

National Cancer Control Strategy and Plan of Action 2009-2015

Directorate General of Health Services
Ministry of Health and Family Welfare

With technical assistance from

World Health Organization
Country Office for Bangladesh



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National Cancer Control Strategy Development Taskforce

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Message

Cancer, its prevention, diagnosis and treatment are one of the major health challenges in our society. Cancer is an illness that afflicts large numbers of people, from all backgrounds, and is feared by individuals and families alike. Yet there are reason for optimism; research holds out the possibility of major strides forward in prevention and cure of cancer in the coming decades. We are witnessing major improvements in the treatment of many types of cancer.

According to International Agency for Research on Cancer (IARC), the number of people who will develop cancer in our country will be huge over the next decades. It is self-evident that the current services are not in a position to meet the substantial demand for prevention, treatment, cure and care. Keeping pace with these demands, government is committed to develop cancer services in the coming years. Our aim is to deliver a universal, quality-based and timely service, in line with the best that is currently available in the world.

The **National Cancer Control Strategy and Plan of Action 2009-2015** will provide guidelines to control cancer. To achieve this goal strong political, medical and executive leadership and investment are requirements. Cancer patients who access our health services should, as a matter of right, receive quality-assured treatment and care .

I wish to express my sincere thanks to the Cancer Control Taskforce members for their sincere effort to complete this important and demanding work.

Dr. A M M Shawkat Ali



Secretary
MINISTRY OF HEALTH AND FAMILY WELFARE
Government of the People's Republic of Bangladesh

Message

Cancer touches us all at some point in our lives, if not directly as a patient, then as the relative, friend or workmate of someone who develops cancer. Cancer is a severe cause of death in Bangladesh and the number of people developing and dying from cancer is predicted to continue to increase steadily both in Bangladesh and worldwide.

Experts believe that at least one-third of cencer can be prevented by early detection and effective treatment. So all our ability and efforts to be combined to make people aware and make available cancer related services with a planned approach.

The World Health Organization advocates the development of National Cancer Control Strategy and Plan as the best means of reducing the incidence and impact of cancer and improving the quality of life of those with cancer within available resources. This involves a comprehensive, planned approach that will identify priorities for action regarding cancer prevention through treatment, rehabilitation and palliative care.

Reducing the incidence and impact of non communicable diseases including cancer is one of the Government's objectives identified in the HNPSP. Growing concern about cancer is also reflected in the public domain by the activities of the many cancer-related organizations. Development of National Cancer Control Strategy reflects a shared commitment to reduce the incidence of cancer and improving the quality of life of those who develop cancer.

I would like to thank the individuals who contributed to this strategy, either by participating in working groups, providing comment and peer review or by participating in consultation through meetings and individual submission.

The next step is the implementation plan to turn this strategy into a reality. I look forward to working with you all.

A.M.M Nasir Uddin



Director General
Directorate General of Health Services
and
Chairman, Cancer Control Taskforce

Foreword

At one time or another every family in Bangladesh would be touched by the shadow of cancer. Many people die from the disease and many more are still living with the after effects of cancer today. Groundbreaking advances in our understanding of cancer and its treatment are leading to significant advances in the quality of care and treatment which cancer patients receive.

The number of people contracting cancer continues to increase as our population ages and the consequence of successful treatment is that more people are living after cancer than ever before. And because cancer is no longer the death sentence it was, that serves to increase the importance of care for cancer survivors. Our next steps must reflect the country attaches highest priority to combat this disease.

Our action on cancer must focus more on prevention and reducing the risk of people getting the disease. But this must be combined with greater responsibility from individuals to change aspects of their behaviour, such as smoking, to reduce their own risk. Early diagnosis is vital if we are to achieve a genuinely standard cancer service. Screening and early diagnosis which we are setting out in this plan will allow all of us faster and easier access to cancer management.

We must do more to ensure treatment is of the quality and this plan can act as a road map to a higher standard of care, available to all. Our investment in modern cancer treatment inculding radiotherapy will ensure all of us have access to the best care when we are most in need. We are now in a position to make following pledges to the patients:

* More will be done to help to reduce risk of developing cancer;
* An increased likelihood of cancer being detected earlier;
* Patient will have access to quality treatment at every stage;
* Whether anyone is living with or beyond cancer, information and support will be provided;
* Irrespective of who or what patient's background is, Government will work to give access to the best possible cancer experience and outcomes available in Bangladesh;
* We will keep striving to improve the quality of cancer services available.

These pledges are at the heart of the National Cancer Control Strategy. This strategy provides a strong foundation for how we will move forward.

At first, I must show my gratitude to Dr. A.M.M. Shawkat Ali, Honourable Advisor, Ministry of Health and Family Welfare for his valuable advices and directives to develop this strategy and plan of action. I would like to thank everyone who has contributed to the development of this strategy, particularly members of the National Cancer Control Council and NCC Taskforce who devoted so much time, enthusiasm and creativity to developing the proposals which are central to the actions we are announcing today.

I want to take this opportunity to thank the thousands of healthcare professionals and managers involved in cancer. Their hard work and commitment has made possible the significant progress on cancer already achieved and will be vital as we now start to deliver the actions in this strategy.

This strategy seems to be ambitious programme for cancer services over the next few years and I look forward to working with all the stakeholders involved in cancer as we implement the actions set out today, making real our vision of building a standard cancer control and care services in Bangladesh.

Prof Md Abul Faiz

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EXECUTIVE SUMMARY

Cancer is one of the major causes of morbidity and mortality among the non communicable diseases in Bangladesh. Each year more then 200,000 people develop cancer and 150,000 die of the disease. Cancer is the sixth cause of mortality in Bangladesh and more than half of the of cancer patients die with in five years of diagnosis. The number of people developing cancer is expected to increase in huge number mainly because of ageing population and lifestyle factors. Cancer load is more than 1,200,000 in Bangladesh.

At present we have enough knowledge to prevent at least one-third of cancers. Depending on the availability of resources, early detection and effective treatment of a further third of cancers are also possible. And when cancer cannot be cured, or held in remission, prevention and relief of suffering can greatly improve the quality of life of people with cancer and their families. The whole field of cancer is complex, and achieving what is possible poses significant challenges. Cancer includes over a hundred diseases with different causes. It can arise in any organ and at any age. Also, there is a wide range of organizations and health professionals, both government and non-government, involved in the many aspects of cancer prevention, detection, diagnosis, treatment and care.

Government of Bangladesh with technical support from WHO has been formulated 'National Non Communicable Diseases Strategy and Plan of Action' in 2007. Government has expressed its commitment to formulate 'National Cancer Control Strategy and Plan of Action, public policy document such as Strategic Investment Plan and Revised Programme Implementation Plan of HNPSP (2003-11) include reduction of incidence and impact of cancer as one of the health goal chosen for implementation. Along with other South-East Asian countries, we have accepted the conclusion of WHO that development and implementation of a national cancer control strategy is the most effective way of reducing the incidence and impact of cancer. Accordingly, a Cancer Control Taskforce was formed to develop this policy document a few years back. But real initiative has been taken in 2008. Accordingly, NCCS Taskforce has been reformed and co-opted new members for completion of this document. Six meetings of NCCS Taskforce was held. A consultative meeting was held with the presence of the entire relevant stakeholders on 17th November 2008. The document was uploaded in the website of MOHFW and DGHS and published in The Daily Ittefaq for comments and suggestions for the people upto 15th December 2008. The National Cancer Control Strategy and Plan of Action for 2009-2015 has been approved in the meeting of National Cancer Control Council on 7th December 2008 with the chair of Honourable Advisor.

The Cancer Control Strategy is the first phase in the development and implementation of a comprehensive and co-ordinated programme to control cancer in Bangladesh. The strategy includes purposes, principles and goals to guide existing and future actions to control cancer. It also includes objectives and broad areas for action. The next phase will involve identifying priorities for action, planning implementation, and defining processes to manage, monitor and review implementation.

The **Goals** of the Bangladesh Cancer Control Strategy are to: a) Reduce the incidence of cancer through primary prevention; b) Ensure effective screening and early detection to reduce cancer incidence and mortality; c) Ensure effective diagnosis and treatment to reduce cancer morbidity and mortality; d) improve the quality of life for those with cancer and their family through support; e) rehabilitation and palliative care; f) improve the

delivery of services across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation; g) improve the effectiveness of cancer control in Bangladesh through research and surveillance.

Cancer Control Continuum is a well-designed, systematic, equitable, efficient and harmonized evidence-based approach aims to decrease incidence and impact of cancer through translating knowledge into practice. The existing knowledge about the causes of cancer and about interventions to prevent and manage cancer is extensive. Human exposure to risk factors is resulting from a wide range of behavioural, social, economic, environmental and cultural factors. Efforts to reduce the incidence of these lifestyle-related cancers require a comprehensive approach, such as that described in the Ottawa Charter for Health Promotion, 1986.

Promoting Health and Preventing Cancer

Cancer prevention is the key element in of cancer control programmes. Cancer prevention focuses not only on factors that increase a person's chances of developing cancer (such as smoking, chewing betel leaf and nut, jarda), but also on protective factors such as a healthy diet and physical activity. The diet habit of Bangladeshi people such as rice, dal, fish and vegetables having anti-carcinogenic property. Prevention services include the use of health protection, health promotion and disease prevention strategies to alert the population to cancer risks, promote healthier lifestyles and create healthier environments, vaccination against Hepatitis B Virus for Liver Cancer and Human Papilloma Virus for Cervical Cancer to reduce potential cancer risks.

Early Detection and Cancer Screening

Early detection means detecting cancer prior to the development of symptoms or as soon as is practicable after the development of symptoms. Its aim is to detect the cancer when it is localized to the body organ of origin, before it has time to spread to other parts of the body. It is one of the parts of a wider strategy including diagnosis, treatment and follow-up. Early detection of cancer can involve strategies to promote early presentation, including education about signs and symptoms and improved access to primary care. Aggressive efforts must be under taken with the help of all the health workers both from health and family planning directorates, NGOs and other voluntary workers to prevent and propagate early signs and symptoms. All suspect cases must have proper access to screening procedure and if proved will referred to cancer management departments.

Early detection of cancer prior to the development of symptoms occurs through screening, which is a process whereby people who have no symptoms are invited (either directly or through publicity) to undergo a test or procedure, usually at regular intervals. In some instances, the purpose of screening is to detect cancer at an early stage of development; in others, cancer screening identifies precursors of cancer, the treatment for which can reduce the risk of cancer developing .

Diagnosis and Treatment

Cancer diagnosis is the first step to cancer management. It involves a combination of clinical assessment and a range of investigations, such as endoscopy, imaging, histopathology, cytology and laboratory studies. Diagnostic tests are also important in identifying the extent to which the cancer may have spread (known as 'staging'). Cancer staging is necessary for determining options for treatment and assessing likely prognosis. Treatment of cancer is complex, involving a range of therapies. These include surgery, radiation, chemotherapy or hormonal therapy, or a combination of these. The aim of treatment is to cure (ie, to result in normal life expectancy), or to prolong and improve the quality of the life of those with cancer, if cure is not possible.

Palliative Care

Palliative care is a approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. The quality of life of patients and their families facing a life-threatening illness. This is done through prevention and relief of suffering by means of early identification, accurate assessment and treatment of pain and physical, psychosocial and spiritual problems. Palliative care involves a multidisciplinary team approach.

Supportive Care and Rehabilitation

Supportive Care and rehabilitation is defined as: the provision of the necessary services, as determined by those living with or affected by cancer, to meet their physical, social, emotional, nutritional, informational, psychological, sexual, spiritual and practical needs throughout the spectrum of the cancer experience. These needs may occur during diagnosis, treatment or follow-up after treatment, and include issues of survivorship, recurrence of the disease and, in some cases, death. When someone develops cancer, its impact extends beyond the physical effects of the disease to include psychological, social, economic, sexual and spiritual consequences. Coping with the disease and its treatment involves a range of issues, which impact on those with cancer as well as their families. There is growing evidence that supportive care and rehabilitation can buffer cancer patients and their caregivers from psychiatric, psychological and social morbidity.

Cancer Surveillance

Cancer control surveillance involves the routine and continuous collection of information on the incidence, prevalence, mortality, diagnostic methods, stage distribution and survival of those with cancer and aspects of the care received. Surveillance is one of the fundamental element of the Cancer Control Strategy. The data collection for surveillance requires the collaboration of service providers and, where necessary, continuing legislative support. A fully functioning and dedicated cancer registry with appropriate expertise is a cornerstone of cancer-control surveillance.

Cancer Research

Cancer control research seeks to identify and evaluate the means of reducing cancer morbidity and mortality and of improving the quality of life of people living with, recovering from or dying of cancer. Research is needed across the spectrum of cancer control to provide the basis for continual improvement. The major categories of research are: laboratory; epidemiological; clinical; psychosocial and behavioral; health systems and health policies.

Bangladesh Scenario

Bangladesh is still lacking a national cancer registry. According to Bangladesh Bureau of Statistics cancer is the sixth leading cause of death in Bangladesh (BBS, 2008). A few decades ago, a hospital based registry was initiated in 1967 at Radiotherapy Department of Dhaka Medical College Hospital and continued till 1971. A few years back, hospital based cancer registry was intitited at National Institute of Cancer Research Hospital and Oncology Department of Bangabandhu Sheikh Muijb Medical University. International Agency for Research on Cancer (IARC) has been estimated death from cancer in Bangladesh is 7.5 % in 2005 and projected that it would be increased upto 13 % in 2030. IARC has been projected (2002) death from 10 leading cancers in women are mouth and oro-phyrangeal cancer, cervical, breast, esophageal cancer, ovarian cancer, lung cancer, lymphoma, stomach, liver, colo-rectal cancer and in men are mouth and oro-phyrangeal, lung cancer, esophageal cancer, lymphoma, stomach, bladder, liver cancer, leukaemia, colo-rectal cancer and prostate. A recent WHO study has been estimated that there are 49,000 oral cancer, 71,000 pharynx & laryngeal cancer and 196,000 lung cancer cases in Bangladesh among those aged 30 years or above. The same study observed that 3.6% of the admissions in medical college hospitals for the same age group are due to cancers of oral cavity, larynx and lungs (WHO 2007).

Economic Burden

Economic impact of cancer is huge. Two Hospital Based Cancer Registry in Bangladesh showed that most of the cancer patient's age group is between 30-65 years, which is around 66%. These people are the main workforce structure of a country. It has gigantic economic impact. It has direct and indirect cost, which needed to be measured urgently. As a example we may look for the WHO study that revealed the annual cost of tobacco-related illnesses in Bangladesh as attributable to tobacco usage is estimated to be 50.9 billion taka considering that only a quarter of the patients with tobacco-related illnesses receive hospital care. On the other hand, the total annual benefit from tobacco sector is estimated to be 24.8 billion taka as tax revenue on the domestic consumption of tobacco (20.3 billion taka) and wages in tobacco production (4.5 billion taka). The cost of tobacco usage to the country thus outweighs the benefit from revenue and wages by 26.1 billion taka per annum (equivalent to US$ 442 million). It indicates that Bangladesh economy would be greatly benefited from controlling the usage of tobacco.

Bangladesh is not able to provide the latest treatment facilities for cancer management and government's support is inadequate. Every year Bangladesh is losing huge amount of foreign currency for this purpose. If government would invest one quarter of this amount for next four years overall cancer management could reach at the level of South East Asian Regional standard.

Cancer Control Matrix

A cancer matrix and plan of action has developed with goals, objectives and areas of action. This plan of action will be incorporated mainly under the Operational Plan of Line Director (Non communicable Diseases and Other Public Health Interventions) and WHO biennium programmes; and other relevant Line Directors and donor agencies.

Road Map for Cancer Control

A detailed activities and time frame have been developed.

Policy Indicators

Some policy indicators have been developed for monitoring and evaluating progress of the taken initiative.

Conclusion

A broad participatory process that involves key stakeholders from the beginning is central to the development and implementation of an effective cancer control .In resource constrained country like Bangladesh , it is more likely to be implemented if it includes fewer, yet sustainable interventions in line with evidence-based priorities, ranging from prevention to end-of-life care, with measurable process and outcome objectives that can be monitored and evaluated if basic information systems are in place. For example, prevention strategies (such as tobacco control and Hepatitis B immunization), community based palliative care for cancer and HIV/AIDS patients, and treatment interventions linked to early diagnosis (awareness of early signs and symptoms) of a few cancer types would be key feasible interventions.

Priority interventions should be implemented using a stepwise approach, as recommended in this document, focusing initially on what can be done with better organization of available resources in a target area where there is high potential for success. As results are successfully demonstrated, more resources can be justified and the programme can be expanded.



INTRODUCTION

Cancer is a major challenge for our society today .Cancer affect large number of people worldwide and it has devastating effect on individual, family and society. However there is much reason for optimism. Major achievements has been obtained for prevention and cure and in coming years huge improvment in treatment of all types of cancer is expected, but these wellcome improvements will place substantial and diverse pressure on our health care system.

