● Inadequate private sector participation ● Failure to find a suitable locations	● Increases in the numbers of playgrounds and parks ● Increases in the numbers of media studies ● Assessment of changes in physical activity and Cancer rates ● The increase in the number of municipalities and cities accepted into the healthy cities association	● Implementation of action plans

What Needs To Be Done in Turkey on the Issue of Primary Protection:

Report of the Early Diagnosis and Screening of Cancer Group

The most important factor regarding cancer in a population is diagnosing it at an early stage. In populations where cancer is intercepted at an early stage, the cancer mortality would be lower. In developing countries like Turkey,in which concer is getting more and more frepısent,implementation of serening pnogrammes for the suitable types of concers has torred into o, necessity,As recommended by the World Health Organization (WHO), necessary is the establishment and implementation of a national program on breast cancer and cervical cancer, which are prevalent in Turkey, and in which screening programs are efficient and cost-effective in reducing mortality and morbidity.

Without the awareness on part of the society about the importance of early diagnosis, it is impossible to succeed in early diagnosis and screening programs. Therefore, the first step should be to educate the people, and to raise awareness on cancer. It is also a must to train personnel providing the society with health care (doctors, nurses, midwifes etc.) and the administrators above these (Health Director, Chief of Medicine, etc.) on cancer, early diagnosis, and screening programs, as well as include them within the practice. Allocation and implementation of a material budget, as well as ensuring harmonious operation of implementing institutions and organizations are necessary. Social, cultural, and other regional factors that would prevent the realization of the project should be identified and controlled. Practices should be checked periodically; the data gathered should be evaluated and regularly published. Objectives, strategies, activities, institutions concerned, potential obstacles, and indicators of progress had been identified in the tables prepared.

Success in the approach and implementation of any early diagnosis and screening program will be possible through lowering the cancer stage at diagnosis, and using allocated resources appropriately and on time.

Cancer is the second leading cause of death in low and medium income

countries, with a prevalence higher than infectious diseases (respiratory tract, HIV/AIDS, diarrhea, tuberculosis, etc.) (Anderson GF, Chu E. Expanding priorities--confronting chronic disease in countries with low income. *N Engl J Med* 2007;356(3):209-11.). World Health Organization (WHO) have recommended in 58th World Health Assembly in year 2005 [58th World Health Assembly in 2005, the World Health Organization (WHO) Resolution on Cancer Prevention and Control (WHA58.22)], for especially the low/medium income countries, to cooperate with it for the development of programs to reduce cancer mortality and to increase the quality of life for cancer patients and their families (58th World Health Assembly approved resolution on cancer prevention and control WHA58.22 Geneva: World Health Organization, 2005:2.). WHO have advised these countries to integrate cancer control programs into existing health systems, to develop programs where resources can be utilized in a most effective fashion for early diagnosis and treatment of cancer.

Breast cancer is the second more frequent type of cancer for all humans, following lung cancer. It is the most prevalent cancer in women in both developed and developing countries. It is the leading cancer related cause of death in women. While 796,000 new breast cancer cases and 314,000 breast cancer caused death had been identified in the study carried out by the World Health Organization (WHO) in year 1990, 1,152,000 new breast cancer cases and 411,000 breast cancer caused death had been estimated in the 2002 dated evaluation of International Agency for Research on (IARC), also under WHO. In this period, an increase of 25% has been observed in incidence and mortality rates of breast cancer. 5 year survival rates for any stage of breast cancer had been 73% in developed countries, and 53% in developing countries. The substantial difference can be explained with early diagnosis thanks to screening mammography, and better treatment facilities. Mortality rates for breast cancer are 30% (190,000 deaths / 636,000 cases) in developed countries, and 43% (221,000 deaths / 514,000 cases) in developing countries.

In Turkey, an incidence of 20/100,000 in eastern regions and 40-50/100,000 in western regions can be estimated with available data. The difference in incidence stems from the similarity of the life in western Turkey with that of Europe. One of

4 cancers in women is located in the breasts, while breast cancer is the most frequent cause of death.

Cervical cancer is the 3rd most frequent type of cancers in women, after breast and rectal cancers. While it has the 2nd place in developing countries, it fell to 6th rank in developed countries through successful implementation of screening programs, and in some cases, to 10th place. While approximately 400,000-500,000 new cervical cancer cases are identified globally each year, 190,000 of these die, with 78% of deaths occurring in developing countries. These numbers indicate the importance of screening programs in decreasing the prevalence and mortality rates associated with this cancer (1,2).

According to the data from the Ministry of Health of the Republic of Turkey, 623 cervical cancers had been identified in 1996, ranking 7th in all cancers diagnosed in women; whereas this number had escalated to 708, albeit the rank falling to 10th place. According to data for the year 2003, cervical cancer ranked 9th among all cancers in women, with 763 cases. According to the GLOBOCAN study carried out by the International Agency for Research on Cancer in year 2002, the cervical cancer incidence in Turkey is 4.5 per hundred thousand, while 1364 new cervical cancer cases and 726 cervical cancer related death is estimated for the same year. In year 2003, a publication by the Ministry of Health of the Republic of Turkey, Department of Cancer Control on 8 provinces deemed representative of Turkey had been published. Provinces chosen in that study are Ankara, Antalya, Edirne, Erzurum, Eskişehir, İzmir, Samsun, and Trabzon, with a population comprising 19,71% of the population of Turkey, whereas 36,82% of cancers in Turkey have been observed in these provinces. Hence, the study on 8 provinces is representative of numbers concerning all Turkey. The result of the study is that cervical cancer holds the 10th place among all cancers observed in women, with an incidence of 4,76 per hundred thousand.

METHODS

The National Cancer Screening and Early Diagnosis Group have met in Kızılcahamam / Ankara on 2-3 June 2008, and carried out a multidisciplinary study on cancer screening and early diagnosis programs to be implemented in Turkey. A member and family practice representative identified by the Ministry of Health, Department of Cancer Control, as well as general surgery, radiology, gynecology, and pathology specialists have participated in the study. First of all, targets and strategies have been identified and potential obstacles and methods of monitoring have been laid down on the issue of breast and cervical cancers, which are prevalent in Turkey, and for which early diagnosis and a decrease in mortality can be achieved through screening programs. Also preliminary studies have been carried out on other cancers where screening programs can be applied (i.e. colorectal cancer). 2 separate tables (Table I and II) have been created to present the findings.

CONCLUSIONS

There are two cancer types, for which a national screening program is required in Turkey for early diagnosis, per the recommendation of World Health Organization for screening. These are the cancers of the breast and cervix. Implementation of national screening programs for other cancers does not seem necessary at the moment, given their incidence rates and cost-effectiveness. However, it looks as if it would be necessary in the near future to develop and implement a national screening program for also the colorectal cancers.

The purpose of development and implementation of national screening programs for breast, cervical, and colorectal cancers within the national cancer control program is to intercept such cancers at an early stage through early diagnosis and screening, and to decrease the mortality rates for these cancers. In order to achieve that objective, the following targets must be taken into consideration:

1. To raise awareness on cancer,
2. To lower the stage of cancer and mortality rate for cancers subject to screening (breast, cervical, colorectal). To lay down screening standards for new cancers.

TARGET 1: TO RAISE AWARENESS ON CANCER

The most important strategy developed to achieve goals on this issue should be education and advocacy. In the implementation of this strategy, the following should be done, in that order:

1. **Preparation of the training module**
    a. Training of TRAINERS who will carry out the training activities (observation visits to specialization centers abroad)
    b. Training of medical professionals
        i. Training of first-step practitioners, family practitioners, midwifes, nurses, health officers, and health technicians
        ii. Training of directors (health director, chief of medicine, etc.) in agencies where early diagnosis and screening related medical personnel work
        iii. Training of physicians with specializations on fields related with early diagnosis of cancer and screening program
        iv. Preparation of printed materials for standard training
    c. Education of the Public (Education Program Taking Account of Cultural Differences)
        i. Public Education
        ii. Education at schools
        iii. Cooperation with the media
        iv. Cooperation with non governmental organizations
        v. Cooperation with the leaders of the Society (teachers, village headmen, imams)
        vi. Preparation of printed materials for standard training

Ministry of Health of the Republic of Turkey and the Department of Cancer Control are the institutions responsible with the implementation of this activity, and they are required to cooperate with the following institutions

1. Ministry of National Education
2. General Directorate of AÇSAP, General directorate of Primary Health Care Services, Department of Family Physicians, General Directorate of Treatment Services, General Directorate of Medical Training within the Ministry of Health of the Republic of Turkey
3. Universities
4. Training and Research Hospitals

5. Health Directorates
6. Specialization Associations;
    i. Association of Cervical Pathologies and Colposcopy,
    ii. Turkish Association of Gynecological Oncology
    iii. Turkish Association of Gynecology and Obstetrics,
    iv. Cytopathology Association,
    v. Turkish Association of Surgery,
    vi. National federation of breast diseases associations,
    vii. Federation of Pathology Associations,
    viii. Turkish Association of Radiology,
7. Media agencies
8. Non Governmental Organizations
9. World Health Organization
10. World Society for Breast Health
11. The Breast Health Global Initiative
12. IARC
13. UICC

The target date for the completion of these activities should be **31.12.2009**.