The ageing of our population will result in an increasing number of people who will develop cancer in Bangladesh in the coming days. It is self-evident that the current services will not be in a position to meet the substantial demand for treatment, cure and care. Keeping pace with these demands will require a major government commitment to cancer prevention and curative services in the coming years, which in turn will require the earliest possible decisions on investment, human resource planning and the organization of services. Our aim is to control major risk factors, and deliver a universal, quality-based and timely service, in line with the best practices that are currently available in the world.

Cancer

Cancer is a generic term for a group of more than 100 diseases that can affect any part of the body. One defining feature of cancer is the rapid creation of abnormal cells which grow beyond their usual boundaries, and which can invade adjoining parts of the body and spread to other organs, a process referred to as metastasis. Metastases are the major cause of death from cancer.

Cancer intrudes one and all - the rich and poor, the men, women and children, the young and old- and represents a huge burden on patients, families and societies. Cancer is one of the top causes of death in the world, particularly in developing countries.

What Causes Cancer?

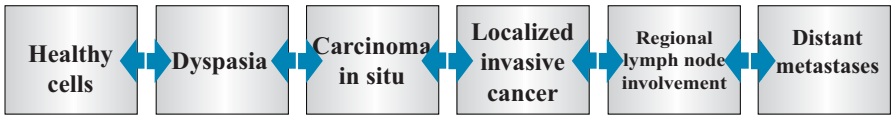
Cancer occurs because of changes of the genes responsible for cell growth and repair. These changes are the result of the interaction between genetic host factors and external agents which can be categorized as: more than 50% of cancer can be prevented by a healthy diet, physical activity and not using tobacco. Tobacco use is the single largest preventable cause of cancer. Tobacco use causes cancer of the lung, throat, mouth, pancreas, bladder, stomach, liver, kidney and other types; Environmental tobacco smoke (Second Hand Smoke) causes lung cancer.

Twenty percent of cancers worldwide are due to chronic infections, mainly from Hepatitis B Viruses, (HBV) causing liver cancer, Human Papilloma Viruses (HPV) causing cervical cancer, Helicobacter Pylori causing stomach cancer, Schistosomes causing bladder cancer, the liver fluke causing bile duct cancer and Human Immunodeficiency Virus (HIV) causing Kaposi Sarcoma and Lymphomas. Contamination of food by mycotoxins such as aflatoxins (products of Aspergillus Fungi) causes liver cancer. Physical carcinogens such as ultraviolet (UV) and ionizing radiation, chemical such asbestos and tobacco smoke. There is solid evidence about alcohol causing several cancer types such as oesophagus, pharynx, larynx, liver, breast, and other cancer types.

How Does Cancer Develop?

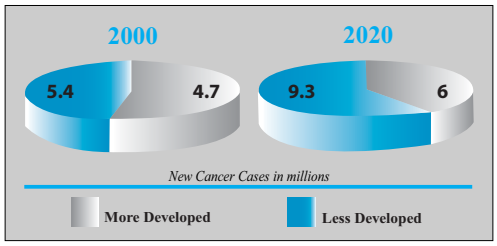
Cancer arises from one single cell. The transformation from a normal cell into a tumour cell is a multistage process, typically a progression from a pre-cancerous lesion to malignant tumours. The development of cancer may be initiated by external agents and inherited genetic factors. Ageing is another fundamental factor for the development of cancer. The incidence of cancer rises dramatically with age, most likely due to

risk accumulation over the life course combined with the tendency for cellular repair mechanisms to be less effective as a person grows older.



Quick Cancer Facts

Cancer is one of the leading causes of death worldwide. The cancer burden reflects not only trends in risk but also the impact of demographic factors. As the population has grown, so the number of adult cancer or deaths has increased steadily, and this increase in burden is projected to continued at least next two decade. The ageing of the population - reflected in longer life expectancy - will also have an increasing effect. From a total of 58 million deaths worldwide in 2005, cancer accounts for 7.6 million (or 13%) of all deaths. But unfortunately, more than 70% of all cancer deaths in 2005 occurred in low and middle-income countries. Deaths from cancer in the world are projected to continue rising, with an estimated 9 million people dying from cancer in 2015 and 11.4 million dying in 2030.The most frequent cancer types world wide are: among men (in order of number of global deaths): lung, stomach, liver, colorectal, oesophagus and prostate, and among women: breast, cervical, lung, stomach, and colorectal.



NCCP Policies and Managerial Guidelines, World Health Organization 2nd Edition, 2002

Is Cancer Preventable?

With our present knowledge over more than 50% of all cancers are preventable. Depending on the resources, early detection and effective treatment of a further third of cancers are also possible. While some cancers cannot be cured or held in remission, with good palliative care, relief of suffering can greatly improve the quality of life of people with cancer and their families.

The Cancer Control Continuum

Cancer Control Continuum is a well-designed, systematic, equitable, efficient and harmonized evidence-based approach that aims to decrease incidence and impact of cancer through translating knowledge into practice. The existing knowledge about the causes of cancer and about interventions to prevent and manage cancer is extensive.

Human exposure to risk factors includes a wide range of behavioural, social, economic, environmental and cultural factors. Efforts to reduce the incidence of these lifestyle-related cancers require a comprehensive approach, such as that described in the Ottawa Charter for Health Promotion (WHO, 1986).

Basic Approaches to Control Cancer

Prevention means eliminating or minimizing exposure to the causes of cancer and includes reducing individual susceptibility to the effect of such causes. This approach offers the greatest public health potential and the most cost effective long term method of cancer control. Primary prevention of cancer is the key element in all cancer control programmes. Cancer prevention focuses not only on factors, which increase a person's chances to develop cancer (such as smoking), but also on protective factors such as a healthy diet and physical activity. Up to one third of the cancer burden could be reduced by implementing cancer-preventing strategies.

Prevention includes health protection, health promotion and disease prevention strategies to alert the population to promote healthier lifestyles and create healthier environments that aim to reduce potential cancer risks. The prevention workforce, which involves both government and non-government personnel, includes public health, research, health promotion, and primary health care and community providers. A number of toolkits were developed by DGHS under HNPSP to promote essential services .The toolkit will be modified to reflect the recommendations and approaches of the Bangladesh Cancer Control Strategy.

Primary prevention aims to reduce the incidence of disease by risk factor modification. A risk factor for a disease is an attribute or exposure that increases the probability of getting the disease. As exogenous risk factors including personal habits play a major role in the aetiology of cancer, modifying risk factor exposure may prevent many cancers. Among the activities for prevention, emphasis should be placed on:

- **Tobacco control**
- **Health education relating to sexual and reproductive factors associated with cancer**
- **Healthy diet**
- **Physical activity**

Tobacco

Tobacco smoke contains approximately 4000 chemicals of which at least 438 can cause cancer. Tobacco is the single most important modifiable risk factor (30%) for cancer. Unfortunately in Bangladesh, cigarette production has grown tremendously since 1980, and bidi production has grown even faster.

A WHO study showed that twenty million people in Bangladesh use tobacco in some form, including five million women, and 57,000 people die every year due tobacco-related diseases. Smoking prevalence in Bangladesh is 41% among men aged 15 years and over. In wome it was 1.8% among those aged 15 years and over.

In addition, 14.8% of men 15 years and older, and 24.4% of women 15 years and older currently use smokeless tobacco in chewable form such as jarda and sada patha with betel and betel nut etc. Altogether, 48.6% of men and 25.4% of women (36.8% sexes combined) aged 15 years and above were found to either smoke or chew tobacco at the time of the survey.

Nearly half of school students and nearly 4/5th of health students are exposed to second-hand smoke in Bangladesh The burden of eight tobacco-related diseases (ischemic heart disease, lung cancer, stroke, oral cancer, cancer larynx, chronic obstructive pulmonary disease, pulmonary tuberculosis, and buerger's disease) among the people aged 30 and above were determined. It is also estimated that they are responsible for 16% of all deaths and 9% of all deaths are attributable to tobacco (WHO, 2007).

Spread of tobacco addiction, promoted by commercial interests, is responsible for the 80-90% of lung cancer and 90% of oral cancer. Tobacco smoking causes cancer of the lung, larynx and oesophagus. Smoking is also associated with cancers of the pancreas, bladder, pelvis of the kidneys, ureter and squamous cell carcinoma of the uterine cervix. Tobacco chewing is the most important risk factor for cancer of the oral cavity. Inhalation of secondary smoke, known as "passive smoking" is a unique feature of smoking. It results in increased risk of cancers among non smokers exposed to tobacco smoke.

Tobacco control involves health promotion and education, advocacy, support for cessation, community mobilization, taxation and other fiscal measures, livelihood alternatives, regulation, legislation and enforcement. Policy-level interventions would include levy of taxes (to raise prices of tobacco products and act as a disincentive for purchase), regulation of tobacco products (for constituents, emissions, health warnings, and misleading health claims) and measures to reduce supply (ban on sale to youth, curbs on smuggling, and programmes to aid tobacco farmers and workers to switch over to alternative livelihoods). Interventions at community level would involve programmes for empowering people,especially vulnerable sections, with the knowledge, motivation and skills required to abstain from or abandon the use of the tobacco habit. This includes creation of suitable environments to stimulate, support and sustain healthy lifestyle choices such as tobacco free norms at schools, worksites and homes.

Government of Bangladesh has already banned tobacco smoking in the public places. It is very important to increase taxes on tobacco products. At the level of the individual, the interventions would focus on behavioural change, especially aimed at tobacco cessation. This requires the availability of services ranging from counseling to de-addiction therapies, and an affordable supply of pharmacological agents for those who need it.

Health professionals have a fundamental role to play in tobacco control. They have the opportunity to help people change their behaviour and they can give advice, guidance and answers to questions related to the consequences of tobacco use. Studies have shown that even brief counseling by health professionals on the dangers of tobacco use and the importance of quitting is one of the most cost-effective methods of reducing tobacco use. They can also forewarn children and adolescents of the dangers of tobacco, and prevent children picking up the tobacco habit.

2

Framework Convention on Tobacco Control (FCTC)

May 21st 2003 was a historic day for global public health. At the 56th World Health Assembly, WHO's 192 Member States unanimously adopted the world's first public health treaty, the WHO Framework Convention on Tobacco Control (FCTC) and it came into force on 27th February 2005. Bangladesh is the first country to ratify it. The FCTC sets out guidelines for various national and international measures that would encourage tobacco users to quit and restrain non-users from taking to the habit. Bangladesh has already enacted Tobacco Control Act and Regulations.

Tobacco control is affordable and effective for almost all countries. It will also contribute positively to the achievement of Millennium Development Goals (MDG). The challenge is to bring these two elements together. The MDGs have framework, with in which much development assistance is currently organized. They are current 'Gold Standard' against which the progress is evaluated. It is there fore important that tobacco control is explicitly included with in their purview.

Currently, Bangladesh is over burdened with tobacco-related illnesses, for about half of all cancers in men and one fourth of all cancers among women are due to tobacco use. Most victims of heart attacks aged less than 40 years are heavy smokers. It is the poor who smoke the most in Bangladesh and bear most of the economic and disease burden of tobacco usage.

Framework for National Action	
• Comprehensive ban on advertising • Protection against second hand smoke • Prohibition of youth access • Prominent health warnings • Testing and regulation of contents • Increase in tobacco taxes • Cessation programmes • Alternative crops • Surveillance	Requires partnerships within countries
Framework for International Cooperation	
• Ban on cross-border advertising • Prevention of illicit trade • Scientific and legal co-operation • Technical assistance • Financial support for FCTC implementation (bilateral and multilateral channels Monitoring	Requires partnerships among countries

Sexual and Reproductive Factors

Sexual and reproductive factors are associated with cancer of the uterine cervix and breast. Sexual behaviour factors, like young age at first sexual activity, multiple sexual partners and poor sexual hygiene, are associated with cancer of the uterine cervix. Human Papilloma Virus (HPV) has now been identified as the etiological agent responsible for cervical cancer. HPV prevalence increases with high risk sexual behaviour and poor sexual hygiene. Late age at marriage, nulliparity, and late menopause have been linked to breast cancer, HPV education regarding sexual hygiene and safe sexual behaviour may be provided for prevention of cancer cervix. Safe sexual behaviour protects women from the risk of cervical cancer by preventing infection with HPV. Breast cancer is not preventable to any large extent. Early detection of breast cancer is the main strategy for improving survival in breast cancer.

Diet

Various studies in the past two decades suggest the role of diet in human cancers. Unhealthy diet is responsible for 35% of over all cancers. Changing dietary patterns will lead to increased contribution of diet in cancer causation in Bangladesh . It is generally agreed that the composition of diet is an important preventable risk factor. Preserved foods and high intake of alcohol increases the risk of cancer of the oral cavity, pharynx, larynx, oesophagus, liver and breast. Evidence that excessive fat in the diet may induce some cancers .Increased intake of fruits and vegetables may decrease the risk of oral, oesophagus, gastric and colorectal cancer. High fibre diet, and foods rich in vitamin A (beta carotene) and vitamin C appear to have cancer prevention capacity. Limit consumption of salted foods.

Avoid being underweight or overweight and maintain Body Mass Index (BMI) in range of 18.5 to 25 kg/m to avoid weight gain. All individual should be encouraged to adhere to a healthy eating plan. Fat intake between 15 to 30% of total energy intake, saturated fats <10%, carbohydrates between 55 to 75% of daily intake free (or added) sugars <10%, have a diet at least 400g/day of fruits and vegetables. So, dietary modification is also important.

Physical Activity

Physical activity is an important determinant of body weight. Physical activity and physical fitness are important modifiers of mortality and morbidity related to overweight and obesity. To promote at least 30 mins of moderate intensity physical activity on most days or a total of 1hour/day, such as, walking .Other recommended activities may be jogging, cycling, swimming, etc. recommendation should be culturally acceptable and respect religious prescriptions.

Occupation

Occupational cancers constitute 5-10% of all cancers. Increased risk of lung cancer has been seen in workers engaged in manufacture of asbestos, rubber tyres, textile workers, ship and dockyard workers and wood workers. Higher risk of bladder cancer was seen in workers of chemical and pharmaceutical plants. Limiting exposure to sunlight and other potentially carcinogenic substances through protective gear, frequent rotation of workers; mechanized handling of such chemicals and similar mechanisms may help reduce cancers from occupational exposures.

Infection

Infections with various agents are implicated in the aetiology of 15 % of all cancers. Control of cancers caused by or associated with infections depends upon success in combating the infection concerned. Measures include eliminating reservoirs and sources of infection, preventing transmission, increasing host immunity through vaccination, and effective treatment of those infected. Infections with certain viruses are associated with cancer; for example, liver cancer and the Hepatitis B virus (HBV), and cancer of the cervix and the Human Papilloma Virus (HPV). Immunization against HPV and (HBV) is helpful to prevent such cancers.

Infective Agent Cancer Prevention

Infective agent	Cancer	Prevention
Human Papilloma virus	Cancer of the Cervix, Oesophageal carcinoma, Anal cancer, Penile cancer, Oral cancer	Safe sexual practices avoiding multiple sexual partners Vaccination for HPV
Hepatitis B and Hepatitis C virus	Hepatocellular carcinoma can occur from chronic active infection	Universal precautions Safe sexual practices, Vaccination for Hepatits B
Epstein- Barr virus	Burkitt Lymphoma, Nasopharyngeal carcinoma	No specfific intervention
Schistosoma haematobium	Bladder cancer	Preventing water pollution with human waste, treating patients, controlling intermediate hosts (snails)
Clonorchis sinensis	Cholangiocarcinoma	Preventing water pollution with human waste, treating patients, controlling intermediate hosts (snails, fish), avoid eating raw fish
Helicobacter Pylori	Stomach cancer	Treating patients with symptomatic infection

Alcohol

Excessive alcohol consumption is associated with cancers of the mouth, pharynx (excluding nasopharynx), larynx, oesophagus and liver. The risk relationship between cancer and alcohol is nearly a linear relationship with the risk increasing amount of alcohol consumed. Co-existence of tobacco habits can have a multiplicative effect on development of cancer. Control of alcohol requires actions similar to those for tobacco control. The actions should be targeted towards individual and community and include taxation, general public education and encouraging highly vulnerable groups like young people to avoid starting consumption etc.

Early Detection and Cancer Screening

Early detection means detecting cancer prior to the development of symptoms or as soon as is practicable after the development of symptoms. Its aim is to detect the cancer; when it is localized to the body organ of origin, before it has spread to other parts of the body. The importance of early detection is detecting cancer at a stage in its natural history where the chance of cure is high. It is only part of a wider strategy including diagnosis, treatment and follow-up, its effectiveness is dependent on the sustainability of other services along the cancer control continuum. Another third of the cancer burden could be cured if detected early and treated adequately.

Early detection of cancer can involve strategies to promote early presentation, including education about signs and symptoms and improved access to primary care. Such strategies may also include endeavours to dispel myths, fears and negativity about cancer that may influence the likelihood of seeking medical advice.

Increasing awareness of the signs and symptoms of cancer contributes to early detection of the disease. Where tests for cancer of specific sites are available and facilities are appropriate, screening of apparently healthy individuals can disclose cancer in early or precursor stages, when treatment may be most effective. Early detection is only successful when linked to effective treatment. All people should be aware of these warning signs. However, any such sign not responding to appropriate treatment warrants immediate medical attention and prompt management.

Many cancers that are potentially curable at early stages are detected only in advanced stages. Diagnosis of such cancers at a stage where treatment is effective could have a major impact on the disease outcome. Certain symptoms and signs may be early indicators of some cancers. One means to that end is educating people regarding early signs of the disease. These include:

Cancer's Early Warning Signs/Symptoms

CAUTION US

1. **Change in bowel or bladder habit**
2. **A white patch or ulcer in the mouth that does not heal;**
3. **Unusual bleeding from body's orifices eg - haematuria, per rectal bleeding, uterine bleeding: Irregular menstrual or post menopausal bleeding**
4. **Thickening or a lump in breast or elsewhere.**
5. **Indigestion/ difficulty in swallowing/difficulty in breathing**
6. **Obvious change in a mole or wart, like rapid increase in size, bleeding or ulceration**
7. **Nagging cough or horseness**
8. **Unexplained anaemia/persistent fever unresponsive to treatment**
9. **Sudden unexplained weight loss.**

→ **Consult Early Cancer Detection Centre As Soon As A Sign or Symptom is Noticed**

Early diagnosis of cancers that are curable if detected early (cervix, breast, mouth) can be promoted in Bangladesh using public education and training of primary health care workers. Health professionals should be trained for early detection and prompt referral of suspected cases.Early detection of 3 common forms of cancer such as oral, breast and cervix has been attempted by Government of Bangladesh under HNPSP (2003-2011). All of them are curable and hence would demand specialized treatment facilities.

Screening

A second approach to early cancer detection is through population screening; namely, identification of people with asymptomatic disease by applying simple tests. Cancer screening should be applied only when its effectiveness has been demonstrated; programmes should be introduced only when there is adequate manpower to perform the tests, with mechanisms to achieve adequate population coverage, facilities for diagnosis as well as treatment and follow-up of individuals with abnormal test results, and when the extent of disease in the population justifies the effort and cost.

Screening is the presumptive identification of unrecognized disease or defects by means of tests, examination or other procedures that can be applied rapidly. Screening is based on the concept that there is a detectable pre-clinical phase of the disease being screened, and detection at this stage markedly alters disease prognosis .

The success of screening depends on having sufficient numbers of trained personnel to perform the screening tests with adequate coverage of target populations, and on the availability of facilities that can undertake subsequent diagnosis, treatment and follow-up. The target disease should be a common form of cancer highly associated with morbidity and mortality, and test procedures should be acceptable, safe and relatively inexpensive.

Screening is the application of a relatively simple and inexpensive test to asymptomatic subjects to classify them as being likely or unlikely to have cancer. A screening test itself will not prevent cancer; it needs to be followed up through a systematic approach. Opportunistic screening or case finding can be attempted, but may not result in significant reduction in the incidence of cancer in a population as the coverage will be poor.

At present, mammography as a screening tool is not applicable to Bangladesh. Breast cancer awareness can be propagated along with provision for fine-needle aspiration cytology, pathology services and surgical interventions.

- Once-a-year clinical breast examination can be made feasible for women above the age of 35 years, which can be carried out by general practitioners or trained health workers.
- Cancers in accessible parts of the body like the oral cavity may be detected at an early stage or even in a precancerous stage through simple inspection and examination, which can be practiced by a trained health care worker.
- Self-examination of the oral cavity (Mouth Self Examination) and breast (Breast Self Examination) can be useful methods and each can be propagated widely as a strategy.

Diagnosis

Diagnostic Methods

Cancer diagnosis calls for a combination of careful clinical assessment and diagnostic investigations. Once a diagnosis is confirmed, it is necessary to ascertain cancer staging to evaluate the extension of the disease and be able to provide treatment accordingly. Cancer treatment aims at curing, prolonging useful life and improving quality of life. Treatment services should give priority to early detectable tumours and potentially curable cancers. In addition, treatment approaches should include psychosocial support, rehabilitation and close coordination with palliative care to ensure the best possible quality of life for cancer patients.

Cancer diagnosis is the first step for cancer management. It involves a combination of clinical assessment and a range of investigations, such as endoscopy, imaging, histopathology, cytology and laboratory studies. Diagnostic tests are also important in identifying the extent to which the cancer may have spread (known as 'staging'). Cancer staging is necessary for determining options for treatment and assessing likely prognosis.

The diagnostic procedures in oncology are for diagnosis, determining the extent of the disease, deciding the treatment options available and evaluating the patient during follow up. Clinical evaluation is the first and the most important step in the diagnosis of malignancy. It requires the health professional to be alert to the early warning signals. A thorough history and clinical examination of any suspicious symptom or sign is mandatory. Clinical suspicion of malignancy can be confirmed by various diagnostic methods described below:

Radiological Evaluation

Various Imaging methods are: X ray, Fluoroscopy, Mammography, Ultrasound, C.T.Scan, Magnetic Resonance Imaging.

Nuclear Medicine Tests are: Positron Emission Tomography, Radionuclide Scan and Radioactivity Uptake studies e.g. Thyroid, Bone.

Biochemical Evaluation

This is generally done to know the organ functions, like liver function tests, and renal function tests.

Endoscopy

In oncology, endoscopy is useful to detect the site of primary cancer, evaluate the extent of lesion, perform biopsy and certain therapies like endoprosthesis for oesophageal stenosis, laser therapy, etc.

Pathological Evaluation

Pathological evaluation is an important method for confirmation of clinical diagnosis and includes:

- Haematological Examination: examination of peripheral blood smear and bone marrow;
- Cytological Examination such as
    - Exfoliative Cytology: examination of exfoliated cells; e.g. female genital tract, oral cavity, urinary tract (urine examination), gastrointestinal lesions (gastric lavage) etc.
    - Fine Needle Aspiration Cytology (FNAC): to obtain material from organs that do not shed cells spontaneously. Examples are breast, thyroid, etc.
    - Aspiration of body fluids: to rule out or confirm malignant effusions. Example: pleural fluid,
- Pathological Examination: Excisional biopsy in small tumours, Incisional/ Punch biopsy in skin and mucosal lesions, Cone biopsy in uterine cervix, Needle biopsy in bone marrow, solid tumours of abdomen and pelvic organs.

Immunological Evaluation

Some cancers release biologic or biochemical substances, in the form of hormones, enzymes, and antigens, into the circulation. The measurement of these substances in blood can be useful in the detection and diagnosis of some types of cancers. Such chemicals are called tumour markers.

Staging of Cancer

Staging is used to assess the extent of the spread of the disease in the body. It is an indication of prognosis, and is used as a guide to determine the type and extent of treatment required.TNM classification- The TNM classification for tumours has been adopted by the International Union against Cancer, and has been extended for many sites of cancer. This is a detailed clinical staging, which is arrived at by the clinician by ascertaining the extent of the primary tumour (T), lymph node involvement (N), and presence of metastases (M). The information so obtained is scored. The details of scoring are specific to each type of cancer.Other systems of staging include the FIGO (International Federation of Gynaecology and Obstetrics) staging for cancers of the uterine cervix and body of the uterus, and the Duke's system of staging for cancer of the rectum.

Infrastructure for Diagnosis

Diagnostic infrastructure in the country is limited. Important early diagnostic facilities like cytology are available only in very few rural places . This imposes a severe constrain in the detection and diagnosis of cancer in the periphery which leads to an exodus of patients to major cities even for this kind of service. There is an empirical picture that most of microscopic diagnosis of cancer takes place mostly in major cities of the country. But we should not forget that it represents only a few percentage of the cancers. Apart from this gap in the diagnosis, lack of cytological and pathological facilities and basic diagnostic investigations like x-rays, endoscopy and ultrasonography is still also a constraint. An un-estimated number of cancers should be vanquishing in rural areas without either diagnosis or treatment. This major gap has to be rectified for any successful cancer control effort.

Treatment

Principles of Treatment

The primary goals of cancer treatment are cure ideally, prolongation of useful life if possible, and improvement in quality of life always. Treatment of cancer is complex, involving a range of therapies. The principal methods of treatment are surgery, radiotherapy, and chemotherapy (including hormonal manipulation). Each of these modalities has a well-established role, and can be used for cure or for palliation. Appropriate combination and sequencing of these modalities can be adopted for specific cancers. Mechanisms should be set up to decide on guidelines for integrating treatment resources with early diagnosis and screening programmes, and providing best practicing guidelines for the most important cancers in Bangladesh.

Curative treatment involves surgery, radiation, chemotherapy, hormone therapy, immunotherapy or some combination of these modalities. Some of the most common cancer types such as female breast cancer, cervical cancer, majority of the head-neck cancers and colorectal cancer, state-of-the-art therapy yields a 75% or greater 5-year survival rate. On the other hand, survival for patients with cancers of pancreas, liver, stomach and lung is less than 15%. When detected early and treated according to best evidence. Fundamental for adequate treatment is an accurate diagnosis by means of investigations involving imaging technology (ultrasound, endoscopy, radiography) and laboratory (pathology).

Though simple forms of cancer treatment is provided at a conservative level in district level hospitals, the high technology required for cancer therapy at medical universtiy/college hospital cancer centres in the country. The table below shows the lists of some curable cancers.

A List of Some Curable Cancers

Cancer	Primary Modalities
Childhood Cancer	CT/S/RT
Breast	S/CT/RT/HT
Cervix	S/RT/CT
Oral	CT/RT/S
Gestational Trophoblastic Diseases	CT
Germ Cell Tumours	CT/S
Osteosarcoma	CT/S
Soft Tissue Sarcomas	S/RT
Central Nervous System	S/RT

CT: Chemotherapy, S : Surgery, HT: Hormone Therapy, RT: Radiotherapy
Ref: modified from M Krishnan Nair, IARC: Current Scenario, intervention, strategies and projections 2015.

Major reliance on treatment as a cancer control strategy, however, favours an expensive and narrow approach to the problem. High technology for cancer treatment imposes a financial investment, tends to select patients inequitably, and distracts from appropriate emphasis on prevention. As because most patients are poor and from the developing world, treatment should be considered as a major thrust against cancer. And it is essential to take as a pro-poor strategy.

Care for cancer patients typically starts with recognition or suspicion of the disease by the patient and primary health care workers. Specialized services for diagnosis, treatment and referral, if appropriate, to a centre for cancer treatment comprise the next element of the system.

Surgery

Surgery plays an important role in the diagnosis, staging and treatment of localized cancers. Where other modalities form the mainstay of treatment, surgery can contribute through removal of tumour masses, palliation and treatment of some complications. Surgery requires the support of other specialties including anaesthesiology, blood transfusion services, pathology (specially onco-pathology) and critical care nursing. In early stage solid tumours, surgery that encompasses a sufficient margin of normal tissue is curative. These include early stage cancers of the breast, oral cavity, uterine cervix, colon, prostate and the skin. Surgery is also used after post chemotherapy or radiotherapy to provide local cancer control and better chances for adjuvant therapy. In certain solid tumours, surgery is critical for reducing bulk (cyto-reduction). Surgery is valuable in oncology emergencies, to relieve bowel obstruction, promote cessation of bleeding, close perforations, relieve compression, and drain ascites or pleural effusions. Apart from treatment, surgery for reconstruction and rehabilitation can improve function and cosmetic appearance and enhance quality of life for patients.

Radiotherapy

Radiotherapy is one of the most important methods of curing local cancer. Around 60-70% cancer patients require radiotherapy for curative management. Radiotherapy is the method of treating diseases with "ionising radiation". The ionising radiation causes damage to certain vital structures with in the cells. The cells are either damaged or are rendered incapable of further multiplication.

These damaging effects on normal cells are less and reversible whereas the damage in the abnormal cell is irreversible. This differential is the principle of radiotherapeutic treatment.

Radiotherapy requires high technology equipment and skilled technicians, available only in tertiary centres. Radiotherapy may be teletherapy (administered from a distance) or brachytherapy (treatment with radioactive substances within body cavities or tissues). Teletherapy may be administered by cobalt machines or by accelerators. Recently Cobalt machines are going to be replaced by Linear Accelerator as through out the world . Brachytherapy may be delivered by Low Dose Rate (LDR) devices using Cesium and High Dose Rate (HDR) devices using Iridium or Cobalt. HDR can be used for treatment of a wider variety of cancers than LDR and reduces the need for hospital bed occupancy, but demands more expertise and has higher costs.

Radiotherapy is one of the most important methods of curing local cancer. It is also often administered before or after surgery. Such treatment either facilitates surgery or consolidates surgical gains, and reduces local recurrence of disease. Palliative radiotherapy is of value in cases of pain secondary to bone metastasis and tumours causing bleeding or compressive syndromes. Radiotherapy can cause different side effects. Patients may notice loss of appetite, nausea, and occasionally vomiting persisting for a week. The symptoms are mild in nature and seen in about 10% of patients, and are easily controlled by medicines. Other side effects depend on the site irridiated and can include mucositis and bone marrow depression. Long-term side effects are also observed.

Chemotherapy

Chemotherapy is the use of cytotoxic drugs against cancer. 25-30% patients require chemotherapy as primary or combination therapy. Cancer cells are damaged to the extent that they cannot survive. Normal cells are also damaged but to a lesser degree. Chemotherapy is curative in certain cancers e.g. Hodgkin Disease, high-grade Non-Hodgkin Lymphomas; but palliative in many cancers, and used as adjuvant therapy for some cancers including breast cancer, ovarian cancer and colorectal cancer. The goal of adjuvant therapy (treatment given in addition to primary definitive therapy in the absence of macroscopic residual disease) is to avoid metastases, prolong life and improve quality of life. Chemotherapy is not very effective in hepatobiliary cancers, pancreatic cancer, thyroid cancer, and central nervous system cancers among others.

Acute side effects of chemotherapy are usually self-limited and reversible. Fall in blood count, hair loss, nausea; vomiting, constipation, diarrhea, anaemia, and depression of the immune system are some of the side-effects. There may be drug specific side effects like cardiotoxicity, nephrotoxicity and neurotoxicity etc.

In summary, primary prevention, early detection, prompt diagnosis and appropriate treatment, and palliative care are the main strategies for cancer control. Each cancer requires a distinctive mix of these strategies for its control. The matrix given in below table suggests the options on a Prevention-Treatment-Palliation Continuum, for each cancer. On an average 50-60% of the patients are treated with radiotherapy, 20% with surgery and 25-30% with chemotherapy (as primary treatment or in combination).

Relative importance of various interventions in different cancers

Cancer	Early Detection	Surgery	Radiation	Chemotherapy/ Hormonal adjuvant therapy	Paliiative care
Mouth/Pharynx	+	++	+++	+	+++
Oesophagus	-	+	++	-	+++
Stomach	+	+	-	-	+++
Colon/Rectum	++	+++	++	+++	+++
Liver	-	+	-	-	+++
Lung	-	+	++	-	+++
Breast	+++	+++	++	+++	+++
Cervix	+++	++	+++	-	+++

Key:- = no role; + = small role; ++ = modest role; +++ = major role

Tobacco-related cancers like cancers of lungs, pharynx, and oral cavity are highly amenable to primary prevention. Early detection and treatment is possible for cancers of the oral cavity, uterine cervix, and breast. Palliative care is a key intervention for all types of cancers.

Multidisciplinary therapy, tissue conservation, protocol driven treatment of supportive care are only available to cancer patients treated in oncology /radiotherapy department of medical college hospital, Oncology department of Medical colleges or tertiary level cancer centres in private. All the rest receive just radiotherapy of a modest standard with or without chemotherapy.

Approach	Cancers	Strategy
Prevention	Tobacco-related cancers	Tobacco control/ cessation
Early detection	Oral/Breast/Cervix	Propagation of awareness and self-examination Opportunistic examination Diagnostic support
Diagonsis and treatment	Common cancers	Traning Treatment guidelines Infrastructure Referral practices
Palliative care	All advanced	Oral morphine availability Human resource development Community participation

Facilities for Cancer Treatment

The three major modalities of treatment namely surgery, radiotherapy and chemotherapy are also grossly inadequate in the country both in terms of personnel and equipment especially in the semi urban and rural areas. This has forced the rural population to seek treatment in the urban areas which is geographically and financially in accessible to them. To reach such facilities they are constrained to spend huge amounts of money mostly beyond their reach. This ultimately

impoverishes them. Such constraints leave an un-estimated number of cancer cases in the population either without diagnosis or treatment. If one looks at the location of the treatment units in the country the stark reality of inequitable access will become obvious.

Palliative care

Palliative care is an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. The quality of life of patients and their families facing a life-threatening illness. This is done through prevention and relief of suffering by means of early identification, accurate assessment and treatment of pain and physical, psychosocial and spiritual problems. Palliative care involves a multi disciplinary team approach.

It deliver care e.g. such affirms life and regards dying as a normal process; aims neither to hasten nor to postpone death; aims to provide relief from distressing symptoms ; integrates physical, social , emotional and spiritual aspects of care to help the dying person and their family attain an acceptable quality of life; offers help to the family, and carers during the person's illness and their bereavement. Palliative care for children represents a special field - albeit closely related to adult palliative care - whose principles also apply to other paediatric chronic disorders.