During the implementation of these activities, it is possible to face the insufficient awareness levels in the public, insufficient motivation on part of the participating personnel, lack of coordination among cooperating agencies, financial shortcomings, and inadequate standardization of education as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. **Short-term indicators:**
    a. Increase in the number of screening and early diagnosis related training meetings and participants (from public and medical personnel)
    b. Increase in the number of regular meetings on situation assessment and remedy of deficiencies between agencies concerned
    c. A clear and steady increase in the number of participants in screening and early diagnosis programs
    d. Increase in the number of patients with early stage cancers and pre-cancerous lesions

2. **Long-term indicators:**
    a. Training of 80% of medical personnel
    b. Training of 80% of the target group
    c. Decrease in the number of patients diagnose at the local advanced and metastatic stages
    d. Increases in disease-free and mean survival rates concerning cancer,
    e. Identification of a decrease in cancer-related treatment costs because of early diagnosis

Data to be collected for monitoring and control are:

1. Identification of available data
    a. Available data
    b. Surveys to be conducted
2. Number of early stage cancers and pre-cancerous lesions
3. Number and ratio of cancers diagnosed at an advanced stage
4. Number of patients diagnosed at the local advanced and metastatic stages
5. Cancer mortality rates
6. Number of trainings organized
7. Number of participants at trainings,
8. Observation of the participation to visits abroad by the team of training trainers
9. Treatment costs associated with cancers

TARGET 2: DECREASING THE STAGE AND MORTALITY FOR CANCERS SUBJECT TO SCREENING (BREAST, CERVICAL, COLORECTAL). ESTABLISHING SCREENING STANDARDS FOR NEW CANCERS

Identification of strategies, activities, related agencies to be cooperated, and potential obstacles in case of cancers for which screening programs for early diagnosis will be implemented (breast, colorectal, cervix), laying down progress indicators, monitoring and control data, ensuring diagnosis at an early stage for breast, colorectal and cervix cancers thanks to screening programs, hence decreasing morbidity and mortality rates related with these cancers, reducing medical expenditures with the help of early diagnosis and treatment, and establishment of screening and early diagnosis standards for other prevalent cancers in Turkey (cancers of skin, stomach, esophagus etc.) are the targets under this heading.

The most important strategies in reaching the targets on this issue are:

1. Assessment of cost-effectiveness analyses of screening programs
2. Development of screening registration systems at KETEMs
3. Cooperation in order to ensure data flow at screening centers other than KETEMs
4. Employment of personnel appointed to screening centers
5. Ensuring standardization and quality assurance at screening centers
6. Setting a screening standard for colorectal cancers, which are planned to be included in screening
7. Ensuring that population based nation-wide breast, cervical, and colorectal screening can be applied simultaneously

Assessment of cost-effectiveness of screening programs

For the implementation of this strategy the following would be the most important activities, in that order:

- Carrying out and conclusion of cost-effectiveness analysis for screening
    1. Assessment of breast cancer screening within the framework of existing pilot activities,
    2. Conducting cost-effectiveness analysis for colorectal cancers
    3. Making use of Şanlıurfa and Van cervical cancer screening pilot projects, conducting cost-effectiveness analysis for cervical cancers.

Ministry of Health of the Republic of Turkey, the Department of Cancer Control is the institution responsible with the implementation of this activity, and it is required to cooperate with the following institutions.

1. Relevant units of the Ministry of Health
2. Ministry of Finance
3. WHO
4. Universities
5. Training and Research Hospitals
6. KETEMs
7. IARC
8. National and international non governmental organizations
    a. World Society for Breast Health (WSBH)
    b. The Breast Health Global Initiative
9. Other relevant national and international NGOs and related specialist associations

31.12.2009 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face the problem of sharing authority/responsibility between cooperating agencies and institutions, failure to complete /evaluate the pilot studies to constitute examples for screening, financial shortcomings, lack of definition in existing BUT, and failure to use resources effectively as potential obstacles.

Indicator of progress to monitor the progress of these activities is the preparation of the report, while the data to be collected for monitoring and control should be the assessment of existing policies in accordance with the conclusions of reports.

Development of Screening Registration System at KETEMs:

For the implementation of this strategy the following activities should be carried out, in that order:

1. Preparation of standard forms,
2. Creation of web-based software,
3. Ensuring data flow over the internet,
4. Establishment of the system allowing the monitoring of patient's forwarding chain with the Republic of Turkey identification number.

Ministry of Health of the Republic of Turkey and the Department of Cancer Control are the institutions responsible with the implementation of these activities, and they are required to cooperate with the following institutions.

1. Relevant units of the MoH
2. Universities
3. Training and Research Hospitals
4. Directorates of Health
5. Specialist Associations;
    a. Association of Cervical Pathologies and Colposcopy,
    b. Turkish Association of Gynecological Oncology
    c. Turkish Association of Gynecology and Obstetrics
    d. Cytopathology Association,
    e. Turkish Association of Surgery,
    f. National Federation of Breast Diseases Associations,
    g. Federation of Pathology Associations,
    h. Turkish Association of Radiology
6. Other relevant associations
7. Software firms

31.12.2009 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face shortcomings in keeping the data, deficiencies to be experienced with the software, financial shortcomings, insufficient control and continuity of activities, lack of coordination among cooperating agencies, and insufficient personnel to keep data records as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. Increase in the number of persons subjected to screening
2. Preparation of relevant forms
3. Use of relevant forms
4. Ensuring data flow over the internet

Data to be collected for monitoring and control should be:

1. Analysis of available data
2. Number of screened persons
3. Observing the ready-for-use versions of the relevant forms
4. Observing the introduction of the relevant forms for use
5. Observing the start of data flow over the internet.

Cooperation in order to ensure data flow at screening centers other than KETEMs:

For the implementation of this strategy the following would be the most important activities, in that order:

1. Conducting trainings on screening programs for the personnel at screening centers other than KETEMS
2. Collecting information in cooperation with the related centers
3. Ensuring the use of existing standard forms by the relevant centers, and the notification to the Department of Cancer Control (KSDB).

Ministry of Health of the Republic of Turkey and the Department of Cancer Control are the institutions responsible with the implementation of these activities, and they are required to cooperate with the following institutions.

1. Relevant units of the MoH
2. Universities

3. Directorates of Health
4. Health Centers
5. AÇSAP Centers
6. Training and Research Hospitals
7. Municipality Hospitals
8. Private Hospitals and Polyclinics
9. Specialist Associations
10. Non governmental organizations

31.12.2009 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face financial shortcomings, lack of trained personnel, inadequate technical infrastructure, and lack of coordination among cooperating agencies as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. Increase in the number and scope of trainings
2. Ensuring regular collection of data
3. Ensuring the use of standard forms by relevant centers

Data to be collected for monitoring and control should be:

1. Number of trainings and trainees
2. Observation of regular data collection
3. Observation of the use of standard forms by relevant centers

Employment of personnel appointed to screening centers:

For the implementation of this strategy the following would be the most important activities, in that order:

1. Planning with the MoH Gen. Dir. of Personnel, Provincial Health Directorates and Chiefs of Hospitals
2. Training of Health Directors and relevant hospitals' chiefs of medicine on the importance of KETEMs and early diagnosis in cancer
3. Increasing the number of specialists to offer consultation services in accordance

with needs (general surgery, gynecology, radiology, dermatology, pathology)

4. Definition of the cadres of cytotechnologists for the evaluation of the smear test, training and appointment of personnel in accordance with the needs
5. Compliance with national standards in reading mammographies
6. Providing continuous trainings and certifications using interactive methods in cooperation with relevant professional associations
7. Preventing the appointment of certified personnel outside screening activities
8. Encouraging personnel taking part in screening services through bonuses

Ministry of Health of the Republic of Turkey and the Department of Cancer Control are the institutions responsible with the implementation of these activities, and they are required to cooperate with the following institutions.

1. Prime Ministry
2. Relevant units of the MoH
3. YÖK
4. Universities
5. Training and Research Hospitals
6. Municipality Hospitals
7. Specialist Associations
    a. Association of Cervical Pathologies and Colposcopy,
    b. Turkish Association of Gynecological Oncology
    c. Turkish Association of Gynecology and Obstetrics
    d. Cytopathology Association,
    e. Turkish Association of Surgery,
    f. National Federation of Breast Diseases Associations,
    g. Federation of Pathology Associations,
    h. Turkish Association of Colorectal Surgery
    i. Turkish Association of Radiology
    j. Turkish Association of Radio-technology
8. Non governmental organizations

31.12.2009 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face financial shortcomings, lack of trained personnel, insufficient coordination among cooperating institutions, employment of trained personnel at other positions, and frequent re-appointment of trained personnel as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. Increase in the numbers of trained health directors and chiefs of medicine
2. Increase in the number of interactive trainings on screening
3. Increase in the number of personnel certified on the issue of screening
4. Lengthening employment periods of personnel employed in screening services
5. Increases in the bonuses for personnel employed in screening services
6. Number of newly created cadres

Data to be collected for monitoring and control should be:

1. Analysis of existing data
2. Number of trained health directors and chiefs of medicine
3. Number of trainings on screening
4. Number of personnel employed in screening
5. Employment periods of personnel employed in screening services
6. Bonuses for personnel employed in screening services

Ensuring standardization and quality assurance at screening centers:

For the implementation of this strategy the following would be the most important activities, in that order:

1. Increasing the quality of devices, equipment and technical service at centers
2. Implementation of standardization programs related with screening, prepared by associations and National Cancer Advisory Board's Early Diagnosis and Screening sub-committees
3. Standardization of training programs
4. Carrying out quality control activities and the preparation of KETEM Quality Handbook.