Having a good quality of life is a highly significant aim for patients with cancer, whether or not cure is possible. Cancer pain relief and palliative care are important and integral parts of cancer care. Relatively simple and inexpensive treatment to control pain should be available throughout the country as a priority. Palliative therapy and care, including symptom control and pain relief, will be important for years to come, especially for Bangladesh, because of the large number of patients for whom curative therapy is not possible. Relief from pain and other problems can be achieved in over 90% of all cancer patients. Effective strategies exist for the provision of palliative care services for cancer patients and their families, even in low resource settings.

Actions to ensure the availability of oral morphine for cancer pain relief, and training of health professionals in palliative care, are critical. Oral morphine for cancer related pain is available currently only in a very few parts of the country. Awareness regarding the cancer related pain is lacking both in the profession, community and patients. There is a serious limitation of manpower professionals and NGOs in providing palliative care. But poor availability of drugs such as morphine is also a big hindrance.

Supporting Care and Rehabilitation

When someone develops cancer, its impact extends beyond the physical effects of the disease to include psychological, social, economic, sexual and spiritual consequences. Coping with the disease and its treatment involves a range of issues, which impact on those with cancer as well as their families. Supportive care and rehabilitation is defined as: the provision of the necessary services, as determined by those living with or affected by cancer, to meet their physical, social, emotional, nutritional, informational, psychological, sexual, spiritual and practical needs throughout the spectrum of the cancer experience. These needs may occur during diagnosis, treatment or follow-up after treatment, and include issues of survivorship, recurrence of the disease and, in some cases, death.

There is growing evidence that supportive care and rehabilitation can buffer cancer patients and their caregivers from psychiatric, psychological and social morbidity. Furthermore, for those who go on to develop intrusive or more severe problems, a range of psychological and social interventions have been found to have a variety of benefits, including improved quality of life and illness adaptation, reduced psychological distress, and reduced rates of clinical syndromes. Internationally, it is accepted that supportive care and rehabilitation are desirable at every stage along the continuum of care.

Cancer Surveillance

In the health arena, surveillance consists of the ongoing collection, analysis and dissemination of data of public health importance to allow for the planning and implementation of health policy. Cancer surveillance provides a quantitative portrait of cancer and its determinants in a defined population and allows the effectiveness of cancer policy to be evaluated. It also raises questions that form the basis for cancer research and interventions for cancer prevention and control. Cancer surveillance functions include:

- Monitoring trends in cancer incidence, prevalence and survival over time and between different geographic areas, social groups, and other defined populations
- Evaluating the effectiveness of cancer prevention and screening
- Evaluating the quality and outcomes of cancer care
- Evaluating the impact of environmental and social factors on cancer risk
- Supporting investigations into the causes of cancer
- Providing information in support of cancer genetic counseling services for individuals and families at higher risk of developing cancer.

The development of cancer surveillance will allow services to be planned and evaluated in keeping with evolving needs for services. Surveillance is one of the fundamental elements of the Bangladesh Cancer Control Strategy. The data collection required for surveillance, requires the collaboration of service providers and, where necessary, continuing legislative support. A fully functioning and dedicated cancer registry with appropriate expertise is a cornerstone of cancer surveillance.

Cancer Research

Research is a key factor in promoting health, combating disease, reducing disability and improving quality of care. Cancer research is an essential component in the development, implementation and evaluation of a national cancer control programme. A scientific basis needs to be established for identifying the causes of cancer and specifying effective strategies for the prevention, treatment and control of cancer, as well as for evaluating overall programme performance. Bangladesh needs to address cancer control at all levels with the assistance of a comprehensive research portfolio, encompassing all fields of cancer research.

Research is needed across the spectrum of cancer control to provide the basis for continual improvement. As identified by the WHO (2002), cancer research is wide-ranging, extending over a number of key areas including:

a. Epidemiological research, which relates to the study of the distribution and determinants of disease in populations (environmental or human behavioural factors).

b. Prevention research, which encompasses research into health promotion and education, screening and other early detection initiatives.

c. Laboratory research, which has almost no activity in Bangladesh, research needed particularly in cell and molecular biology (eg, biological mechanisms underlying cancer).

d. Extensive laboratory-based research programmes exist at various major hospitals .

e. Clinical research, which is concerned with the study of the natural history of the cancer process in humans and the assessment of efficacy and toxicity of treatment (determining the most effective treatment).

f. Clinical psychosocial and behavioural (eg, factors impacting on prevention, the response to screening, and the impact of diagnosis and treatment).

g. Translational research, which is concerned with the integration of bench and clinical research for the benefit of cancer patients and those at risk of developing cancer.

Health system and health policy research, which are wide-ranging, multidisciplinary field that investigates the structure, processes and effects of health care services (eg, how services can best be implemented and organized). In reviewing the challenges posed by cancer and the scope for improving cancer services, emphasised for establishing a more formal and coordinated approach to cancer research, with particular reference to clinical research. There is considerable scope to further increase capacity for research, to achieve a better balance between clinical and non-clinical research, and to develop the research infrastructure needed to coordinate and govern cancer research.



CANCER SCENARIO OF BANGLADESH

Cancer is the sixth leading cause of death in Bangladesh (BBS, 2008). Bangladesh has not initiated a national cancer registry. A few years back, hospital based cancer registry has been initiated at National Institute of Cancer Research Hospital and Oncology Department of Bangabandhu Sheikh Mujib Medical University with technical assistance from WHO. International Agency for Research on Cancer (IARC) has been projected that death from cancer in Bangladesh is 7.5 % in 2005 and it would be increased upto 13 % in 2030. IARC has been projected (2002) the death from 10 leading cancer in females are mouth and oro-pharyngeal, cervical, breast, esophageal, ovarian, lung cancer, lymphoma, stomach, liver, colo-rectal cancer and in males are mouth and oro-phyrangeal, lung cancer, esophageal, lymphoma, stomach, bladder, liver cancer, leukaemia, colo-rectal and prostate cancer. A recent WHO study has been estimated that there are 49,000 oral cancer, 71,000 laryngeal cancer and 196,000 lung cancer cases in Bangladesh, among those aged 30 years or above. The same study has been observed that 3.6% of the admissions in medical college hospitals for the same age group are due to cancers of oral cavity, larynx and lungs (WHO, 2007).

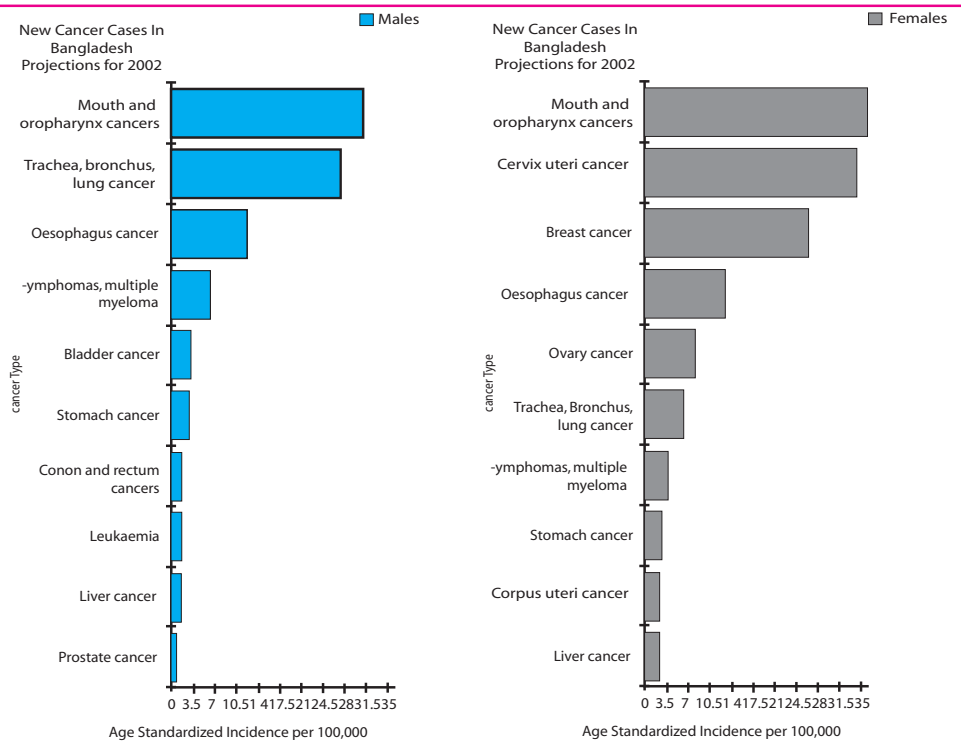
Burden of Cancer

Oral, breast and cervix cancer together constitute more than 43% of the female cancer burden in Bangladesh. Oral cancer is an avoidable cancer and can also be detected early as it has long precancerous stage. The examination method is simple and if the individual has awareness he will certainly submit for the same. Clinical breast examination followed by FNAC or biopsy is easy and simple methods for early detection of breast cancer. Cervical cytology at the age of 40 years will prevent further disease in 2/3rd of women and has a high sensitivity and specificity. All the above cancers if detected early and treated optimally and almost immediately can result in higher rates of cure.

There was an important finding to note from NICRH and BSMMU Cancer Registry that more than 66% of the cancers occur in the age group of 30-65 years. Such data discloses the impact of cancer as a major public health problem in the most productive age group.

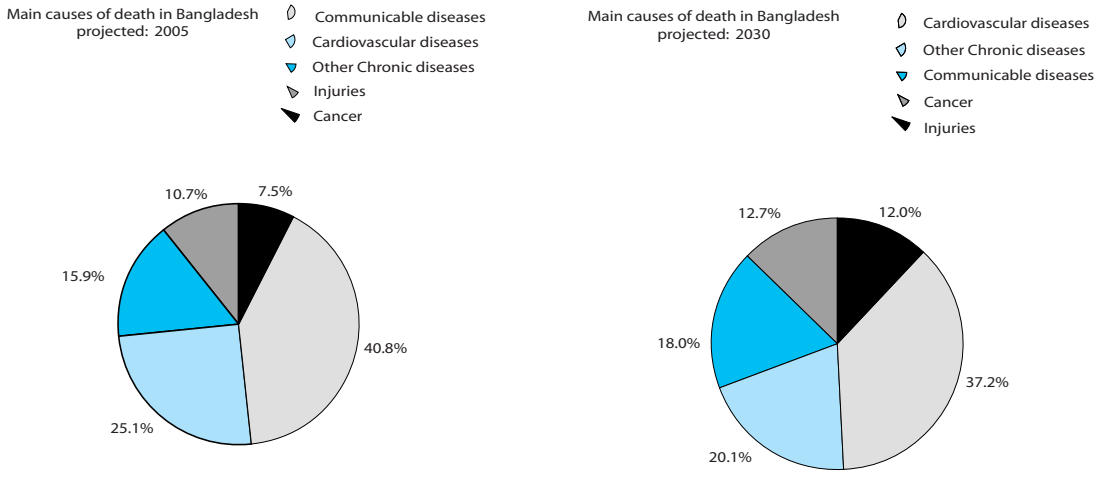
The NICRH and BSMMU cancer registry data revealed that about 20-25 % of the cancers are diagnosed in a localized stage. The majority of the cases are diagnosed when the disease is regional (2/3rd of all cases). Disease with distant metastasis at the time of diagnosis is less than 15%. Disease extent at presentation is similar in all therapy centres.

Although children with cancer represent only 1 percent of the overall incidence of the disease, the successful treatment of cancers occurring in young people results in considerable saving of years of life. Seventy Percent of childhood Cancers are curable, but one-half of the survivors have long-term sequel. Adolescents with cancer have poorer survival than children with cancer. The commonest 5 cancers in children are leukemia, lymphomas, CNS tumors, soft tissue sarcomas and renal tumors (World Cancer Report, WHO, 2005).

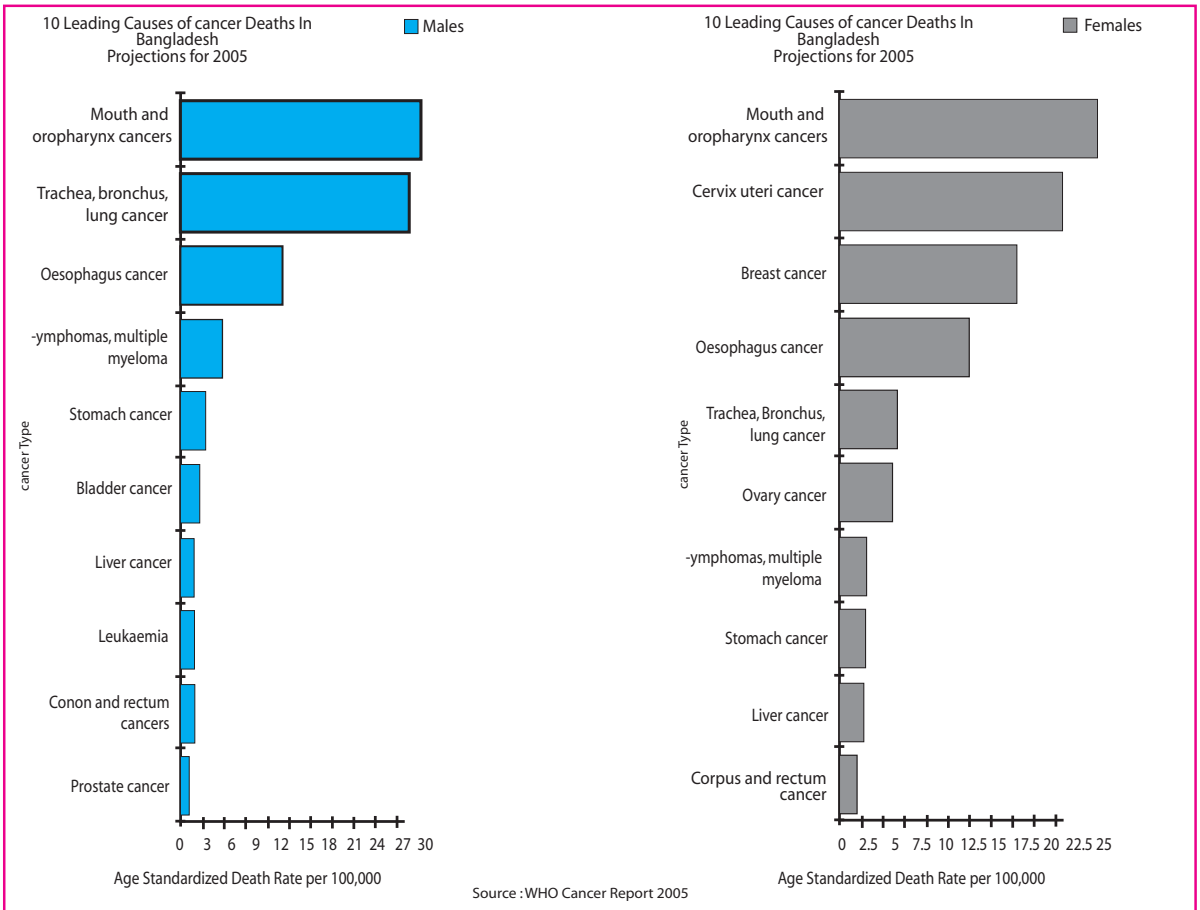


Source : WHO Cancer Report 2005

Along with many other countries, Bangladesh has an increasing number of cancer, primarily because of population growth and ageing. According to WHO estimation cancer is now one of the leading cause of death in Bangladesh. Incidence is around 200,000 and mortality is around 1, 50,000 people each year and overall cancer load is around 12,00,000 with the number expected to increase many fold by 2030.



Source : WHO Cancer Report 2005



Although there are still some open questions, there is sufficient evidence that dietary factors play an important role in causing cancer. This applies to obesity as a compound risk factor regarding the composition of the diet as well as lack of fruit and vegetable and high salt intake. Lack of physical activity has a distinct role for causing cancer.

Tobacco related cancers are preventable . Tobacco is used in many forms in Bangladesh and the common cancers that are caused by tobacco are lung, larynx, urinary bladder, and esophagus, pharynx all due to smoking tobacco, the mouth, tongue and lip due to chewing and smoking tobacco. Due to socio-cultural reasons women are mostly non-smokers thus tobacco related cancer in female is still low in Bangladesh.

Economic Impact of Cancer

Economic impact of cancer is huge. Limited Hospital Based Cancer Registry has been showed that most of the cancer patient's age group is between 30-65 years, which is around 66%. These people are the main workforce of the country. It has gigantic economic impact. It has direct and indirect cost, which needed to be measured urgently. As a example we may look for the WHO study that revealed the annual cost of tobacco-related illnesses in Bangladesh as attributable to tobacco usage is estimated to be 50.9 billion taka considering that only a quarter of the patients with tobacco-related illnesses receive hospital care. On the other hand, the total annual benefit from tobacco sector is estimated to be 24.8 billion taka as tax revenue on the domestic consumption of tobacco (20.3 billion taka) and wages in tobacco production (4.5 billion taka). The cost of tobacco usage to the country thus outweighs the benefit from revenue and wages by 26.1 billion taka per annum (equivalent to US$ 342 million). It indicates that Bangladesh economy would greatly benefit from controlling the usage of tobacco.