Ministry of Health of the Republic of Turkey, the Department of Cancer Control is the institution responsible with the implementation of these activities, and it is required to cooperate with relevant units of the MoH, National Cancer Advisory Board's Early Diagnosis and Screening Sub-committees, as well as relevant associations.

31.12.2009 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face financial shortcomings and insufficient coordination among cooperating institutions as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. Observation of an increase in the technology level of the equipment used
2. Observation of prepared standard programs regarding screenings
3. Observation of standardized training programs
4. Observation of established quality control mechanisms

Data to be collected for monitoring and control should be:

1. Increase in the technology level of the equipment used
2. Existence of standard programs regarding screenings
3. Standardization of training programs
4. Establishment of quality control mechanisms

Ensuring that population based nation-wide breast and cervical cancer screening can be applied simultaneously

For the implementation of this strategy the following would be the most important activities, in that order:

1. Identification of the population to be screened making use of ETFs at health centers as well as the records of Municipalities and Population Registries
2. Planning of a program aiming to screen 70% of the population
3. Conduct of smaller scale pilot programs before the planning of such programs.

Ministry of Health of the Republic of Turkey and the Department of Cancer Control are the institutions responsible with the implementation of these activities, and they are required to cooperate with the following institutions.

1. Relevant units of the MoH
2. National Cancer Advisory Board
3. Health Directorates
4. Chiefs of Medicine from relevant hospitals
5. KETEMs (public and private)
6. Health Directorates
7. Chiefs of Medicine from relevant hospitals
8. Health Centers
9. Municipalities
10. Population Registries
11. TÜİK (Statistics Institution of Turkey)

31.12.2010 should be the target completion date for these activities.

During the implementation of these activities, it is possible to face financial shortcomings, lack of trained personnel, inadequacy of the technical infrastructure, and insufficient coordination among cooperating institutions as potential obstacles.

Indicators of progress to monitor the progress of these activities are:

1. Increase in the number of pilot activities performed
2. 70% coverage of the population to be screened

Data to be collected for monitoring and control should be:

1. Number of pilot activities performed
2. The screened population.

DISCUSSION

As a conclusion, the breast cancer is the most prevalent type of cancer diagnosed in women in Turkey, and it should be the subject of a modern and continuous screening and registration program. On the other hand, the cervical cancer, albeit seemingly not an issue on the incidence picture in Turkey, the numerical increases in the diagnose of premalignant lesions in recent years necessitates the development and implementation of screening programs for later years. There are substantial obstacles before the implementation of these projects in Turkey (bureaucracy, authority, difficulty of working together, ignorance…). However, the Department of Cancer Control, Universities, National Cancer Advisory board, Scientific and Social Associations are trying to establish and implement a national cancer policy. The implementation of such programs, which are a requirement of development and a need of Turkish women, necessitates the embrace of the issue not as a personal matter, but as a national goal, a struggle against the difficulties faced, patience, and the devotion and support of all the units concerned.

Report of the Early Diagnosis and Screening of Cancer Group
TABLES
Ankara, 27-29 AUGUST 2008

Objectives:

1. Preparing screening programs appropriate for the conditions in Turkey for especially those cancers which are proven to have decreased mortality through screening programs (breast cancer, colorectal cancer, cervical cancer etc.).
2. Identification of strategies, activities, agencies to be cooperated with for the effective implementations of the prepared programs, as well as potential obstacles before the implementation of such programs, laying down progress indicators, monitoring and control data
3. Through Screening and Early Diagnosis:
    a. Creating and raising the awareness about cancer by educating the public.
    b. Intercepting cancer at an early stage.
    c. Increasing mean survival and disease-free survival rates for cancer patients
    d. Increasing the quality of life for cancer patients
    e. Decreasing the amount of social, economic, and psychological obstacles facing cancer patients, their relatives, and the society

Targets:

1. Education:

a- Educating the society about cancer, early diagnosis, and screening programs, and create awareness

b- Training of medical personnel (doctors, nurses, health officials, midwives, technicians etc) on cancer, early diagnosis, and screening programs, and ensuring their participation

2- Ensuring cooperation and coordination among institutions concerned on the issue of cancer screening and early diagnosis

Strategies	Activities	Responsible Institution(s)	Institution(s) to Cooperate with	Completion Date	Potential Obstacles	Indicators of Progress	Data for Monitoring and Control
To create awareness about cancer by education activities	**Preparation of education module** **a- Training of TRAINERS who will conduct training activities (*Observation visits to specialization centers abroad)** **b- Training of Medical Personnel** 1. Training of first-step practitioners, family practitioners, midwifes, nurses, health officers, and health technicians	• KSDB	• Ministry of National Education • Ministry of Health ● AÇSAP Gen. Dir. ● Gen. Dir. Of Primary Health Care Services ● Gen. Dir. Of Treatment Services ● Gen. Dir. Of Medical Education	31.12.2009	● Insufficient awareness and education levels in the public, ● Failure to make screening and early diagnosis in cancer a priority for public ● Inadequate knowledge on the issue, on part of medical personnel, lack of belief in early diagnosis and screening programs	a- Short term indicators ● Increase in the number of screening and early diagnosis related training meetings and participants (from public and medical personnel) ● Increase in the number of regular meetings on situation	● Identification of available data ○ Available data ○ Surveys to be conducted ● Number of early stage cancers and pre-cancerous lesions ● Number and ratio of cancers diagnosed at an advanced stage ● Number of patients diagnosed at the local advanced and metastatic stages

	2. Training of directors (health director, chief of medicine, etc.) in agencies where early diagnosis and screening related medical personnel work 3. Training of physicians with specializations on fields related with early diagnosis of cancer and screening program 4. Preparation of printed materials for standard training **c- Education of the Public (Education Program Taking Account of Cultural Differences)** 1. Public Education 2. Education at schools 3. Cooperation with the media 4. Cooperation with non governmental organizations 5. Cooperation with the leaders of the Society (teachers, village headmen, imams) 6. Preparation of printed materials for standard training (*Those appointed in the team training trainers)		● Other Relevant Units • Universities • Training and Research Hospitals • Health Directorates • Specialist Associations; ●Association of Cervical Pathologies and Colposcopy, ●Turkish Association of Gynecological Oncology ●Turkish Association of Gynecology and Obstetrics ●Cytopathology Association, ●Turkish Association of Surgery, ●National Federation of Breast Diseases Associations, ●Federation of Pathology Associations ●Turkish Association of Radiology, ●Other relevant Specialist Associations • Media agencies • Non Governmental Organizations • World Health Organization • World Society for Breast Health	31.12.2013	● Motivation of the personnel participating in the training, ● Lack of coordination among cooperating agencies, discussion over authority and responsibility ● Failure to use resources properly and efficiently ● Financial shortcomings, ● Inadequate standardization of the education of the public and medical personnel	assessment and remedy of deficiencies between agencies concerned ● A clear and steady increase in the number of participants in screening and early diagnosis programs ● Increase in the number of patients with early stage cancers and pre-cancerous lesions b- Long term indicators a. Training of 80% of medical personnel b. Training of 80% of the target group ● Decrease in the number of patients diagnose at the local advanced and metastatic stages, ● Increases in disease-free and mean survival rates concerning cancer, ● Identification of a decrease in cancer-related treatment costs because of early diagnosis	● Cancer mortality rates ● Number of trainings organized ● Number of participants at trainings, ● Observation of the participation to visits abroad by the team of training trainers ● Treatment costs associated with cancers

			• The Breast Health Global Initiative • IARC • UICC				

Targets 2:

a. Identification of strategies, activities, agencies to be cooperated with, as well as potential obstacles before the implementation of screening programs **for early diagnosis** of cancers (breast, colorectal, cervix)
b. laying down progress indicators, monitoring and control data
c. Providing diagnosis at an early stage for breast, colorectal and cervix cancers thanks to screening programs, decreasing cancer related morbidity and mortality rates
d. Decreasing medical expenditures through early diagnosis and treatment
e. Establishment of screening and early diagnosis standards for other prevalent cancers in Turkey (cancers of skin, stomach, esophagus etc.).

Strategies	**Activities**	**Responsible Institution(s)**	**Institution(s) to Cooperate with**	**Completion Date**	**Potential Obstacles**	**Indicators of Progress**	**Data for Monitoring and Control**
Assessment of cost-effectiveness analyses of screening programs	1. Carrying out and conclusion of cost-effectiveness analysis for screening a. Assessment of breast cancer screening within the framework of existing pilot activities, b. Conducting cost-effectiveness analysis for colorectal cancers c. Making use of Şanlıurfa and Van cervical cancer screening pilot projects, conducting cost-effectiveness analysis for cervical cancers.	• KSDB	• Relevant units of the Ministry of Health Ministry of Finance • WHO • Universities • Training and Research Hospitals • KETEMs • IARC • National and International Non Governmental Organizations ● World Society for Breast Health (WSBH) ●The Breast Health Global Initiative ● Other relevant national and international	31.12.2009	● The problem of sharing authority/responsibility between cooperating agencies and institutions, ● Failure to complete / evaluate the pilot studies to constitute examples for screening, ● Financial shortcomings, lack of definition in existing BUT, ● Failure to use resources effectively	● Preparation of the analysis report ●Assessment of existing policies in accordance with the conclusions of reports	● Final versions of analysis reports

			NGOs and Specialist Associations concerned				
Development of Screening Registration System at KETEMs	1. Preparation of standard forms, 2. Creation of web-based software, 3. Ensuring data flow over the internet, 4. Establishment of the system allowing the monitoring of patient's forwarding chain with the Republic of Turkey identification number, hence preventing duplications	• KSDB	• Relevant units of the MoH • Universities • Training and Research Hospitals • Health Directorates • Specialist Associations; ●Association of Cervical Pathologies and Colposcopy, ●Turkish Association of Gynecological Oncology ●Turkish Association of Gynecology and Obstetrics ●Cytopathology Association, ●Turkish Association of Surgery, ●National Federation of Breast Diseases Associations, ●Federation of Pathology Associations ●Turkish Association of Radiology ● Other relevant	31.12.2009	● Shortcomings in keeping the data ● deficiencies to be experienced with the software ● financial shortcomings ● insufficient control and continuity of activities ● lack of coordination among cooperating agencies ● insufficient personnel to keep data records	● Increase in the number of persons subjected to screening ● Observing the ready-for-use versions of the relevant forms ● Observing the introduction of the relevant forms for use ● Observing the start of data flow over the internet	● Analysis of available data ● Number of screened persons ● Preparation of relevant forms ● Use of relevant forms ● Start of data flow over the internet

			associations • Software firms				
Cooperation in order to ensure data flow at screening centers other than KETEMs	1. Conducting trainings on screening programs for the personnel at screening centers other than KETEMs 2. Collecting information in cooperation with the related centers 3. Ensuring the use of existing standard forms by the relevant centers, and the notification to KSDB	• KSDB	• Relevant units of MoH • Universities • Health Directorates • Health Centers • AÇSAP Centers • Training and Research Hospitals • Municipality Hospitals • Private Hospitals and Polyclinics • Specialist Associations • Non governmental organizations	31.12.2010	● Financing ● Lack of trained personnel ● Inadequacy of technical infrastructure ● Lack of coordination among relevant agencies	● Increase in the number and scope of trainings ● Observation of regular data collection ● Observation of the use of standard forms by relevant centers	● The number and scope of trainings ● Ensuring regular collection of data ● Ensuring the use of standard forms by relevant centers
Employment of personnel appointed to screening centers	1. Planning with the MoH Gen. Dir. of Personnel, Provincial Health Directorates and Chiefs of Medicine 2. Training of Health Directors and relevant hospitals' chiefs of medicine on the importance of KETEMs and early diagnosis in cancer 3. Increasing the number of specialists to offer consultation services in accordance with needs (general surgery, gynecology, radiology, dermatology, pathology) 4. Definition of the cadres of cytotechnologists for the	• KSDB	• Prime Ministry • Relevant units of the MoH • YÖK • Universities • Training and Research Hospitals • Municipality Hospitals • Specialist Associations ●Association of Cervical Pathologies and Colposcopy ● Gynecological Oncology	31.12.2009	● Financing ● Lack of trained personnel ● Lack of coordination among relevant agencies ● Employment of trained personnel in unrelated posts ● Mobility of trained personnel	● Increase in the numbers of trained health directors and chiefs of medicine ● Increase in the number of interactive trainings on screening ● Increase in the number of personnel certified on the issue of screening ● Lengthening employment periods of personnel employed in screening	● Analysis of existing data ● Number of trained health directors and chiefs of medicine ● Number of trainings on screening ● Number of personnel employed in screening ● Employment periods of personnel employed in screening services ● Bonuses for personnel employed in screening services

	evaluation of the smear test, training and appointment of personnel in accordance with the needs 5. mpliance with national standards in reading mammographies 6. Providing continuous trainings and certifications using interactive methods in cooperation with relevant professional associations 7. Preventing the appointment of certified personnel outside screening activities 8. Encouraging personnel participating in screening services with bonuses		Association ●Turkish Association of Gynecology and Obstetrics ●Cytopathology Association ●Turkish Association of Surgery ●National Federation of Breast Diseases Associations ●Federation of Pathology Associations ● Turkish Association of Colorectal Surgery ●Turkish Association of Radiology ● Turkish Association of Radiotechnology • Non governmental organizations			services ● Increases in the bonuses for personnel employed in screening services ● Number of newly created cadres	
Ensuring standardization and quality assurance at screening centers	1. Increasing the quality of devices, equipment and technical service at centers 2. Implementation of standardization programs related with screening, prepared by associations and National Cancer Advisory Board's Early Diagnosis and Screening sub-committees 3. Standardization of training programs 4. Carrying out quality control activities a. The preparation of KETEM Quality	○ KSDB	• Relevant units of the MoH • National Cancer Advisory Board ● Early Diagnosis and Screening sub-committees • Relevant Associations	31.12.2009	● Financial problems ● Lack of coordination among cooperating agencies	● Observation of an increase in the technology level of the equipment used ● Observation of prepared standard programs regarding screenings ● Observation of standardized training programs ● Observation of established quality control	● Increase in the technology level of the equipment used ● Existence of standard programs regarding screenings ● Standardization of training programs ● Establishment of quality control mechanisms

	Criteria Handbook					mechanisms	
Ensuring that population based nation-wide breast, cervical, and colorectal cancer screening can be applied simultaneously	1. Identification of the population to be screened making use of ETFs at health centers as well as the records of Municipalities and Population Registries 2. Planning of a program aiming to screen 70% of the population 3. Conduct of smaller scale pilot programs before the planning of such programs.	• KSDB	• Relevant units of the MoH • National Cancer Advisory Board • Health Directorates • Chiefs of Medicine from relevant hospitals • KETEMs (public and private) • Health Directorates • Chiefs of Medicine from relevant hospitals • Health Centers • Municipalities • Population registries • TÜİK (Statistics Institution of Turkey)	31.12.2010	● Financial Problems ● Lack of Trained Personnel ● Inadequacy of the technical infrastructure ● Lack of coordination among cooperating agencies,	● Increase in the number of pilot activities carried out ● 70% coverage of the population to be screened	● Number of pilot activities performed ● The rate of screened population

NATIONAL CANCER CONTROL PROGRAMME
TREATMENT GROUP REPORT

Cancer incidence is increasing worldwide, being more pronounced in developing countries. Likewise, an increase in cancer incidence is expected in Turkey too. In Turkey, cancer incidence is calculated as 180-200 in 100,000 according to existing data, and this figure is half that of the EU States. An important reason of such a difference in incidence between Turkey and the European Union Member States is the age distribution of the population. Cancer is essentially a middle-elder age disease and 90% of the newly diagnosed individuals with cancer are 45 years old or older. In Turkey, in accordance with 2000 data, individuals 45 years old or older make up 20.6% of the population, while the same year in France individuals 45 years old or older make up 39.2% of the population.

With a population of seventy two millions and an incidence of 200 in 100,000, every year 144,000 new cancer cases re expected in Turkey. In Turkey, spread over a wide geography and covering regions varying in development, there is the necessity to improve various different parameters to meet this patient load. To this end, five main headings have been identified to improve treatment services in cancer:

A. Improving Human Resources
B. Improving the Technological and Physical Infrastructure
C. Development of a National Policy in Diagnosis, Treatment and Medicament Applications
D. Establishment of a National Organization Structure in Cancer
E. Establishment of a Delivery Chain Structure in Diagnosis, Treatment and Scientific Research Concerning Cancer

A. Improving Human Resources

A successful cancer diagnosis and treatment process can only be implemented through cooperation of all the related medical branches. Thus, the National Cancer Control Programme should encompass increase of the number and qualifications of the health professionals, having expertise in their fields. Within this context, the fields in which such necessity is especially felt have been identified as follows:

- Increasing the number of experts in medical oncology, paediatric oncology, pathology/cytopathology and medical epidemiologists.
- Definition and making compulsory the side branch expertises of surgical oncology, gynaecologic oncology, uro-oncology, ENT oncology and orthopaedic oncology. To this end, granting expertise certificate to surgeons who have an experience of at least 10 years in their branches to establish the first training group. Establishment of certification programmes with courses in the mentioned surgical branches.
- Defining Palliative Care Expertise training.
- Defining Medical Physics Expertise and its side branches.
- In service training and cadre allocation in Algology.
- In service training and cadre allocation for psycho-oncology expertise, supervised by a psychiatry expert experienced on cancer.
- Increase of the number of and cadre allocation for nurses experienced in oncology (at least 5 years), development of training-certification programmes for expert nurses in oncology.
- Ensuring certification and in service training for palliative care nursing.
- Activities concerning certification, in service training and cadre allocation for dieticians in cancer nutrition.
- Cadre definition and certification of other assistant personnel (dosimetrist, etc) related to oncology.