Bangladesh is not able to provide the latest treatment facilities for cancer management and government's support inadequate. Every year Bangladesh is losing huge amount of foreign currency for this purpose. If government would invest one quarter of this amount for next four years overall cancer management could reach at South East Asian Regional standard.

Infrastructure for Treatment

In Bangladesh there are 15 radiotherapy centers in public and private sector. Only one is situated at rural area. Bed capacity is around 500 beds all over the country. which is very much insufficient. There are only Eight Linear Accelerators has been installed in the country. Among these four is performing well. Two of them is in the private sector. One for BSMMU is in the way of procurement. Around 11 Cobalt -60 machines are available in country. Out of these 9 units are working. There are 8 brachytherapy machines, among these only 2 units are providing services in Bangladesh. One is in the public sector at BSMMU; another one is in the private sector. According to International Atomic Energy Agency (IAEA) per 1 million population needs 2 Teletherapy and 1 Brach therapy machine. According to this estimation only Dhaka city needs 20 and country needs around 300 Tele-therapy (radiotherapy) machines. Beside these WHO has published a list of essential chemotherapy. Recently government of Bangladesh updated the essential drug list and incorporate important essential chemotherapy in the list but there has been no public procurement till date and drug is also not adequate in the market. For anti-cancer drugs pharmaceutical industry or plant should be set up immdiately.

Human Resource Development for Cancer Management

Cancer Education

Introduction of cancer education in the under graduate medical curriculum with at least 20 lectures is necessary. Health education including anti-tobacco, early sign/symptoms of cancer in easy languages needed to be introduced in schools and colleges up to HSC level including madrashas. Human resource for cancer is also very much inadequate in the country. In Bangladesh like United Kingdom clinical oncology practice is going on. Fellowship, MD and M.Phil in Radiotherapy trained equally on both radiotherapy and chemotherapy. We are suffering from scarcity of medical physicists also. Beside this we have limited histo/cytopathologists, surgeons/gynecologist/Head-Neck dedicated in oncology, radiotherapy technicians, cyto and histo technicians and oncology nurses. Bangladesh needs more oncologists in a shortest possible time. BSc in Radiotherapy Technology course is operated by Institute of Health Technology. It will be easy for Bangladesh to follow United Kingdom system to develop oncologists in a shortest possible time.

Post-graduate Training

As because there is lack of well trained persons in oncology All persons involved in cancer management needed external training such as for oncologists at least 6 months, for technicians at least 6 months, for nurses at least 6 months and for medical physicists 6 months to 1 year external training will be useful.

Post Creation

Adequate post creation for oncologists and supporting staffs is necessary at all medical/ college/university and district hospitals.

THE BANGLADESH CANCER CONTROL STRATEGY

The Cancer Control Strategy is the first step in the development and implementation of a comprehensive cancer control programme in Bangladesh. This strategy has been designed to be consistent with the needs and expectations of the people of Bangladesh, and to enable the doable goals of development and improving health. The strategy includes vision, goals, principles, objectives, indicators and plan of actions to guide present and future actions to control cancer. Three 'P' will guide this strategy.

- ***Partnership***: strategies for health gain and appropriate health and disability services
- ***Participation***: involving people at all levels of the sector in the planning, development and delivery of health and disability services
- ***Protection***: ensuring equal access of both poor and rich to cancer health and safeguarding individual's cultural concepts, values and principles.

Strategy in Context and Development Process

Derives its mandate directly from Article 25(A) of UN Human Rights Declaration, Article No. 15 (1) and 18 (A) of constitution of Peoples' Republic of Bangladesh describe health as a fundamental rights of the people; Secondly, Bangladesh is a signatory of WHO Resolution No.WHA58.22 on Cancer Prevention and Control, which urges WHO member states to develop and implement a national cancer control strategy for reducing the incidence and impact of cancer.

Government has formulated 'National Non-Communicable Diseases Strategy and Plan of Action' in 2007 with technical support from WHO. Following that govt. has taken this noble initiative to formulate 'National Cancer Control Strategy and Plan of Action. Government has also expressed its commitment to develop 'National Cancer Strategy and Plan of Action' in HNPSP and RPIP (2003-2011). A cancer control plan was developed by Bangladesh Cancer Society in 1992 but it did not get government support. After that a workshop was organized by NICRH in 2005 with the support of WHO to develop a draft of cancer control plan. However this plan of action was never published.

Government has formed a taskforce for developing National Cancer Control Strategy and Plan of Action a few years back. But it gathered momentum in 2008. NCCS Taskforce has co-opted new members and started to work under the leadership of Director General, Directorate General of Health Services. Six meetings of NCCS Taskforce was held. A consultative meeting was held with the presence of the entire relevant stakeholders on 17th November 2008. The document was uploaded in the website of MOHFW and DGHS and published in The Daily Ittefaq for comments and suggestions for the people upto 15th December 2008. The National Cancer Control Strategy and Plan of Action for 2009-15 has been approved in the meeting of National Cancer Control Council on 7th December 2008 with the chair of Honourable Advisor.

Why National Cancer Control Strategy?

Bangladesh requires a cost effective cancer control strategy with maximum reach, coverage and equity. A strategy based on health promotion, professional training, diagnosis and treatment with community participation and carried out through the existing health services with minimal health system modifications would meet these requirements.

Development of a national cancer control strategy and plan of action is the way forward to achieve significant level of cancer control with limited resources. A careful planning, coordination mechanism, integrated set of activities covering all aspects of cancer prevention and control, and which operates with an appropriate allocation of available resources among the various activities and equitable coverage of the people.

Bangladesh is in need for such national cancer control activities. Few initiatives were taken to formulate & draft such plan before. In 1992, Bangladesh Cancer Society developed a cancer control plan. A consensus workshop was organized by NICRH on development of National Cancer Control Plan with support of WHO 2005. But there was no National Cancer Control Strategy and Plan of action developed before.

Vision

Bangladesh will have a system of cancer control which will reduce cancer morbidity and mortality rates relative to the South-East Asian Regional standard by 2015. Bangladeshi people will know and practice health promoting and cancer-preventing behaviours and will have increased awareness of and access to early cancer detection and screening. Bangladesh will have a network of equitably accessible state-of-the-art cancer treatment facilities and will become a regionally recognized location for education and research into all aspects of cancer.'

Goal:

Goal 1 : To reduce the incidence of cancer through primary prevention.

Goal 2 : To ensure effective screening and early detection to reduce cancer incidence and mortality.

Goal 3 : To ensure effective diagnosis and treatment to reduce cancer morbidity and mortality.

Goal 4 : To improve the quality of life for those with cancer and their family through support, rehabilitation and palliative care.

Goal 5 : To improve the delivery of services across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation.

Goal 6 : To improve the effectiveness of cancer control in Bangladesh through research and surveillance.

Principles

- Ensure timely and equitable access for all people to a comprehensive range of health and disability services
- Be of high quality
- Be sustainable
- Use an evidence-based approach
- Reflect a person-centered approach
- Actively involve communities
- Be undertaken within the context of a planned, co-coordinated and integrated approach.

Specific Objectives to Meet the Goals

1. To create awareness about tobacco related cancer and harmful effects through anti-tobacco action programmes involving student volunteers, scouts, inter-sectoral personnel, medical personnel and people at large.
2. To attain Early Clinical Diagnosis (ECD) of oral, cervical, breast and other cancers through circulation of warning signs/symptoms, screening and motivation and expand laboratory diagnostic support through medical university/college hospitals and district level early cancer detection programme and early detection centre.
3. To extend the therapy by introducing minimal therapy for early cancer at the periphery and comprehensive multi disciplinary protocol based therapy with early detection in Oncology /Radiotherapy Department of medical colleges and palliative care at the district level.
4. To widen the coverage and reach of palliative care by providing human resource and supplying necessary drugs and equipments to district level, collaborating with NGOs for home care service.

5. To improve the quality of life for cancer patients and their family through support, rehabilitation and palliative care
6. To develop the effective delivery of services across the continuum of cancer control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation
7. To generate essential evidences for effective cancer control through research and surveillance.

Target 2015

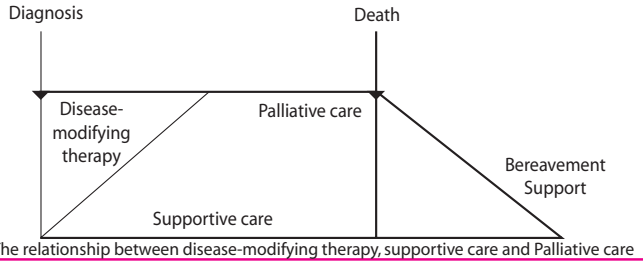
1. Affordable and accessible diagnostic, therapeutic and palliative care services will be made available in Bangladesh.
2. Tobacco control has to be strengthened.
3. Intake of fruits and vegetables, and physical activities promoted.

Government is now working through Line Director (NCD & OPHIS), LD (Hospital & Clinic Service) with the support from HNPSP and WHO on the above mentioned all and second & third areas respectively.

Key Components

Infrastructure and Human Resources

- Early detection of oral, breast cervical and others cancers will made available through NICRH/medical university/medical college hospitals and some selected non-profit public-private facilities through augmentation of infrastructure and capacity enhancement.
- Radiotherapy machines will made available in the country as per guideline of International Atomic Energy Agency (IAEA) and PACT (Programme of Action for Cancer Therapy) prescription, taking into consideration the geographic gaps in the present distribution. Machines should be chosen in such a way that they are environmentally acceptable and recurring costs are minimal.
- Government will encourage public-private partnership and decentralization of cancer centre all over Bangladesh.
- Dedicated paediatric cancer treatment facilities will be established at NICRH/medical university/college hospital.
- Radiotherapy technicians, clinical/radiation oncologists and medical/radiation physicists will be made available; surgeons and gynaecologists, general practitioner will be reoriented in the line of oncology management.
- Onco-nurses, doctors and pharmacists trained in pain relief and palliative care will be made available.
- Training to be augmented and drug therapy for curable cancers including paediatric cases made available in all Oncology/Radiotherapy department of medical university/college hospitals.



The relationship between disease-modifying therapy, supportive care and Palliative care

Drugs

- An essential drugs list of cancer chemotherapeutic drugs will be prepared and availability of all drugs in the essential list will be ensured. Protocol-based chemotherapy will be made available.
- Oral morphine will be made available in all cancer centres/districts of the country.

Surveillance and Monitoring

- All oncology/radiotherapy departments of medical university/colleges would have population-based registries, in the urban and rural areas.
- Community participation in the cancer programme will be ensured through cancer control committees at district hospital and oncology/radiotherapy department of medical university/ medical college hospitals with community representatives, religious leaders, teachers, etc.

Community Based Organization (CBO)

Community based and civil society initiatives such as Bangladesh Society of Radiation Oncology, BMA, OGSB, Pediatric Oncology Society and BNA, Bangladesh Cancer Society, Cancer Foundation, any other such non-profit voluntary societies or organizations, Bangladesh Scout, will be supported by the government.

Public-Private Partnership

Government will encourage to develop public-private partnership initiatives such as Ashsania Mission Cancer Hospital and any such initiatives.

Cancer Network Formation

A cancer network will be formed with all the institutes involved in cancer patient management and prevention activities under the leadership of DGHS for dissemination cancer prevention materials and information exchange.

Linkages and External Exchange

Linkages with the Reproductive and Child Health Programme, National HIV/AIDS Control Programme, Nutrition Programme and Hepatitis B/C Control Programme will be established. An exchange programme will be developed between national institutes and external academic and research institutes.

Funding

Government will fund cancer control activities through operational plans of relevant line directors mainly, by LD (NCD&OPHI) and LD (Hospital) from HNPSP. Development partners like World Bank, DFID, IDB, GTZ, KFW, JICA, CIDA, SIDA, NORAD, ADB, and UN technical agencies such as WHO, IAEA. UNFPA, UNICEF and FAO will support cancer control activities.

Health Insurance

Chronic disease like cardiovascular disease, cancer and chronic renal disease treatment require huge financial involvement. For this reason all the countries of South East Asia have established universal health insurance scheme. Despite government commitment in policy document SIP and HNPSP regarding health insurance but no initiative has taken so far.

National Cancer Control Trust Fund

A national cancer control welfare trust will be created with the govt. initiative. Fund will be generated from taxation from tobacco, tobacco product sales, cinema hall, luxury hotels, air tickets, Air-conditioned bus etc.

Delivery of Services

- Oncology/radiotherapy department of medical university/colleges hospital will be the

nucleus and it will coordinate and support the delivery of all cancer-related services. Medical university/colleges will be restructured to enable oncology department to function with more objectively.

- All services at the district level will be provided by the District Cancer Control Committee and it will become responsible for providing all services related to cancer in the community.

General Measures to Achive Targets

In order to achieve the targets outlined above certain general measures needed to implement:

- Preparation of a cancer control plan through Local Level Planning (LLP) at the national level, divisional level and district level taking into consideration of socio cultural factors, economy, health infrastructure, health priorities and availability of human resources.
- Formation of district Cancer Control Committee, which will be the channels for delivery of cancer control activities at the grass root level.
- Constitution of cancer control committee as a collaborative effort of the medical university/college/institute/cancer centre to function as a resources centre for preparation of the cancer control plan and human resource development.
- Oncology/radiotherapy department, major private cancer institutes, which will be the resource centre for district cancer control programme and its monitoring.
- Cancer registries will be initiated at all Oncology/radiotherapy department to develop country wide database on cancer and will be flowed to MIS, DGHS.

Primary Prevention

- The most useful prevention strategy is reduction in tobacco consumption (all forms).
- Currently a bulk percentage of cancers in men and women are related to tobacco use. These cancers can be prevented to a large extent through a comprehensive tobacco control programme which will include awareness, education, legislation, community participation and tobacco cessation services.
- Ensuring the use of tobacco among women and children remain status quo through formal and non formal education for children, advocacy programmes for women.
- Reducing betel nut use with betel leaf and tobacco products.
- Reduce tobacco habit among adult habits by 20-25% by establishing Quit tobacco clinics at community level.
- All government controlled public places will be declared tobacco free (legislation)
- Price of tobacco products will be doubled in 5 years (legislation)
- Extensive propagation of health promotion messages in government electronic media
- A healthy lifestyle, which includes eating plenty of fruits and vegetables, avoidance of alcohol and adequate physical activity, is protective for many of the non-communicable diseases including cardiovascular disease and diabetes, and can be considered as part of the overall health promotion programmes.
- Cancers related to infectious agents such as human papillomavirus for Cervical Cancer and hepatitis B virus for Liver Cancer can be prevented through vaccination programmes.
- BSMMU has taken a vaccination pilot project against Cervical Cancer with the Oncology Club supported by Grameen Bank.

Early Detection

- Cancer of the oral cavity, breast, cervix and other cancers are identified as targets for early detection and control
- Opportunistic diagnosis of lung cancer at TB Clinic, GI malignancy such as stomach, oesophagus , colorectal at endoscopy clinic and ovary, prostate at other settings.

- Early warning signs/symtoms of cancers will be propagated widely through electronic media
- Diagnosis of localized disease for these three common forms of cancer increase 20 to 40 %.
- Districts hospital will be strenthened for histopathology/cytology examination.
- Cancer detection and diagnostic facilities will made available at medical university/colleges and district-level hospitals and a clear referral chain should be established to ensure that those who require further treatment are referred to higher-care centres such as Oncology /radiotherapy department.
- Medical university/colleges should have provision for the management of all early common cancers.
- Dedicated centres need to be established for the management of paediatric cancers.
- Oncology/radiotherapy department will be equipped for comprehensive cancer control, treatment and research.

Diagnosis and Treatment/Referral Chain

Screening for Cervical Cancer

Cervical smear cytology is the standard screening test for cervical cancer. It is an easy and effective method revealing the presence of pre-cancerous lesions as well as in situ or very early invasive cancer. Screening should preferably begin at 35 years of age, as at younger ages dysplasia detected through screening rarely progresses to cancer, but adds to programme cost in treatment . The important requirement for cervical cytology is the availability of good laboratory services so that accurate diagnosis is possible.

Screening programmes may be initiated in a defined population if adequate trained manpower and facilities are available. The most important aspects of a screening programme are its organization and management. All women in the target population should be invited for screening, unique identification numbers provided for follow up, and reliable laboratory facilities and personnel made available. The screened population has to be provided appropriate interventions and follow up.

Early detection of cancer prior to the development of symptoms occurs through screening, which is a process whereby people who have no symptoms are invited (either directly or through publicity) to undergo a test or procedure, usually at regular intervals.

In some instances, the purpose of screening is to detect cancer at an early stage of development; in others, cancer screening identifies precursors of cancer, the treatment for which can reduce the risk of cancer development. Although a number of cancer screening tests have been developed, only a few have been proven effective and therefore recommended for defined populations. To be considered effective, a screening test must meet a number of requirements established by the WHO (2003).