It is possible to mention the probable obstacles that may be encountered while conducting such activities as Deficiency in coordination between concerned institutions, Financing shortage, and Trained staff shortage in the short term. It is essential that the activities are conducted in cooperation under the coordination of the Ministry of Health with institutions such as:
Ministry of Finance, SPO (DPT), HEC (YÖK), Universities, Training and Research Hospitals, Relevant Professional Associations (Turkish Surgery, Surgical Oncology, National Breast Diseases Federation, Turkish Gynaecologic Oncology, Servikal Pathologies and Colposcopy, Turkish Lung Cancer, Urooncology, Orthopaedic Oncology, Medical Oncology, Radiation Oncology, Turkish Paediatric Oncology Group, Oncology Nursing, Psycho-oncology, Medical Physics, Palliative Care, Turkish Dieticians, Infectious Diseases etc. Associations) WHO (DSÖ), TAEI (TAEK).
To be able to assess the results of the activities conducted, the indications such as the rate of increase in the number of necessary personnel, number of programmes organised for continuous training and certification, increase in the number of participants in certification programmes, adoption of the new oncology side branch expertises, and making the related profession definitions should be monitored.

B. Improvement of the technological and physical infrastructure

In Turkey, obvious progress has been made in investments concerning medical instruments. There are only a few headings, the importance of which are being felt concerning technological and physical infrastructure in the process of diagnosis and treatment of cancer. The leading issue within the headings is the low number of radiotherapy instruments and the quality deficiency thereof in the technological sense. The high investment and operation costs in this field may be regarded as another consequent problem.

It is stated that 50-60% of all cancer patients need radiotherapy at some stage of their treatment. The literature sources of the West Europe likewise report that annually the number of patients getting radiotherapy is about 50-60% of the annual newly diagnosed cancer patients. Thus, in Turkey, it is expected that every year 72,000-86,000 new patients will get radiotherapy. Ideally, 400-500 patients may be treated annually in one radiotherapy instrument. Under intense work conditions, this figure might be increased to 600. If in Turkey 500 patients per instrument is identified as the target, there has to be 140 to 180 instruments and these should be evenly distributed geographically. Half of the radiotherapy instruments in Turkey are Co60 based. It is possible to conduct more successful radiotherapy applications with Linear Accelerator (LH) instruments. Co60 based instruments are gradually being abandoned in the Western countries since they are problematic with respect to radiation safety. Therefore, in Turkey, the existing necessity for instruments should be met with LH instruments.

The strategies to be used in improvement of the technological and physical infrastructure in general may be listed as follows:

- Identification of the necessities in centres
- Purchase of new instruments. Increase of the number of existing instruments
- Increase in the number of Linear Accelerators in time, which constitute the half of total instruments and improvement of radiation safety.
- Ensuring radiation safety standards in radiology, nuclear medicine and radiation oncology units
- Spreading units which can implement chemotherapy protocols planned at the Oncology centres under standard conditions, at the province/district levels
- In parallel to this structuring, support of hospital administrations in trained personnel and technical equipment

- Identification of standards for instrument profile and applications for chemotherapy units and implementation of quality control programmes
- Spreading the utilisation of medical instruments which ensure easy usage for patients
- Spreading the utilisation of medical instruments which ensure safety and convenience for the patient and the healthcare personnel in chemotherapy applications
- Placing importance in treatment options requiring special equipment and experience such as stereotaxical radio-surgery, brakitherapy, intraoperative radiotherapy and establishment of the related infrastructure
- Development of financing resources; e.g., introduction of a fund share in selling prices for carcinogenic substances for cancer protection, diagnosis, treatment and research which may be ensured by defined ratios in profit of such sales
- Support for training an technical infrastructure for centres specialised in cancer for newly emerging surgical technologies (CUSA, Robotic Surgery and the like)
- Guiding documents/treatment protocols published by the Ministry of Health
- Legislations that facilitate research with generic drugs

It is possible to mention the probable causes that may be encountered while conducting such activities as deficiency in coordination between concerned institutions, financing shortage, and trained staff shortage in the short term. For solving such problems, activities should be conducted under the coordination of the Ministry of Health among institutions such as the related units of the Ministry of Health, the SPO, the Ministry of Finance, the Turkish Atomic Energy Institution and the relevant professional associations, in cooperation.

In order to be able to assess the results of the activities conducted, indications such as increase in the number of instruments, increase in the number of centres using safe instruments, increase in the number of in service trainings organised, increase in the number of training participants, increase in the number of centres applying surgical technology and increase in the number of cancer treatment centres by years, in accordance with the identified necessary number should be monitored.

C. Development of a national policy in diagnosis, treatment and medicament applications

It will be appropriate to realise the following strategies for solving the problems experienced in supply and usage of cancer drugs in Turkey:

- Ensuring the supply in Turkey of fundamental chemotherapy medications used in standard treatment
- Identification of palliative care at every stage in planning cancer treatment
- Identification of a policy for limitation in pricing new drugs used in cancer treatment based on cost-effectiveness
- Establishment of academic research committees and preparation and publication of guide documents
- Preparation of national treatment protocols
- Ensuring re-payment for using cancer drugs with generic right in non-indication routine application when prescribed with a committee report with at lest two relevant experts

Keeping up-dated lists of drug to be included in the scope of repayment by the Social Insurance Institution and terms of such repayment

The most probable barrier that we may confront in realising these activities is the insufficiency of coordination among related organs. In the execution of such activities

cooperation should be made under the coordination of the Ministry of Health with institutions such as the related units of the Ministry of Health, the Ministry of Finance, the Social Security Institution, Universities and the Pharmaceutical Industry.

In order to be able to assess the results of the activities conducted, availability of fundamental chemotherapy medications in the market, establishment of a Turkish Medication and Medical Instrument Institution, binding medication usage communiqués, guiding documents/treatment protocols published by the Ministry of Health, legislations that facilitate research with generic drugs, the execution of special agreements with drug companies at the stage of licensing of new cancer drugs should be monitored.

D. Establishment of a national organization structure in cancer

A National Cancer Institution should be established in Turkey to provide support for researches on cancer, to ensure that training on cancer control is given under modern standards, to spend effort to establish standards for cancer diagnosis and treatment throughout Turkey, to make public the modern treatment methods, to monitor the side effects of cancer treatment, to monitor continuously the increase in cancer rates in some regions and when necessary to identify the measures to be taken, to prepare and present action plans, to work in cooperation with other government organs concerning the issues, to act as coordinator between public or private institutions that provide service in Turkey concerning cancer, to ensure all kinds of up-to-date information concerning cancer, and to accumulate sound cancer data. The concerning strategy is as follows:

- Legal arrangements should be made for the establishment of an autonomous National Cancer Institution, directly attached to the Ministry of Health (aimed at research, planning and consultation, mainly academicians)

The probable obstacles that may be encountered while conducting such activities will be deficiency in coordination between concerned institutions, financing shortage, and trained staff shortage in the short term.

In the execution of such activities cooperation should be made under the coordination of the Ministry of Health and the Prime Ministry with institutions such as the TNGA (TBMM), SPO (DPT), Universities, TÜBİTAK, HEC (YÖK), Research and Training Hospitals, Relevant Professional Associations, National Institutes of the EU States, NCI.

In order to be able to assess the results of the activities conducted, the enforcement of the Law on National Cancer Institution and the realisation of the establishment of the Institution should be monitored.

E. Establishment of a delivery chain structure in diagnosis, treatment and scientific research concerning cancer

Access of all Turkish citizens who are in such a need to institutions indulged in activity concerning cancer should be ensured. Therefore, the health institutions active in cancer and their distribution throughout in Turkey should be determined. This access should be facilitated through arrangements in the delivery chain.

- Regional treatment centres should be identified, considering population density, rate of cancer incidence, migrations, application stages and similar factors.
- A delivery chain structure in accordance with treatment necessities and scientific research projects between centres should be established.
- Inspections should be standardised in this sense.

The probable barriers that we may confront in realising these activities will be deficiency in coordination between concerned institutions, financing shortage, and trained staff shortage in the short term.

In the execution of such activities cooperation should be made under the coordination of the Ministry of Health with institutions such as the related units of the Ministry of Health, universities, training and research hospitals, private hospitals.

In order to be able to assess the results of the activities conducted, the rate of establishment of the planned centres and the establishment of the delivery chain structure should be monitored.

GROUP REPORT ON CANCER TREATMENT

Object

Improvement of cancer treatment services within the scope of the National Cancer Control Programme

Targets

1. **Improvement of human resources**
2. **Improvement of the technological and physical infrastructure**
3. **Development of a national policy in approach to medicaments and treatment**
4. **Establishment of a national organization structure in cancer**
5. **Establishment of a delivery chain structure in diagnosis, treatment and scientific research concerning cancer**

Strategies	Activities	Responsible institution	Institutions for cooperation	Date of completion	Probable barriers	Indications of progress	Data to be provided for monitoring and control
1. Improvement of human resources	• Increasing the number of experts in medical oncology, paediatric oncology, pathology/cytopathology and medical epidemiologists • Definition and making compulsory the side branch expertises of	• Ministry of Health	• Ministry of Finance • SPO • HEC (YÖK) • Universities • Training and Research Hospitals • Relevant Professional Associations • The Turkish Surgery, • ,Surgical Oncology • National Breast	2009-2013	• Financing shortage • Trained staff shortage in the short term • Deficiency in coordination between concerned institutions	• Rate of increase in the number of necessary personnel • Number of programmes organised for continuous training and certification • Increase in the number of participants in certification programmes • Adoption of	•Analysis of the existing situation •Number of personnel •Number of certification programmes and participants thereof •Number of side branch expertises •Monitoring of the number of new profession

	surgical oncology, gynaecologic oncology, uro-oncology, ENT oncology and orthopaedic oncology. To this end, granting expertise certificate to surgeons who have an experience of at least 10 years in their branches to establish the first training group. Establishment of certification programmes in the mentioned surgical branches. • Definition of Palliative Care Expertise training • Definition of Medical Physics Expertise and its side branches • In service training and cadre allocation in Algology		Diseases Federation • Turkish Gynaecologic Oncology • Servikal Pathologies and Colposkopy • Turkish Lung Cancer • Urooncology • Orthopaedic Oncology • Medical Oncology • Radiation Oncology • Turkish Paediatric Oncology Group • Oncology Nursing • Psycho-oncology • Medical Physics • Palliative Care • Turkish Dieticians • Infectious Diseases • DSÖ (WHO)			the new oncology side branch expertises • Making the related profession definitions	definitions

	• In service training and cadre allocation for psycho-oncology expertise, supervised by a psychiatry expert experienced on cancer • Increase of cadre allocation for nurses experienced in oncology (at least 5 years), development of training-certification programmes for expert nurses in oncology Ensuring certification and in service training for palliative care nursing		• TAEI (TAEK)				

	• Activities concerning certification, in service training and cadre allocation for dieticians in cancer nutrition • Cadre definition and certification of other assistant personnel (dosimetrist, etc) related to oncology • Increase in the number of personnel with epidemiology training and personnel allocation for the establishment of the national cancer data base						
2. Improvement of the technological and physical infrastructure	• Identification of the necessities in centres	• Ministry of Health	• Relevant Sub-units of the Ministry of Health • SPO • Ministry of Finance	2015	• Financing • Trained staff shortage • Deficiency in	• Increase in the number of instrument • Increase in the number of centres using	• Analysis of the existing situation • Number of instruments • Number of

	• Purchase of new instruments. Increase of the number of existing instruments • Increase in the number of Linear Accelerators in time, which constitute the half of total instruments and improvement of radiation safety. • Ensuring radiation safety standards in radiology, nuclear medicine and radiation oncology units. • Spreading units which can implement chemotherapy protocols planned at the Oncology centres under standard		• Turkish Atomic Energy Institution • Relevant Professional Associations		coordination between concerned institutions	safe instrument • Increase in the number of in service trainings organised • Increase in the number of training participants • Increase in the number of centres applying surgical technology • Increase in the number of cancer treatment centres by years, in accordance with the identified necessary number	centres using safe instrument •Number of in service trainings organised •Number of training participants

	conditions, ay the province/district levels • In parallel to this structuring, support of hospital administrations in trained personnel and technical equipment • Identification of standards for instrument profile and applications for chemothrary units and implementation of quality control programmes • Spreading the utilisation of medical instruments which ensure easy usage for patients • Spreading the utilisation of medical instruments which ensure safety and convenience for						

	the patient and the healthcare personnel in chemotherapy applications • Placing importance in treatment options requiring special equipment and experience such as stereotaxical radio-surgery, brakitherapy, intraoperative radiotherapy and establishment of the related infrastructure • Development of financing resources; e.g., introduction of a fund share in selling prices for carcinogenic substances for cancer protection, diagnosis, treatment and research which may be ensured						

	by defined ratios in profit of such sales • Support for training an technical infrastructure for centres specialised in cancer for newly emerging surgical technologies (CUSA, Robotic Surgery and the like)						
3. Development of a national policy in diagnosis, treatment nd medicament applications	• Ensuring the supply in Turkey of fundamental chemotherapy medications used in standard treatment. • Identification of palliative care at every stage in planning cancer treatment • Identification of a policy for limitation in pricing new drugs used in cancer treatment	• Ministry of Health	• Relevant Sub-units of the Ministry of Health • Universities • SGK (SSI-Social Safety Institution) • Drug Industry	2015	• Deficiency in coordination between concerned institutions	• Availability of fundamental chemotherapy medications in the market • Establishment of a Turkish Medication and Medical Instrument Institution • Binding medication usage communiqués • Guiding documents/treatment protocols	• Analysis of the existing situation

	based on cost-effectiveness • Establishment of academic research committees and preparation and publication of guide documents • Preparation of national treatment protocols • Ensuring re-payment for using cancer drugs with generic right in non-indication routine application when prescribed with a committee report with at lest two relevant experts • Keeping up-dated lists of drug to be included in the scope of repayment by the Social Insurance Institution and terms of such					published by the Ministry of Health • Legislations that facilitate research with generic drugs • Supervision of the execution of special agreements with drug companies at the stage of licensing of new cancer drugs	

	repayment						
4. Establishment of a national organization structure in cancer	• Effecting the legal arrangements for the establishment of an autonomous National Cancer Institution, directly attached to the Ministry of Health (aimed at research, planning and consultation, mainly academicians)	• Ministry of Health • Prime Ministry	• Prime Ministry • TNGA (TBMM) • SPO (DPT) • HEC (YÖK) • Universities • TÜBİTAK • Research and Training Hospitals • Relevant Professional Associations • DSÖ (WHO) • National Institutes of the EU States • NCI • IARC	31.12.2009	• Financing • Trained staff shortage • Deficiency in coordination between concerned institutions	• Enforcement of the relevant legislations • Establishment of the Institute	• Identification of the activities for enforcement of the relevant legislations
5. Establishment of a delivery chain structure in diagnosis, treatment and scientific research concerning cancer	• Identification of regional treatment centres, considering population density, rate of cancer incidence, migrations,	• Ministry of Health	• Relevant Sub-units of the Ministry of Health • Universities • Training and Research Hospitals	2015	• Financing • Trained staff shortage • Problems in communication,	• Rate of establishment of the planned centres	• Analysis of the existing situation • Number of centres that have been established, and are operative

	application stages and similar factors • Establishment of a delivery chain structure in accordance with treatment necessities and scientific research projects between centres • Standardising inspections in this sense		• Private Hospitals		cooperation and coordination		

PALLIATIVE CARE PROGRAM

The objective of the Palliative Care Program is to increase the quality of life for cancer patients and their relatives, not only in the terminal phase, but throughout the whole treatment. The strategies to be implemented in order to achieve this objective are as follows:

a) To develop awareness about palliative care among medical professionals and the public,
b) To extend palliative care services throughout the country,
c) To ensure that all cancer patients requiring palliative care can get that service.

1. **Definition and institutionalization of Palliative Care:** Palliative Care is a human right. Palliative care "is the approach aiming to eliminate the problems caused by the cancer itself or treatment methods, hence to increase the quality of life." Therefore, it can be applied to newly diagnosed patients, patients currently undergoing treatment, or patients in the terminal phase. Life and death are considered as normal processes in palliative care. Death gets neither postponement, nor acceleration. It is necessary for the medical personnel and the society to adopt the awareness of such an approach concerned with the quality of life rather than the length of life, and for the numbers of institutions providing palliative care services to increase.

The principal responsible institution for the implementation of this strategy, the Ministry of Health, should carry out before the end of the year 2009, in cooperation with all institutions and agencies concerned, the activities laid down. The institutions to be cooperated with have been listed below:

a) University hospitals and private hospitals
b) World Health Organization
c) Non Governmental Organizations
d) Media
e) TRT

The most probable obstacle to be faced during implementation is the problems that will be experienced in relation to inter-institutional communication. The definition of the palliative care model in the published National Cancer Control Program is the indicator of the success of the strategy.

Target Group:

Principally, the target group of which quality of life is planned to be improved is;
Advancing cancer patients who do not respond to the specific treatment,
Those with multifactorial multiple symptoms and a limited life expectancy,
And those patients who need intermittent care and support.

2. **Establishment of the Palliative Care model; The palliative care service model for Turkey should be developed by analyzing available cancer data and human resources.**

The principal responsible institution for the implementation of this strategy, the Ministry of Health, should carry out before the end of the year 2010, in cooperation with all institutions and agencies concerned, the activities laid down. The institutions to be cooperated with have been listed below:

a) SGK
b) University hospitals and private hospitals
c) World Health Organization
d) Non Governmental Organizations
e) Media
f) TRT

Potential obstacles to be faced during implementation are the lack of human resources and the problems in inter-institutional cooperation. That the related legislation has been published, training programs has begun, pilot centers has been established, certificate programs entered into implementation, and an increase in the numbers of certified personnel and certified trainings are the indicators of the strategy's success.