Alternative strategies such as visual inspection are being tested for use in low-resource settings where laboratory facilities for cervical cytology are inadequate. Test performance of Visual Inspection with Acetic acid (VIA) suggests that it has similar sensitivity to that of cervical cytology in detecting cervical intraepithelial neoplasia, but has lower specificity. A project has set up to screen Cervical and Female Breast Cancer at BSMMU. Cervical Cancer has been screened through VIA and Breast Cancer with clinical breast examination in 44 districts with the support of UNFPA. Around 100,000 women have been screened through VIA programme so far and among them, 5% is VIA positive, 50% of them are CIN/ Cervical cancer (among the VIA positives).There is increasing interest in the use of HPV DNA testing for screening. The test, however, requires financial and sophisticated technical resources.

Screening for Breast Cancer

Mammography is an effective screening test for breast cancer, and can reduce mortality due to breast cancer if used with appropriate follow-up. Unfortunately, it is an expensive test that requires great care and expertise both to perform and in the interpretation of results.

It is therefore currently not a viable option for many countries. Feasibility of promoting breast self-examination to reduce breast cancer mortality is being tested in primary care. Early diagnosis of breast cancer, by promoting breast awareness among all women and clinical breast examinations for women preferably in the age group 40-69 years, should be encouraged. BSMMU has taken a project with the help of UNFPA for clinical breast examination.CANSUP, an NGO in Chittagong, is working on breast self examination and cervical cancer screening with technical assistance from WHO.

Appropriate diagnostic facilities and referral practices have to be established to ensure that early detection and screening programmes result in the desired results.

Palliative Care

- Oral morphine will be made available upto district level throughout the country. Various categories of health professionals need to be trained in the WHO step-ladder approach to pain management.
- Palliative care should be treated as an integral part of cancer management.
- All Oncology /radiotherapy department and of medical university/colleges have a pain relief and palliative care programme with the availability of morphine.
- All District Cancer Control Plan will have pain relief and palliative care programme with 2 beds and morphine availability

Cancer Surveillance and Monitoring

- Hospital based cancer registry program will be expended all over Bangladesh with the financial and technical Support of HNPSP
- Population Based Cancer Registry is started at by CCPR. at Gazipur with the support from WHO.
- With the support from WHO and HNPSP, a new population based cancer registry program will be conducted by Oncology department of BSMMU at North Matlab Upzilla, Chandpur and Mirsari, Chittagong.
- At least 50% of the population will made aware of the disease, its risk factors, prevention potential and curability.
- Paramedical personnel and field-level health workers will be trained for providing awareness, documentation and ensuring compliance to referral and treatment.
- A comprehensive tobacco control programme must be implemented to reduce the prevalence of tobacco use by 10% from the current levels.
- Basic Cancer Data will be obtained from district hopitals initially and later on from Upazilla hospitals will be by MIS, DGHS.
- All the data obtained from hospital and population based cancer registry will be posted at MIS, DGHS by concerned hospitals and agencies.

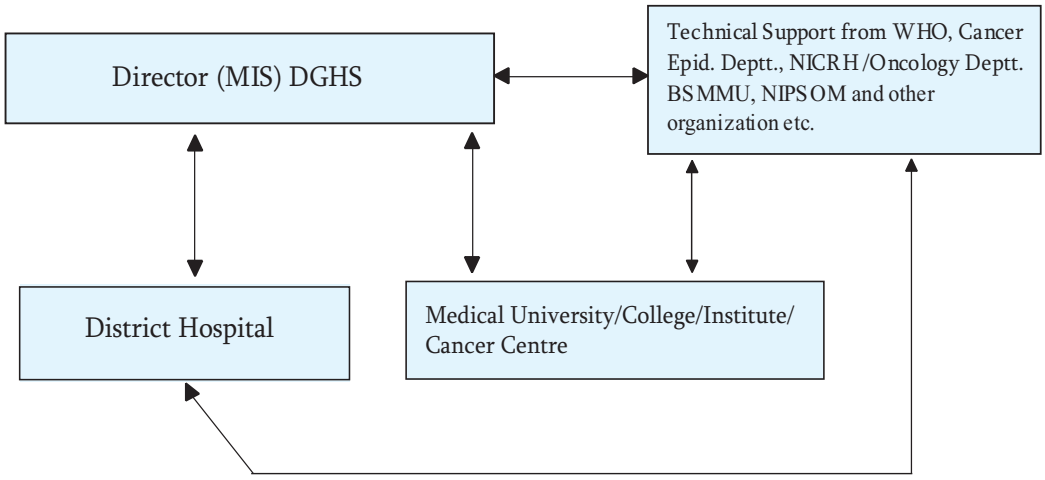


Fig: Cancer data flow chart

Capacity Building

Capacity building for cancer control is one of the major priorities of a successful cancer control programme. Through suitable strategies and training programmes human resources can be mobilized for prevention and early clinical detection activities from the government health workers, community, NGOs, youth organizations, multi sectoral groups, professional organizations etc. Utilization of such man power will give cost effective and efficient service as they will be more committed.

The categories trained and purpose of training is detailed below:

Categories of Trainees - Purpose

- Student Volunteers: Anti-tobacco education programmes
- Scouts and Girl Guides: Tobacco Free Homes/ECD
- Parent Teachers Association members, scouts : School education on anti-tobacco programmes /guides, masters and captains, senior public men, ECD teachers
- Educated Village Youth Volunteers: Anti-tobacco education, education of early warning sign/symptoms, motivation for physical examination
- Referral for therapy and follow-up and Pain Relief and Palliative Care
- Religious Personnel and workers Anti-tobacco programme
- Propagation of warning sign/symptoms, clinical breast examination, oral examination
- Elite social organization anti-tobacco programmes
- Propagation of warning sign/symptoms
- Media personnel: Appropriate publicity for National Cancer Control Programme
- Other inter-sectoral groups: All activities
- Other doctors: Anti-tobacco activities, early detection of oral, cervical and breast cancer

Technical personnel required for early cancer detection are medical professionals and cytotepathologists of which the cytotopathologists are more critical and least available. The cancer control programme in Bangladesh will never take off if this aspect of human resource development is ignored. Immediate need is to train adequate number of cytotpathologists and cytotechnicians annually.

This programme will be implmented by the DGHS through medical university/college/institute/ district cancer control committees.

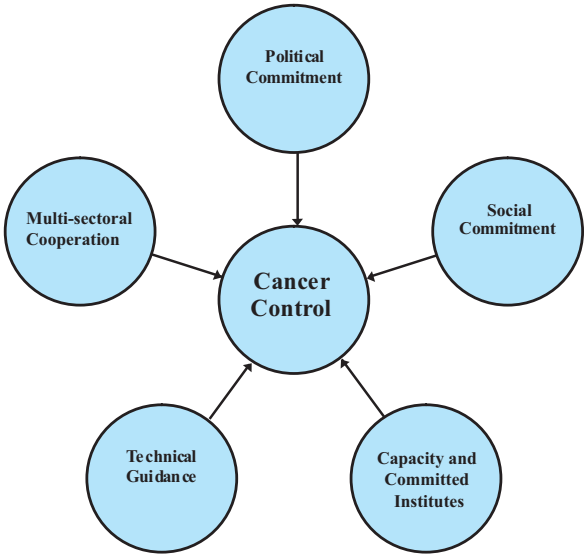
Category Subject

- Multipurpose Health Workers: Health education, motivation for cancer screening, collection of pap smear, visual inspection of cervix, teaching of oral cavity and breast self-examination.
- Cytologist: FNAC and pap smear
- Cytotechnician: Pap smear, VIA, cervicoscopy and staining of cytology smears
- Pharmacist: Narcotics management
- General Practitioner: Cancer related physical examination (CRPE), FNAC and management of pre-cancers, palliative care.
- Surgical Specialists: CRPE, cervicoscopy, FNAC, biopsy, management of early oral, breast, skin and thyroid cancers
- Gynaecologists: CRPE, cervicoscopy, colposcopy and management of advanced dysplasias and early cancers

For overall cancer control several groups of clinical specialists (surgical, paediatric, gyneacology and clinical/radiation oncologists, registry personnel, epidemiologists, research scientists) would be required for successful implementation. The Oncology /Radiotherapy department of a medical college will be entrusted with responsibilities of training of such personnel and for providing the key trainers for community programmes.

Implementation Instrument

In order to provide cancer control to the population in areas of prevention, early detection and palliative care, following implementation circle is very important:



If such services are to reach the grass root level, apart from utilizing the existing health infra structure, the participation of the community, NGO's, media, people's campaigns preferably integrated with other institutional programmes are all essential. There are four ways by which the benefits of cancer control can be channeled to the community:

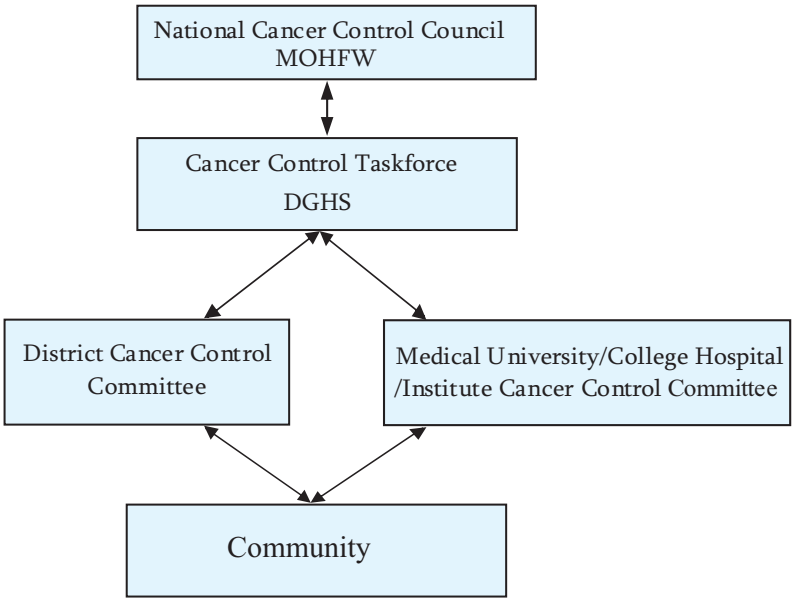


Fig: Channels of cancer service delivery

1. *National Cancer Control Council (NCCC)* headed by Hon'ble Health Advisor/Minister in charge of Ministry of Health and Family Welfare.

- Policy related matter formulation
- Oversee and support cancer control activities in the country.

2. *A Cancer Control Taskforce* will be formed with DG, DGHS as Chairperson and Line-Director (NCD &OPHI) as Member Secretary, members will be drawn from Director, NICRH, Director(PHC), Director (Hospital), Director (Planning and Research), Director (MIS), Director NIPSOM, Chairman of Oncology Club, President/Secretary of Bangladesh Society of Radiation Oncology, President/Secretary of Bangladesh Cancer Society, Chairman of Department of Oncology, BSMMU, Head of Department of Radiotherapy of Dhaka Medical College, Director of Bangladesh Atomic Energy Commission, Representative from WHO/UNFPA/Ahsania Mission Cancer Hospital/Delta Oncology Centre, NGO representative, DPM (NCD).

Functions of Cancer Control Taskforce will be as follows:

- Implementation of National Cancer Control Strategy and Plan of Action 2009-15 through Medical College Cancer Control committees and District Cancer Control committees and different agencies .
- Coordinate the work of all agencies that can contribute to cancer control in the country;

- Coordinate systematic development and specific cancer control activities, such as prevention, early detection, treatment and palliative care within available resources;
- Cancer professional education and other cancer related health education:
- Forecast future trends and coordinate the strategic development of health services/system, training of health professionals;
- Development and implementation of Cancer Registry with the support of MIS, DGHS;
- Identify and recommend priorities to National Cancer Control Council:
- Supervise, monitor and evaluate the activities of Medical University/College/institutes hospitals and District Hospital Cancer Control committees and implement corrective changes as needed.
- Any other related activities

3. *A Cancer Control Committee* will be formed at medical college/university hospital withconcerned Director (Hospital)/Pro-VC (Administration) as Chairperson and Head/Chairman Oncology/ Radiotherapy department as Member Secretary; Members: Head, Medicine Dept., Head, Surgery Dept., Head Gynae and Obstetrics Dept., Head ENT Dept., Head, Pathology Dept., Head Pediatrics Dept. Head Community Medicine Dept. and outside the medical college District Commissioner, representative from local BMA, Chamber's of Commerce, Press Club, two well known social workers. (Secretarial support will be provided by oncology/radiotherapy department of that medical university/college hospital).

Functions of Cancer Control Committee will be as follows :

- Implementation of activities according to National Cancer Control Strategy and Plan of Action 2009- 2015
- Establishment of a Cancer Control Cell and coordinate cancer control and prevention in the medical university/college/institute hospitals;
- Oncology/radiotherapy department will develop Hospital Based Cancer Registry and information systems and will send data to MIS, DGHS;
- Implementation of specific cancer control activities, such as prevention, early detection,
- treatment and palliative care so as to ensure the best use of available resources for the patients attending in that hospital and catchment's community;
- Cancer education;
- Establishment of Early Cancer Detection Centre at that hospital.
- Oncology/radiotherapy department will develop Population Based Cancer Registry at 1-2 areas with the help of Cancer Control Taskforce and Line Director (NCD & OPHI) ;
  Supervision ,monitoring and evaluation activities, and implement corrective changes as needed.
- Committee will send an actitivity report to Cancer Control Taskforce, DGHS at every two months interval;

4. *A District Cancer Control Committee* will be formed at district level. Civil Surgeon and RMO, district hospital will be the Chairperson and Member Secretary respectively: District Commissioner/representative, representative from local BMA, two UHFPOs from the district (selected by C/S), District Education Officer, Social Welfare Officer, social workers, and Medicine/Surgery/Gyneacology/Pediatrics consultants from district hospital. If any private medical college is situated in that district, one member will be drawn from each of the institutes . Functions of the committee will be as follows:

- Implementation of activities according to National Cancer Control Strategy and Plan of Action 2009-15
- Establishment of Cancer Control Cell at the district hospital and coordinate cancer control and prevention activities in the district
- Development of Hospital Based Cancer Registry and information systems at district hospital and send data to MIS, DGHS.
- Implementation of specific cancer control activities, such as prevention, early detection, treatment and palliative care.
- Cancer related public education and development;
- Establishment of Early Cancer Detection Centre in the district hospital.
- Supervision, monitoring and evaluation of the cancer control activities in the district.
- Committee will send an actitivity report to Cancer Control Taskforce, DGHS at every two months interval.



CANCER POLICY INDICATORS

Sl No.	Indicators
1.	Percentage of the population who are tobacco users by age, sex and social class
2.	Percentage of the adult and childhood populations who are overweight or obese by age, sex and social class.
3.	Incidence of major site -specific cancers, to include at a minimum head -neck, lung, cervix, breast, oesophagus, colorectal, stomach, prostate and ovarian cancer.
4.	Uptake of screening and incidence of interval breast cancers in populations covered by Breast Check.
5.	Percentage of women in the target age screening is available.
6.	Percentage uptake of screening in areas covered by the cervical screening programme.
7.	Stage of presentation of common cancers: appropriate stage indicators would be defined for lung, head-neck, breast, colorectal and cervical cancers
8.	Trends in quality of life for cancer patients, determined by ongoing quality of life measurement, at different stages in the care pathway for major cancers
9.	Waiting times from diagnosis to definitive treatment for major cancers
10.	Percentage of patients waiting for longer than one month from the time of diagnosis to the start of treatment
11.	Percentage of breast cancer patients undergoing therapeutic surgical procedures who do so in a designated breast cancer treatment centre
12.	Percentage of patients with cancer whose care is consistent with national, multidisciplinary guidelines, as developed
13.	Survival Rates: a. 5-year Relative Survival Rate for Cervical Cancer b. 5-year Relative Survival Rate for Breast Cancer c. 5-year Relative Survival Rate for Oral Cancer d. 5-year Relative Survival Rate for Head-Neck Cancers e. 5-year Relative Survival Rate for Lung Cancer f. 5-year Relative Survival Rate for Prostate Cancer g. 5-year Relative Survival Rate for Colorectal Cancer h. 5-year Relative Survival Rate for Childhood Cancer i. 5-year Relative Survival Rate for Hematological Malignancies
14.	Mortality Rates: a. Direct Age Standardized Mortality Rate (5-year, all ages) for all causes of cancer b. Direct Age Standardized Mortality Rate (5-year, all ages) for the top ten causes of cancer mortality
15.	Percentage of detection of cancers in localized stages at Early Cancer Detection Centre (ECDC).
16.	Percentage of cancer patients seen by a member of a Specialist Palliative Care Team
17.	Percentage of cancer patients dying by place of death (home, hospice, hospital)
18.	Percentage of cancer patients participating in clinical trials.