- The following components should be present within the established palliative care model;
  - Control of the primary disease
  - Physical symptoms
  - Psychiatric problems
  - Spiritual problems
  - Social problems
  - Economic problems
  - Identification of end-of-life needs
  - Coping with bereavement

1.1 Standardization of the Process of Care

- For the problems of the assessment- identification of symptoms
- Sharing information
- Patient-specific planning of care
- Disclosing the aims of care with the patient and family
- Implementation of the planned care
- Effectiveness of care, required methods should be defined, and its standard implementation at every palliative care center should be ensured.

1.2 Development of palliative care organization model; In order to implement the standardized care process in the most effective manner, it is necessary to define the required units and/or centers.

The model of care shall be applied by a qualified, multidisciplinary team. This team provides care to the patient, takes decisions in compliance with ethical rules, and administers the practices of monitoring, assessment, research, training, and quality improvement. The implementation can be carried out for in-patients, at polyclinics, for ambulatory patients, or at home etc.

1.3 Activities

- Can be carried out At home
- At ambulatory care units
- At in-patient wards
- and through Communication resources.

1.4 Making palliative care model operative

i. Training (training of medical personnel, patient-family)
ii. Accessibility of opioids
iii. Informing the patient and family
iv. Multidisciplinary and interdisciplinary team approach
v. Introduction of the palliative care concept into a functional organization

1. Nurse certified for Palliative Care
2. Basic Support Team (Doctor, at least three nurses, psychologist, social work specialist)
3. Acute Palliative Care Unit: It is the short-term care unit for acute problems at an in-patient setting. It comprises team members such as the doctor, nurse, psychologist, social work specialist, dietician, physiotherapist, pharmacist, volunteers, and religious advisor.
4. Chronic Palliative Care Unit: It is the longer-term care unit for chronic problems at an in-patient setting. It comprises team members such as the doctor, nurse, psychologist, social work specialist, dietician, physiotherapist, pharmacist, volunteers, and religious advisor.

1.5 Carrying out required legal regulations

a) Publication of legislation on the establishment of palliative care centers
b) Regulation of the right of the patient to forgo cardiopulmonary reanimation
c) Legal regulation on the right to terminal sedation

3. Fostering palliative care awareness;

a. In medical staff
b. In the society

The aim of the implementation of this strategy is to disseminate and ensure the adoption of the concept of palliative care, to provide necessary knowledge and skills to implement palliative care services in line with established standards, to provide training for the teams who will set up model centers.
The principal responsible institutions for the implementation of this strategy, the Ministry of Health and YÖK, should carry out by the September of the year 2010, in cooperation with all institutions and agencies concerned, the activities laid down. The institutions to be cooperated with have been listed below:

a) Universities
b) Training and Research Hospitals
c) NGOs

Medical Oncology Association, Oncology Nursing Association, Psycho-oncology Association, Association of Social Work Specialists, Association of Radiation Oncology, Palliative Care Association, Associations of Patients' Relatives, International Palliative Care Association, European Palliative Care Association, ASCO, Hospice Association

Potential obstacles to be faced in implementation are lack of human resources, technical shortcomings, lack of coordination among institutions, and the mobility of the personnel.

The creation of the core group, increase in the number of post-graduate trainings, increase in the number of patients and patients' relatives participating in trainings, and inclusion of palliative care in curricula are the indicators of the strategy's success.

Targets

1. Establishment of a multidisciplinary core group
2. Development of a certified post-graduate training module
3. Integration of the palliative care as a subject in the undergraduate curriculum
4. Raising awareness in the society

1. Establishment of a core group for the execution of palliative care services

1.1. Determining occupations to take part in the core group
- Doctor
- Nurse
- Social Worker
- Dietician
- Psychologist

2. Development of a certified post-graduate training module

Establishment of on-the-job training and continuous training programs for Palliative Care

- Core curriculum: for different proficiency levels
  - Training at the basic level;
  - intermediate level
  - advanced training;

1. **Undergraduate Education – Basic Education**

Ensuring the presence of the Palliative Care issue in the curricula of Schools of Medicine, Nursing Schools, and undergraduate and graduate educations of other Occupations Concerned

5. Public Education

Organization of trainings and conferences on the issue of palliative care, for the patient, patient's family, and the society;

Addressing within the framework of National Cancer Patients Congress

Establishment of institutional and regional support groups for patients and patients' relatives (for patients, patients' relatives, families, and individuals living in the process of loss / bereavement), and coordination of the existing

4. Spreading palliative care services; It is necessary to increase the numbers of centers concerned in order to make palliative care services accessible to all those in need.

The principal responsible institution for the implementation of this strategy, the Ministry of Health, should carry out by the September of the year 2015, in cooperation with all institutions and agencies concerned, the activities laid down. The institutions to be cooperated with have been listed below:

a) The Ministry of Finance
b) Relevant institutions under the MoH
c) Universities
d) Training and Research Hospitals
e) SGK
f) NGOs
   Medical Oncology Association, Oncology Nursing Association, Psycho-oncology Association, Association of Social Work Specialists, Association of Radiation Oncology, Palliative Care Association, Associations of Patients' Relatives, International Palliative Care Association, European Palliative Care Association, ASCO, Hospice Association

Potential obstacles to be faced in implementation are lack of human resources, technical shortcomings, lack of coordination among institutions, and the mobility of the personnel.

The publication of the legislation, increase in the number of personnel working on palliative care, increase in the number of opioid prescriptions given by 1st step physicians, increase in the number of cooperated non governmental organizations are the indicators of the strategy's success.

Requirements have been discussed under Four Major Headings;

1- Requirements related with the patient and patient's family
2- Requirements concerning medical professionals
3- **Social awareness activities**
4- Additional requirements

1- Requirements related with the patient and patient's family

- Importation of the required medicine into the country; updating dose limits under the light of scientific data, with a flexibility subject to change in line with the decision of the physician (for example: the increase of opioid drugs quota in Turkey to the level in the European Union)
- Control concerning imported drugs' pricing

- Access of the patient to medical supplies and treatment related needs, preparation of legislation to facilitate existing resources
- Informing social security systems (SGK, private insurances), determination of coverage. (To make it obligatory for the private insurances to cover also cancer).
- Psychosocial support for the patient and her family (family therapies, individual psychotherapies etc.)
- Carrying out necessary activities to provide social assistance (assistance in kind or in cash, paid leaves etc.) to family members providing first degree care to the palliative care patient.
- To inform the patients about their rights, to provide support and assistance for their affairs to be completed in the final stage of life (will, the place of death, funeral arrangements, religious wishes, the will to "forgo reanimation" etc.)

2- Requirements concerning medical professionals

- Determination of the existing situation from the point of view of those working in palliative care,
- Making necessary regulations to protect and improve personal benefits of those working in this field (for instance a distinct assessment of seniority in the field)
- Taking measures against the burnout of personnel (rewards, flexibility of work hours, social organizations etc.)
- Making palliative care a must course in the curricula of undergraduate education of medical personnel
- Training auxiliary medical personnel, support personnel, and staff qualified at different areas; standardization and certification of this training, preventing the employment of uncertified personnel
- Planning of the support to be provided by volunteers at the end of training (limitations or authorizations in accordance with needs)
- Clarification of the job descriptions of team members and the determination of necessary procedures (in accordance with the resources of each institution, and within the boundaries of standards and regulations).

3- Social Awareness Activities

- To identify, at the country scale, the patient group and estimated numbers who will need palliative care, in line with the established definition
- Establishment of models by selecting specific pilot hospitals
- Fostering non governmental organizations and media in a manner to support the patient and family
- Control of alternative treatment and support materials

4- Opioid Analgesic Requirements

- Regulation of opioid import rules and control of prices
- Provision of fast-release oral morphine, if necessary carrying out the production with national resources
- Increasing opioid drug quota in Turkey to the level in the European Union
- Provision of different opioid analgesic drugs
- Providing and disseminating opioid prescription by 1st step physicians

- Increasing opioid prescription limits in accordance with the needs of the patient
- Facilitating the prescription and monitoring of opioids
- Providing physicians and medical personnel with trainings on the rules of opioid analgesic use

5- Legal Arrangements and Regulations

- Preparation and development of the regulation on the establishment of palliative care centers
- Regulation on the right of the patient to forgo cardiopulmonary reanimation
- Effecting the legislation providing the right to terminal sedation (improvement of patients' rights article 14)

6- Additional Requirements

- Establishment, development, standardization and dissemination of domestic and foreign training resources on palliative care.
- Carrying out quality studies for the long term control of the service
- Once the palliative care issue has been introduced and penetration is achieved, initiation of efforts to establish the hospice system

Distinctive definitions for the terms "elderly care", "palliative care", "hospice" and "care at home"

PALLIATIVE CARE ACTION PLAN

SUMMARY

The Palliative Care action plan had been established within the National Cancer Control Program. The targets have been provided below in accordance with the conditions and priorities of Turkey.