GLOSSARY

Access	The ability of people to reach or use health services. Barriers to access may be influenced by: (1) a person's locality, income or knowledge of services available; (2) the availability or acceptability of existing services.
Caregiver	A voluntary caregiver or carer is a person, usually a family member, who looks after a person with a disability or health problem, and who is unpaid.
Chemotherapy	The treatment or control of cancer using anti-cancer drugs.
Community	A collective of people identified by their common values and mutual concern for the development and well-being of their group or geographical area.
Consumers	Users of services.
Coverage	The proportion of all eligible people screened by the programme, calculated as the total number screened divided by the number of those who are eligible.
Early detection	The detection of cancer prior to the development of signs /symptoms, or as soon as practicable after the development of signs/symptoms.
Effectiveness	The extent to which a specific intervention, procedure, regimen or service when implemented, does what it is intended to do for a defined population.
Epidemiology	The study of the distribution and determinants of health-related states or events in specific populations.
Equity (in health)	Fairness.
Evaluation	Assessment of a service or programme against a standard. Evaluations can be: (1) formative (informs the development and improvement of a programme); (2) an assessment of the process (describes the programme and helps to explain why it produces the results that it does); (3) an outcome evaluation (an assessment of the ultimate effects of a programme).
Evidenced-based practice	Clinical decision-making based on a systematic review of the scientific evidence of the risks, benefits and costs of alternative forms of diagnosis or treatment.
Familial cancer risk	The investigation of (1) a reported family history of cancer (2) an individual who develops cancer at a young age (usually under 50 years) with no family history to assess cancer risk for individuals and/or members of their family.

Gene	A large molecule, part of a cell's DNA, which controls the production of a protein molecule and through it, some action or function of the cell.
Genetic mutation	An error in the gene caused by damage. This may result in a faulty or altered protein, or no protein being produced.
Goal	A high-level strategic action.
Health promotion	The process of enabling people to increase control over and improve their health. It is a comprehensive social and political process.
Health status	A description and/or measurement of the health of an individual or population.
Incidence	The number of new cases or deaths that occur in a given period in a specified population.
Intervention	A programme or series of programmes.
Monitoring	The performance and analysis of routine measurements aimed at detecting changes.
Morbidity	Illness.
Mortality	Death.
Cancer Registry	Cancer Registry maintains a register of people who develop malignant diseases. Registrations are based on single primary cancer cases that are distinguished by differences in topography or histology. Each case of cancer is registered just once, in the year the cancer is first diagnosed.



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Table 1: Facilities Providing Radiotherapy Treatment in Bangladesh (July, 2008)

Sl No.	Name of the Institution	Linear Accelerator	Co^{60} Teletherapy	Deep X-ray	Brachytherapy	Simulator	Treatment Planning System
1	National Institute of Cancer Research & Hospital, Dhaka	3	2	0	3 $Ir^{192}/Co^{60}/Cs^{137}$	2	2
2	Dhaka Medical College Hospital	1	2 (1non-functional)	2	1 (1non-functional)	1 (1non-functional)	1
3	Oncology Department BSMMU	1 (on process)	0	0	1 + 1(on process)	1 (on process)	1 (on process)
4	Chittagong Medical College Hospital	0	1	1	0	0	0
5	Mymensingh Medical College Hospital	0	1	0	0	0	0
6	MAG Osmani Medical College Hospital, Sylhet	0	1	0	0	0	0
7	Sher-e-Bangla Medical College Hospital, Barisal	0	1	0	0	0	0
8	Rajshahi Medical College Hospital	0	1	0	0	0	0
9	Rangpur Medical College Hospital	0	1	0	0	0	0
10	Delta Oncology Centre	1	2	0	1	2	1
11	Khaza Yunus Medical College Hospital	1	0	0	1	1	1
12	Ahsania Mission Cancer Hospital	1	0	0	1	1	1
13	Total	08	11	03	08	08	07

Table 2: Hospital Beds Attached to Oncology/Radiotherapy Departments

Name of the Hospital	Day Care		Indoor		Total
	M	F	M	F	
National Institute of Cancer Research & Hospital	08	08	25	25	66
BSMMU Oncology Department	05	05	05	05	20
Peadiatric Hemato-Oncology Unit, Peadiatric Deptt., BSMMU	0	0	14	14	28
Uro -Oncology Unit ,Urology Deptt., BSMMU	-	-	9	9	18
Gynae-Oncology Unit ,Gynae and Obstetrics Deptt., BSMMU	-	-	-	11	11
Dhaka Medical College Hospital	0	0	11	13	24
Rajshahi Medical College Hospital	0	0	6	4	10
Mymensingh Medical College Hospital	0	0	10	4	14
Sylhet Medical College Hospital	0	0	8	4	12
Chittagong Medical College Hospital	0	0	8	4	12
Delta Oncology Centre	5	3	40	40	88
Khaza Yunus Medical College Hospital	0	0	22	10	32
Ahsania Mission Cancer Hospital	5	5	16	16	42
Bangladesh Cancer Society Hospital	0	0	10	10	20
Cancer Foundation Hospital	05	05	05	05	20
				TOTAL	417

★ Most of the public medical college hospitals do not have dedicated beds for cancer patients.



Cancer Control Matrix

Goal	Objectives	Area of Works
Goal 1: To reduce the incidence of cancer through primary prevention	**Objective 1:** Reduce the number of people who develop cancers due to tobacco use and second-hand smoke.	• further strengthening the legislation • monitoring effectiveness of programmes • increases in health promotion activities, advocacy, smoking cessation services • to make smoke free environments a norm • further research
	Objective 2: Reduce the number of people developing physical inactivity and obesity-related cancers.	• support lifestyle change • foster an increase in physical activity through safer accessible environments • comprehensive media campaigns • promote green prescriptions • encourage action to prevent the development of obesity in children • increase rates of physical activity for all Bangladeshi.
	Objective 3: Reduce the number of people developing nutrition related cancers.	• improving access to acceptable and affordable healthy foods • reducing the promotion of unhealthy food choices to children • raising awareness for healthy food choices • research into emerging nutrition issues.
	Objective 4: Reduce the number of people developing skin cancer due to UV radiation exposure.	• supporting health promotion campaigns • encouraging the provision of environmental sun protection • supporting international efforts to protect the ozone layer.
	Objective 5: Reduce the number of people developing infectious disease-related cancers	• increasing health promotion around infectious disease-related cancers • effective targeted screening for hepatitis B in high prevalence populations • promoting hepatitis B vaccination • raising awareness of the risks associated with intravenous drug use.

Goal	Objectives	Area of Works
	Objective 6: Reduce the number of people developing alcohol related cancers	• raising awareness of the harmful effects of alcohol • reducing exposure to alcohol advertising • increasing taxes • considering imposition of age bar on drinking.
	Objective 7: Reduce the number of people developing occupation related cancers	• strengthening the legal framework to protect workers • reducing exposure to, and raising awareness of carcinogenic compounds in the workplace • supporting occupational safety and health service research into occupational exposures • improving the reporting of occupational cancers.
Goal 2: Ensure effective screening and early detection to reduce cancer incidence and mortality	**Objective 1:** At a national level, provide a strategic approach to cancer screening, and assessment and surveillance of those with familial risk, to ensure quality, acceptability and effectiveness.	An effective national mechanism, such as Cancer Task Force, is needed to provide high-level strategic oversight of existing and potential cancer screening, and of the assessment and surveillance of those with familial risk.
	Objective 2: Establish a process to assess the value of early detection of cancer other than that obtained through organized screening.	A process is needed to: • identify if the early detection of specific cancers reduces mortality and morbidity • recommend strategies to increase early detection where that has proven to be advantageous. These strategies would include: – a formal assessment of the reasons for delays in early detection of these cancers in Bangladesh, focusing on who is affected and why – the implementation of programmes to overcome the delays, and the evaluation of their effectiveness – programmes designed to encourage earlier presentation of poor people with cancer.

Goal	Objectives	Area of Works
Goal 3: Ensure effective diagnosis and treatment of cancer to reduce morbidity and mortality	**Objective 1:** Provide optimal treatment for those with cancer	• ensuring timely access to treatment currently recognised as providing optimal outcomes • expanding the use of multidisciplinary management • exploring the establishment of specialised units for the treatment of some specific cancers • systematically assessing new treatment approaches.
	Objective 2: Develop defined standards for diagnosis, treatment and care for those with cancer	• the development, implementation and ongoing refinement of national and south-asian regional standards, guidelines and protocols • multidisciplinary approachesto treatment and care • the development of a minimal data set to measure performance and outcome. . the potential for unnecessary duplication and the resourcing implications of these actions will need to be addressed.
	Objective 3: Ensure patient-centred and integrated care for those with cancer and their family	• the evaluation of different systems of care coordination (eg, by assigning responsibility for co-ordination and oversight of care to specific people or services) • the creation of a seamless process for those with cancer and their families. This action will require enhancing relationships between the community, community agencies, primary and secondary care providers and cancer centres. . Primary care providers have a key role within this process and need to be kept fully informed of what is happening to patients enrolled at their practice.

Goal	Objectives	Area of Works
	Objective 4: Improve the quality of care delivered to adolescents with cancer and their family	Areas for action include the development of an infrastructure comparable to that for paediatric oncology, based around designated adolescent care areas in specified oncology centres. These centres would require dedicated multidisciplinary teams to co-ordinate care in a manner that ensures minimal psychosocial disruption and includes shared care with outlying centres. This adolescent cancer service should: • define adolescence based on developmental state, not age • address their challenging psychosocial needs • ensure that the most appropriate medical personnel treat a designated cancer • ensure maximal entry in age-appropriate clinical trials • minimise disruption to family dynamics and financial impact • ensure prospective collection of data on adolescent cancer incidence, treatment and outcome in Bangladesh • recognise and encourage entitlement to peer support, continued education and support for the family at large.
Goal 4: Improve the quality of life for those with cancer, their family and through support, rehabilitation and palliative care	**Objective 1:** Establish integrated programmes of supportive care and rehabilitation with defined leadership	• the development and implementation of guidelines to assess and address the psychosocial and cultural needs of all people with cancer • the development of training opportunities in supportive care and psycho-oncology • the development of integrated programmes of supportive care and rehabilitation for poor peoples.
	Objective 2: Ensure all people with cancer and their families are able to access the appropriate resources for support and rehabilitation that they need.	• assessing the current problems relating to access to support and rehabilitation resources: – identifying the process by which these could be addressed – identifying the responsibilities of the government and non-government sectors in this process • addressing the funding implications of meeting service gaps, and of the growing demand for these services due to the increase in numbers of those with cancer.

Goal	Objectives	Area of Works
	Objective 3: Ensure all survivors of adult, childhood and adolescent cancer receive timely and ongoing support and rehabilitation, including early identification of, and intervention in, late effects.	• the development and implementation of national guidelines for the support and rehabilitation of all children and adolescents with cancer • a comprehensive late-effects programme for survivors of adult, adolescent and childhood cancer.
	Objective 4: Ensure that those with cancer and their family have access to high-quality informatioon treatment and care, including complementary and alternative medicine	• ensuring comprehensive, reliable and objective information, including research findings are easily accessible and understandable to patients and their families • making sure the information is available in different forms and in different languages including Bangla • training in communication skills and ensuring that information is communicated in a way that meets varying needs, recognizing that many people prefer information to be delivered face to face.
	Objective 5: Ensure optimal independence and function for those with cancer through systematic assessment andappropriate multidisciplinary intervention for their social and vocational needs	• materials on the rights of people with cancer, focusing on provisions of the Health and Disability Code and human rights legislation • an initial screening tool with 'triggers' to assess the social, vocational and rehabilitation needs of cancer patients • a vocational plan that includes realistic goals, timelines and outcomes for patients • strategies to address issues relating to discrimination and other potential barriers to everyday life, including return to work.

Goal	Objectives	Area of Works
	Objective 6: Continue to improve access to essential palliative care services that provide appropriate symptom relief and emotional, spiritual, cultural and social support for those with cancer and their family	• ensuring each divisional headquarter has at least one local palliative care service initially building on existing services, including primary care services • developing appropriate support services • improving access for those with limited or difficult access (eg, poor peoples and children) • providing equality of access to hospital-based palliative care teams • ensuring equality of access to a specialist palliative care service • ensuring information on available services is widely available.
	Objective 7: Ensure that integrated and comprehensive service is provided to all those with cancer who require palliative care and their family.	Need to continue to work on co-ordinating and integrating the broad range of professionals and services involved in the care of a person with cancer. These services include: • primary care • hospital services, such as oncology, surgical services and hospital palliative care teams • community-based services, including district nursing and allied health services • hospice services (community and inpatient) • Poor peoples' services and groups

Road Map for Cancer Control Plan of Action 2009-2015

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
1.	**Proclamation of Government Orders for the following issues**							
	1. Create Cancer Control and Welfare Trust Fund	√						MOHFW
	2. Reform Cancer Control Council with appropriate stakeholder representation	√						MOHFW
	3. Formation of Cancer Control Task Force under the leadership of DG,DGHS.	√						DGHS
	4. Formation of medical college oncology centre based Cancer Control Committee.	√						DGHS
	5. Formation of District Cancer Control Committee.	√						DGHS
	6. Office order for observation of cancer awareness day on the 4th February (with the 'World Cancer Day') every year by the government.	√						MOHFW
	7. Health promotion activity and amendment of essential packages with incorpor ation of cancer warning signals.	√						MOHFW and DGHS
	8. Office order for production of anti-cancer drug by Govt. owned Essential Drug Company	√						MOHFW and Dir (Drugs)
2.	**Primary Prevention**							
	1.Health Promotion							
	a) Community cancer support group formation at district level, local level and utilization community clinic	√	√	√	√	√	√	LD (NCD &OPHI),
	b) Education on Early Warning Signals, motivation for physical examination,	√	√	√	√	√	√	LD (NCD &OPHI), LD (ESD) and WHO
	c) Propagation of Warning Signals, Breast Self Examination, Mouth Self Examination	√	√	√	√	√	√	LD (NCD &OPHI), LD (ESD) and WHO

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
	d) Involvement of Scouts and Girls Guides in cancer prevention activities	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI), Bangladesh Scout and WHO
	e) Introduction of Lesson on Cancer Warning Signal in Secondary and Higher Secondary School Curriculum	✓	✓	✓	✓	✓	✓	MOHFW and MOE
	f) Media personnel training on appropriate publicity for National Cancer Control Programme,	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI), BHE
	g) Poster, Video, Flip Chart, Radio spot preperation	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI) BHE and WHO
	h) Development of Cancer Prevention Training Module For • Facilitators • Health Professionals	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) and WHO
	i) Development of Training Module on • Cytology • Palliative care	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) and WHO
	2. Vaccination Programme	✓	✓	✓	✓	✓	✓	LD (ESD)
	a) Hepatitis B Immunization for preventing liver cancer							
	b) Cervical cancer vaccination programme to prevent cervical cancer	✓	✓					Gynae/Oncology Department BSMMU and Grameen Phone
	c) Scaling up of cervical Cancer Vaccination programme to prevent cervical cancer			✓	✓	✓	✓	LD(NCD & OPHI)
	d) Hepatitis C Control for Preventing Liver Cancer	✓	✓	✓	✓	✓	✓	LD (ESD)

Sl.No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
	3. Tobacco Control Interventions							LD (NCD &OPHI)
	a) Enforcement of Tobacco Control Legislation	✓	✓	✓	✓	✓	✓	NTCC MOHFW & WHO
	b) Enforcement of Tobacco Smoking Ban at Public places, Work places, Public Transport	✓	✓	✓	✓	✓	✓	NTCC
	c) Increased Tax on Tobacco Products	✓	✓	✓	✓	✓	✓	NBR, NTCC &WHO
	d) Campaign for Tobacco Free Homes	✓	✓	✓	✓	✓	✓	BHE, NTCC & WHO
	e) Opinion leaders workshop on Tobacco and Cancer programme	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI)
	f) Consultative meeting for collaboration with Reproductive Health, NASP and Other related programme	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) NTCC
	g) Doctors against Tobacco activities	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI) and BMA
	h) Tobacco Cessation Clinic-establishment	✓	✓	✓	✓	✓	✓	NTCC and WHO
	i) Introduction of lesson on harmful effect of tobacco in Secondary School Curriculum	✓	✓	✓	✓	✓	✓	NTCC and MOE
	4. Alcohol Control Intervention Increase Tax Level and Coverage	✓	✓	✓	✓	✓		MOHFW, NBR and MOHA
	5. Physical Activity Promotion Promoting bicycles, footways for walking, Public Transport	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) and WHO

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
	6. Preventing Occupational Cancers Including Sun Protection Interventions Arsenic Induced Cancer	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) and Oncology Deptt. BSMMU
	7. Nutrition Interventions Promoting Fruits and Vegetables	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI), IPHN and WHO
	8. Anti food adulteration campaign and Law updating	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI), IPH, FAO and WHO
	9.Formation of Cancer Survivor's Forum	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI)
3.	**Early Detection and Screening**							
	1. Early detection to Oral/Breast/Cervical/other Cancers	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI) and NICRH, BSMMU and CCC of medical College/ District Hospital
	2. Training on collection of Pap Smear, visual inspection of cervix	✓	✓	✓	✓	✓	✓	Do
	3. Teaching of Mouth Self Examination and Breast Self Examination,	✓	✓	✓	✓	✓	✓	Do
	4. Training of technologists on Cytology, Pap smear, VIA, Cervicoscopy and staining of cytology smears.	✓	✓	✓	✓	✓	✓	Do
	5. Training on opportunistic oxamination of cervical, oral, breast, GIT, lung, prostate & other common cancers	✓	✓	✓	✓	✓	✓	Do
	6. Training of General Medical Practitioners on Cancer related physical examination (CRPE) and biopsy	✓	✓	✓	✓	✓	✓	Do