OBJECTIVES

I: The establishment of at least three pilot palliative care centers

II: The establishment of trained and experienced professional teams in the field of Palliative Care (practice and management)

III: Facilitating the availability and usability of opioids

TARGETS

I- Establishment and introduction of reference centers

I.1. Establishment of pilot centers in line with the defined organizational requirements:

1. At least two or four care at home support teams
2. At least two or four basic support teams
3. Acute palliative care units at a minimum of three or four cancer centers
4. Palliative care units at a minimum of three or four cancer centers

I.2. Presence of palliative care services in the Budget Execution Instruction list

1. Identification of costs and expenditures of palliative care institutions
2. Identification of major outputs and results of palliative care institutions

II- The establishment of a leading core team for the implementation of palliative care services and dissemination of experience

1. Inclusion of different occupations in the leading team

2. Planning and implementation of “Palliative Care Course” for team members who will work at pilot centers (in cooperation with associations, WHO etc.)

3. Team members who will work at the centers to be established to gain experience at centers advanced in the field of palliative care

4. Ensuring participation in international trainings on the issue of organization and management of Palliative Care

III: Facilitating the availability and usability of opioids

1. Increasing of existing Opioid limits/quotas
2. Providing and disseminating opioid prescription by 1st step physicians
3. Increasing opioid prescription limits in accordance with the needs of the patient
4. Facilitating the prescription and monitoring of opioids
5. Provision of fast-release oral morphine, if necessary carrying out the production with national resources
6. Providing trainings on the rules of opioids, and the development of a manual

CONCLUSION

1. Embracing palliative care principles within five years countrywide, implementation of standards, providing control for pain and other symptoms which hurt the quality of life for all cancer patients and their families
2. The inclusion of the laid down palliative care action plan within the National Cancer Institute to be established in Turkey

A. PALLIATIVE CARE PROGRAM ACTION PLAN
27-28-29 August 2008 Ankara

Objective: To increase the quality of life for cancer patients and their relatives, not only in the terminal phase, but throughout the whole treatment;
a) To develop awareness about palliative care among medical professionals and the public,
b) To extend palliative care services throughout the country,
c) To ensure that all cancer patients requiring palliative care can get that service.

Strategy	Activities	Responsible Institution(s)	Institution(s) to Cooperate with	Completion Date	Potential Obstacles	Progress Indicators	Data for Monitoring and Control
1. Definition and institutionalization of Palliative Care	• Accepting that palliative care "is the approach aiming to eliminate the problems caused by the cancer itself or treatment methods, hence to increase the quality of life." • Ensuring the country-wide acknowledgement and penetration of the palliative care in cooperation with relevant agencies??	Ministry of Health	• Relevant units of MoH • University Hospitals and Private Hospitals •WHO •NGOs •Media •TRT	December 2009	**Problems of inter-institutional cooperation**	Definition of the palliative care model in the published National Cancer Control Program	**Determination of existing data**
2.Establishment of the Palliative Care model	1. Inclusion of the issues of the control of the primary disease, physical symptoms, psychiatric problems, spiritual problems, social problems, economic problems, identification of end-of-life needs, coping with bereavement within the model	Ministry of Health	• Relevant units of MoH •SGK • University hospitals and private hospitals •WHO •NGOs •Media •TRT	December 2010	• **Problems of inter-institutional cooperation** • **Lack of Personnel**	• Publication of relevant legislation • Start of training programs	• **Determination of existing data** • **Number of pilot centers** • **Number of certified personne**

	1.1. Standardization of the Process of Care • For the problems of the assessment-identification of symptoms • Sharing information • Patient-specific planning of care • Disclosing the aims of care with the patient and family • Implementation of the planned care • Effectiveness of care, required methods should be defined 1.2. Development of palliative care organization model The model of care shall be applied by a qualified, multidisciplinary team of which • Patient care • decisions making in compliance with ethical rules • monitoring, • assessment, • research, • training, • quality improvement skills would be improved.					• Establishment of pilot centers • Introduction of certificate programs • Increase in the number of certified personnel • Increase in the number of certified trainings	**l** • **Number of certified trainings**

	1. 3. Palliative Care Service; • Establishment of pilot centers for the implementation of palliative care at home • At ambulatory care units • At in-patient wards • through Communication media. 1.4. Making palliative care model operative • Training and informing o Medical personnel o patient o family • Accessibility of opioids • Multidisciplinary and interdisciplinary team approach • Introduction of the palliative care concept into functional organizations • Establishment of certification programs						

	• Establishment of pilot centers • Establishment of a pilot hospice • Establishment of basic support team • Establishment of palliative care units • Introduction of care at home services 1.5. Effecting necessary legislation ▪ Publication of legislation on the establishment of palliative care centers ▪ Regulation of the right of the patient to forgo cardiopulmonary reanimation ▪ Legal regulation on the "right to terminal sedation" (improvement of patients' rights, article 14)						
1. Fostering palliative care awareness;	3.1. Establishment of a core group for the execution of palliative care services • Doctor • Nurse • Social Worker • Psychologist	Ministry of Health YÖK	◊ Universities ◊ Training and Research Hospitals	September 2010	Lack of coordination among institutions	▪ The creation of the core group	▪ **Determination of existing data**

1. Among medical personnel **2. In the society**	3.2 Planning of training • Domestic • Abroad • Participation in Conferences 3.3. Development of a certified post-graduate training module • Basic • Advanced level 3.4. Undergraduate Education • Ensuring the presence of the Palliative Care issue in the curricula of Schools of Medicine, Nursing Schools, and undergraduate and graduate educations of other Occupations Concerned 3 .5 Public Education • For patients and their relatives; (to inform the patients about their rights, to provide support		◊ NGOs • Medical Oncology Association • Oncology Nursing Association • Psycho-oncology Association • Association of Social Work Specialists • Association of Radiation Oncology • Palliative Care Association • Associations of Patients' Relatives • Etc. • International Palliative Care Association • European Palliative Care Association • ASCO • Hospice Association		Human Resources and Technical shortcomings Personnel mobility	▪ Increase in the number of post-graduate trainings ▪ Increase in the number of patients and patients' relatives participating in trainings ▪ Inclusion of palliative care in curricula	▪ Number of post-graduate trainings ▪ Number of public trainings

	and assistance for their affairs to be completed in the final stage of life (will, the place of death, funeral arrangements, religious wishes, the will to "forgo reanimation" etc.) • For the society						
4. Penetration of palliative care services	4.1. Practices related with the patient and her family? ▪ 4.1.1 Preparation of legislation to facilitate existing resources ▪ Drugs, ▪ Medical Supplies ▪ Treatment ▪ Coverage of palliative care in cancer by the Social Security Institution 4.1.2. Psychosocial support for the patient and her family ▪ Family therapies, ▪ Individual psychotherapies	Ministry of Health	◊ Ministry of Finance ◊ Relevant Institutions under the MoH ◊ Universities ◊ Training and Research Hospitals ◊ SGK ◊ NGOs • Medical Oncology Association • Oncology Nursing Association • Psycho-oncology Association • Association of Social Work Specialists • Association of Radiation Oncology	December 2015	▪ Lack of coordination among institutions ▪ Human Resources and Technical shortcomings ▪ Personnel mobility	▪ Publication of the legislation ▪ Increase in the number of personnel employed in palliative care ▪ Increase in the number of opioid prescriptions given by 1st step physicians ▪ Increase in the number of cooperating NGOs	▪ Determination of the existing data ▪ Number of personnel employed in palliative care ▪ Number of opioid prescriptions by 1st step physicians ▪ Number of cooperating NGOs

	4.1.3. Social assistance to family members providing first degree care to the palliative care patient ▪ In kind, cash, ▪ Paid leaves 4.2. Practices related with the medical personnel 4.2.1. Determining country-wide employee requirements in the field of palliative care 4.2.2 Making necessary regulations to protect and improve personal benefits of those working in this field 4.2.3. Support for the personnel on the issue of burnout ▪ Rewards, ▪ Flexible working hours ▪ Social events, 4.3. Social Awareness Activities 4.3.1. Planning of the support to be provided by volunteers at the end of training, 4.3.2. Clarification of the job descriptions of team members and the determination of necessary procedures.		• Palliative Care Association • Associations of Patients' Relatives • Etc. • International Palliative Care Association • European Palliative Care Association • ASCO • Hospice Association				

	4.3.3. Fostering non governmental organizations and media in a manner to support the patient and family 4.3.4. Control of and complementary treatments and support materials 4.4. Opioid analgesic administrations 4.4.1. Regulation of opioid import rules and control of prices 4.4.2. Provision of fast-release oral morphine, if necessary carrying out the production with national resources 4.4.3. Increasing opioid drug quota in Turkey to the level in the European Union 4.4.4. Provision of different opioid analgesic drugs 4.4.5. Providing for and disseminating opioid prescription by 1st step physicians 4.4.6. Increasing opioid prescription limits in accordance with the needs of the patient						

	4.4.7. Providing physicians and medical personnel with trainings on the rules of opioid analgesic use 4.4.8. Control of the pricing of imported medicine 4.5. Additional Requirements Carrying out quality studies for the long term control of the service						