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
	7. Training Dental surgeon, gynecologist & surgeons on CRPE	√	√	√	√	√	√	Do
	8. Histo and Cyto pathology a) Training on cytopathologists (2wks) b) Paramedics (3 months) c) Training on cytotechnicians (4 months)	√	√	√	√	√	√	LD(NCD & OPHI) and Pathology Dept. of NICRH , BSMMU and Medical College Hospitals
	9. Establishment of Tumor Board in Government Medical Colleges Hospitals /NICRH/BSMMU	√	√	√	√	√	√	LD(NCD & OPHI) and Oncology Dept BSMMU/Radiotherapy dept of medical college
	10. Training of govt. health workers (including FWV), NGO workers for Oral, breast & cervical cancer detection	√	√	√	√	√	√	LD (NCD & OPHI), LD(ESD)and DGFP
	11. Establishment of Early Cancer Detection Centre (ECDC) at Medical College Hospital/NICRH/BSMMU.	√	√	√	√	√	√	LD (NCD &OPHI) and LD(Hospital)
	12. Establishment of Cancer Prevention & Detection Centers at district hospital .	√	√	√	√	√	√	Do
	13. Screening of Cervical and Breast Cancer	√	√	√	√	√	√	Gynae/Oncology Dept. BSMMU and UNFPA

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
4	**Diagnosis and Treatment**							
	1. Diagnostic Support							
	2. For ensuring quality services infrastructure development at Oncology Dept at all medical colleges /NICRH/BSMMU/ with modern equipments & technology.Radiotherapy Instrument : a) Linear Accelerator through Turn Key Basis b) Simulator c) HDR Brachytherapy d) Treatment Planning system e) Mould Room Apparatus f) Medical Physics Lab and accessories	✓	✓	✓	✓	✓	✓	LD (Hospital and Clinic Services) DGHS
	3. Provision of chemotherapy supportive devices at Oncology Dept at all medical colleges /NICRH/BSMMU/ Chemotherapy support devices : a) Infusion Pump b) Bio - safety Cabinet c) Gloves, mask d) Day Care Patient bed e) Supply of essential chemotherapy f) Production of chemotherapy in the country	✓	✓	✓	✓	✓	✓	Do

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
	4. Surgical Oncology : Provision of modern Onco-surgery equipments for different institutes	✓	✓	✓	✓	✓	✓	Do
	5. Provision of Bone Marrow Transplantation at BSMMU and NICRH.		✓	✓	✓	✓	✓	Do
	6. Logistics for Cytopathology	✓	✓	✓	✓	✓	✓	LD (Hospital and Clinic Services)
	7. National Cancer Treatment Protocol or Guideline developed and implemented on commn cancers such as :	✓	✓	✓	✓	✓	✓	LD (NCD &OPHI NICRH, other relevant institutes Implementation Focal Point : Oncology Deptt. BSMMU and WHO
	Training of Pharmacist on Narcotics Management	✓	✓	✓	✓	✓	✓	LD (NCD & OPHI) and NICRH and CCC at medical College/District Hospital.

Sl. No.	Activities	Year 2009-10	Year 2010-11	Year 2011-12	Year 2012-13	Year 2013-14	Year 2014-15	Responsible Agency
5	**Research and Surveillance**							
	1.Cancer Registry							
	a) Assessment of burden of cancer in Bangladesh and development of Cancer Atlas	✓	✓	✓				LD(NCD &OPHI), Dir (MIS), Epid Dept.NICRH, Oncology Dept., BSMMU NIPSOM and WHO
	b) Initiation of Hospital Based Cancer Registry at oncology/radiotherapy department at all Govt. medical college hospital	✓	✓	✓	✓	✓	✓	LD(NCD &OPHI), Dir (MIS), CCC and WHO
	c) Continuation of Hospital Based Cancer Registry at NICRH and Oncology Department, BSMMMU	✓	✓	✓	✓	✓	✓	Cancer Epid Dept.NICRH and Oncology Dept. BSMMU and WHO
	d) Population Based Cancer Registry at Gazipur	✓	✓	✓	✓	✓	✓	Cancer Epidemiology Dept. NICRH, CCPR and WHO
	e) Initiation of Population Based Cancer Registry at North Motlab, Chandpur and Mirsari, Chittagong	✓	✓	✓	✓	✓	✓	Oncology Dept. BSMMU, ICDDR'B, LD(NCD &OPHI), and WHO
	f) Initiation of Population Based Cancer Registry at all oncology/radiotherapy department of govt. medical college hospital				✓	✓	✓	LD(NCD &OPHI) and WHO
	2.Research							
	a) Epidemiological, laboratory, clinical & health system researches	✓	✓	✓	✓	✓	✓	LD(NCD &OPHI) and WHO support will be provided by Epidemiology Dept NICRH and Oncology Dept. BSMMU
	b) Training to develop adequate manpower.	✓	✓	✓	✓	✓	✓	LD (IST) and LD (NCD&OPHI)
6	**Public-Private Partnership**							
	Encourage public-private partnership initiatives & private cancer centers.	✓	✓	✓	✓	✓	✓	MOHFW & DGHS

WHA58.22 Cancer Prevention and Control

The Fifty-eighth World Health Assembly,

Having examined the report on the prevention and control of cancer;1
Recalling resolutions WHA51.18 and WHA53.17 on the prevention and control of Non-communicable diseases, WHA57.17 on the Global Strategy on Diet, Physical Activity and Health,WHA56.1 on tobacco control, WHA57.12 on the reproductive health strategy, including control of cervical cancer, and WHA57.16 on health promotion and healthy lifestyles;

Recognizing the suffering of cancer patients and their families and the extent to which cancer threatens development when it affects economically active members of society;

Alarmed by the rising trends of cancer risk-factors, the number of new cancer cases, and cancer morbidity and mortality worldwide, in particular in developing countries;

Recognizing that many of these cases of cancer and deaths could be prevented, and that the provision of palliative care for all individuals in need is an urgent, humanitarian responsibility;

Recognizing that the technology for diagnosis and treatment of cancer is mature and that many cases of cancer may be cured, especially if detected earlier;

Recognizing that tobacco use is the world's most avoidable cause of cancer and that control measures, such as legislation, education, promotion of smoke-free environments, and treatment of tobacco dependence, can be effectively applied in all resource settings;

Recognizing that among all cancer sites cervical cancer, causing 11% of all cancer deaths in women in developing countries, has one of the greatest potential for early detection and cure, that cost-effective interventions for early detection are available and not yet widely used, and that the control of cervical cancer will contribute to the attainment of international development goals and targets related to reproductive health;

Recognizing the value of multidisciplinary management and the importance of surgery, radiotherapy, chemotherapy, palliative care and other approaches in the treatment of cancer;
Recognizing the contribution of IARC, over 40 years, to research on cancer etiology and prevention, providing evidence on global cancer prevalence and incidence, the causes of cancer, mechanisms of carcinogenesis, and effective strategies for cancer prevention and early detection;
Mindful of the need for careful planning and priority-setting in the use of resources in order to undertake effective activities to reduce the cancer burden;

Recognizing the importance of adequate funding for cancer-prevention, control and palliative care programmes, especially in developing countries;

Encouraged by the prospects offered by partnerships with international and national organizations within the Global Alliance for Cancer Control, and other bodies such as patient organizations;

Recognizing the support given by IAEA to combat cancer, and welcoming the initiative of the Agency to establish the Programme of Action for Cancer Therapy, and research efforts of national cancer institutes in various Member States,

1. URGES Member States:

(1) to collaborate with the Organization in developing and reinforcing comprehensive cancer control programmes tailored to the socioeconomic context, and aimed at reducing cancer incidence and mortality and improving the quality of life of cancer patients and their families, specifically through the systematic, stepwise and equitable implementation of evidence-based strategies for prevention, early detection, diagnosis, treatment, rehabilitation and palliative care,and to evaluate the impact of implementing such programmes;

(2) to set priorities based on national burden of cancer, resource availability and health system capacity for cancer-prevention, control and palliative-care programmes;

(3) to integrate national cancer-control programmes in existing health systems that set out outcome-oriented and measurable goals and objectives for the short, medium and long term, as recommended in the Annex to the present resolution, to identify evidence-based, sustainable actions across the continuum of care, and to make the best use of resources to the benefit of the entire population by emphasizing the effective role of primary health care in promoting prevention strategies;

(4) to encourage and to frame policies for strengthening and maintaining technical equipment for diagnosis and treatment of cancer in hospitals providing oncology and other relevant services;

(5) to pay special attention to cancers for which avoidable exposure is a factor, particularly exposure to chemicals and tobacco smoke in the workplace and the environment, certain infectious agents, and ionizing and solar radiation;

(6) to encourage the scientific research necessary to increase knowledge about the burden and causes of human cancer, giving priority to tumours, such as cervical and oral cancer, that have a high incidence in low-resource settings and are amenable to cost-effective interventions;

(7) to give priority also to research on cancer prevention, early detection and management strategies, including, where appropriate, traditional medicines and therapies, including for palliative care;

(8) to consider an approach in the planning, implementation and evaluation phases of cancer control that involves all key stakeholders representing governmental, nongovernmental and community-based organizations, including those representing patients and their families;

(9) to ensure access to appropriate information in relation to preventive, diagnostic and treatment procedures and options, especially by cancer patients, and to palliative care;

(10) to develop appropriate information systems, including outcome and process indicators, that support planning, monitoring and evaluation of cancer-prevention, control and palliative care programmes;

(11) to assess periodically the performance of cancer prevention and control programmes, allowing countries to improve the effectiveness and efficiency of their programmes;

(12) to participate actively in implementing WHO's integrated health promotion and prevention strategies targeting risk factors for non communicable diseases, including cancer, such as tobacco use, unhealthy diet, harmful use of alcohol and exposure to biological, chemical and physical agents known to cause cancer, and to consider signing, ratifying, accepting, approving, formally confirming or acceding to the WHO Framework Convention on Tobacco Control;

(13) to improve access to appropriate technologies, with support from WHO, for the diagnosis and treatment of cancer, in order to promote its early diagnosis and treatment, especially in developing countries;

(14) to determine cost-effective minimum standards, adapted to local situations, for cancer treatment and palliative care that use WHO's strategies for nationwide provision of essential drugs, technologies, diagnostics and vaccines, taking into consideration in the case of palliative care the recommendations of the Second Global Summit of National Hospice and Palliative Care Associations (Seoul, 2005);

(15) to ensure the medical availability of opioid analgesics according to international treaties and recommendations of WHO and the International Narcotics Control Board and subject to an efficient monitoring and control system;

(16) to ensure, where appropriate, the documented, scientific, evidence-based safety and efficacy of available traditional medicines and therapies;

(17) to develop and strengthen health system infrastructure, particularly related to human resources for health, in order to build adequate capacity for effective implementation of cancer prevention and control programmes, including a cancer registry system;

(18) to accord high priority to cancer-control planning and implementation for high-risk groups, including relatives of patients and those having experienced long-duration and high intensity carcinogen exposure;

2. REQUESTS the Director-General:

(1) to develop WHO's work and capacity in cancer prevention and control and to promote effective, comprehensive cancer prevention and control strategies in the context of the global strategy for the prevention and control of noncommunicable diseases, the Global Strategy on Diet, Physical Activity and Health, and resolution WHA57.16 on health promotion and healthy lifestyles, with special emphasis on less developed countries;

(2) to provide technical support to Member States in setting priorities for cancer prevention, control and palliative-care programmes;

(3) to strengthen WHO's involvement in international partnerships and collaboration with Member States, other bodies of the United Nations system and actors from a wide variety of related sectors and disciplines in order to advocate, mobilize resources, and build capacity for, a comprehensive approach to cancer control;

(4) to continue developing WHO's strategy for the formulation and refinement of cancer prevention and control programmes by collecting, analysing and disseminating national experiences in that regard, and providing appropriate guidance, upon request, to Member States;

(5) to contribute to drawing up recommendations on early diagnosis of cancer, especially in order to define and reach the target populations that should benefit from such diagnosis;

(6) to consider allocating additional resources so that the knowledge provided by research is translated into effective and efficient public-health measures for cancer prevention and control;

(7) to promote research on cost-effectiveness of different strategies for prevention and management of various cancers;

(8) to promote and support research that evaluates low-cost interventions that are affordable and sustainable in low-income countries;

(9) to promote research on development of an effective vaccine against cervical cancer;

(10) to support the further development and expansion of a research agenda in IARC and other bodies that is appropriate to the framing of integrated policies and strategies for cancer control,and to promote and support technical and medical programmes in cancer treatment;

(11) to promote guiding principles on palliative care for cancer patients, including ethical aspects;

(12) to provide adequate resources and leadership support to the International Programme on Chemical Safety for its active role in international multi-sectoral mechanisms for chemical safety, including support for capacity building in chemical safety at country level;

(13) to support and strengthen mechanisms to transfer to developing countries technical expertise on cancer prevention and control, including surveillance, screening and research;

(14) to advise Member States, especially developing countries, on development or maintenance of a national cancer registry containing the type, location of the cancer and its geographical distribution;

(15) to collaborate with Member States in their efforts to establish national cancer institutes;

(16) to explore appropriate mechanisms for adequately funding cancer-prevention, control and palliative-care programmes, especially in developing countries;

(17) to explore the feasibility of initiating the development of a joint programme between WHO and IAEA for cancer prevention, control, treatment and research;

(18) to examine jointly with the International Narcotics Control Board the feasibility of a possible assistance mechanism that would facilitate the adequate treatment of pain using opioid analgesics;

(19) to explore all opportunities to improve the accessibility, affordability and availability of chemotherapy drugs, particularly in developing countries, for the treatment of HIV/AIDS related cancers;

(20) to report regularly on implementation of this resolution to the Health Assembly.

ANNEX

NATIONAL CANCER CONTROL PROGRAMMES:

RECOMMENDATIONS FOR OUTCOME-ORIENTED OBJECTIVES

National health authorities may wish to consider the following outcome-oriented objectives for their cancer control programmes, according to type of cancer:

- preventable tumours (such as those of lung, colon, rectum, skin and liver): to avoid and reduce exposure to risk factors (such as tobacco use, unhealthy diets, harmful use of alcohol, sedentariness, excess exposure to sunlight, communicable agents, including hepatitis B virus and liver fluke, and occupational exposures), thus limiting cancer incidence;
- cancers amenable to early detection and treatment (such as oral, cervical, breast and prostate cancers): to reduce late presentation and ensure appropriate treatment, in order to increase survival, reduce mortality and improve quality of life;
- disseminated cancers that have potential of being cured or the patients' lives prolonged considerably (such as acute leukaemia in childhood): to provide appropriate care in order to increase survival, reduce mortality and improve quality of life;
- advanced cancers: to enhance relief from pain and other symptoms and improve quality of life of patients and their families.

(Ninth plenary meeting, 25 May 2005 - Committee B, third report)



Annex 4

(English Translation)
Government of the Peoples' Republic of Bangladesh
Ministry of Heath and Family Welfare
WHO Section -2

Memo No: MOHFW/WHO-2/misc./2003/628 Date: 18 December 2008

Subject: Regarding implementation of National Cancer Control Strategy and Plan of Action 2009-15

I hereby directed to inform you that National Cancer Control Strategy and Plan of Action 2009-15 has been approved on 07/12/2008 in the meeting of National Cancer Control Council presided by Honourbale Advisor, Dr. A.M.M. Shawkat Ali. You are requested to take immediate measures to accomplish the Plan.

Sd/-
(Md Amin Ul Ahsan)
Senior Assistant Secretary
Tel: 7160255

Director General
Directorate General of Health Services
Mohakhali,Dhaka

Copy forwarded for necessary information:

1. Private Secretary to Honourable Advisor, Ministry of Health and Family Welfare.
2. Line Director (NCD & OPHI),DGHS
3. Private Secretary, Secretary, Ministry of Health and Family Welfare.
4. Joint Secretary (Public Health & WHO), Ministry of Health and Family Welfare.



Annex 5

Chronology of Development Process of This Document

Date	Venue	No of Participants	Participants
16 March 2003	Ministry of Health and Family Welfare	20	Minister of Health & Family Welfare Secretary of Health, DGHS, NCC Council,
02 June 2008	Ministry of Health and Family Welfare	20	Adviser of Health & Family Welfare Secretary of Health, DGHS, NCC Council,
Seven meetings 02 June 2008 onward	Directorate General of Heath Services	09	DGHS, NCC Taskforce,
17 Nov 2008	Institute of Public Health	50	DGHS, NCC Taskforce, PMs, stakeholders, development partners
07 Dec 2008	Ministry of Health and Family Welfare	23	Advisor of Health & Family Welfare, Secretary of Health, DGHS, NCC Council, NCC Taskforce, Development partners



NationalCancer Control Strategy and Plan of Action 2009-15