

**Cancer Services in Ireland:
A National Strategy**

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**DEPARTMENT
OF HEALTH AND
CHILDREN
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1. Introduction

Background: Health Strategy

The Health Strategy *Shaping a Healthier Future* announced a fundamental reorientation of the Irish health system. It indicated that the planning and delivery of services would be reshaped so that prevention, treatment and care services would be more clearly focused on improvement in health status and the quality of life. It also placed increased emphasis on providing the most appropriate forms of care.

The Health Strategy identified three major sources of *premature mortality*, ie deaths among those aged under 65 years as follows:

- cancer
- cardiovascular disease and
- accidents.

It noted that much of this premature mortality is preventable, and set out *medium-term targets* for addressing the three major causes above. The medium term target for cancer is **to reduce the death rate from cancer in the under 65 age group by 15 per cent in the ten-year period from 1994.**

The Strategy also identified six major risk factors associated with premature mortality. Those most likely to influence the incidence of cancer include smoking, alcohol and nutrition and diet. The Health Strategy set very specific targets to reduce these risks.

The Need for a National Cancer Strategy

The effect of cancer on health status in Ireland is striking:

- the disease accounts for about **one-third of all deaths** in those aged under 65. This means that cancer is the cause of about 7,500 deaths in Ireland each year.
- an average of about **18,000 new cases** of cancer are recorded annually in Ireland.
- in 1995 alone there were over **49,000 hospital episodes** due to cancer.

Some of the trends in cancer are giving cause for concern in Ireland:

- Ireland has a **higher mortality** from cancer than the average for EU countries.
- On the basis of epidemiological data available to date, there *appear* to be **some regional disparities** in both the death rate and incidence (ie new cases) of cancer, even after taking differences in age profile into account. Further analysis will be undertaken to determine the nature and implications of this information.

A range of health promotion, screening and early detection programmes are already in place, or are in the process of development, but there is a need for further initiatives in these areas to ensure that the aims of *Shaping a Healthier Future* are met.

Treatment services for cancer in Ireland compare very well with standards in other countries. However

- the organisation and delivery of services must be given a clear focus so that finite resources are deployed to the best effect;
- services must be reorganised to ensure greater co-ordination and more effective communication;
- some services must be distributed more evenly throughout Ireland, so that patients have easy access to the full range of services; and
- specialist palliative care services must be developed further to ensure the best quality of life for those needing such care.

A National Cancer Strategy is needed now to build upon the steps taken under *Shaping a Healthier Future* and to ensure that Ireland has a high quality cancer service throughout the country. The Minister for Health established a Cancer Strategy Group last year to:

- outline the epidemiology of cancer in Ireland and internationally;
- assess the impact of cancer on Irish people and on the health services;
- examine the current provision of cancer services; and
- make recommendations for the future organisation of the service.

The Minister has taken full account of the Group's views in bringing forward this Strategy and gratefully acknowledges their work. The Minister also acknowledges the significant contribution of the professional and other bodies which made written and oral submissions to the Cancer Strategy Group.

The consultative process on women's health which followed publication of the discussion document *Developing a Policy for Women's Health* was a very useful element in the preparation of this Cancer Strategy and informs its thinking on cancer services. The Minister also consulted with a number of cancer specialists on how best cancer services should be organised and thanks them for their valuable input.

Objectives

The two principal objectives of this Cancer Strategy are:

- **to take all measures possible to reduce rates of illness and death from cancer, in line with the targets established in *Shaping a Healthier Future*; and**
- **to ensure that those who develop cancer receive the most effective care and treatment and that their quality of life is enhanced to the greatest extent possible.**

Underlying these objectives is the need for a high quality, patient-focused service. The nature of the disease requires extraordinary and continuing sensitivity on the part of staff, with an understanding of patients' need for good communication in the face of fears about a life-threatening condition.

With this in mind, the Strategy is aimed in particular at ensuring:

- effective prevention and appropriate screening services;
- good diagnostic practice;
- effective primary care;
- well developed treatment services;
- responsive counselling and follow-up for patients; and
- clear communication between medical staff and patients.

The specific objectives in relation to key elements of the Cancer Strategy are as follows:

- **Prevention** to prevent cancers for which a cause is known or suspected.
- **Information** to increase awareness and improve knowledge of the cause of cancers among professionals and the public, so as to provide patients and their families with clear information on all treatment options available.
- **Early Detection** to provide screening services of proven value in prevention and early detection.
- **Access** to ensure that all patients have access to an equitable, effective service with a uniformly high quality of care, wherever

they live.

- **Quality** to prolong and improve the quality of life of those diagnosed with cancer in a manner which is sensitive to their needs and fears.
- **Treatment** to ensure that treatments are provided appropriately and administered safely in accordance with established best practice. Treatments must be aimed at cure where possible or failing this, effective disease control and palliation. The patient should be cared for in a comprehensive way. This involves carrying out appropriate clinical and other investigations, providing care for complications arising from the disease and its treatment, and offering appropriate emotional, social and psychological support for patients and families.
- **Co-Ordination** To ensure co-ordination of all cancer services, including primary care, hospital care, rehabilitation and palliative care.
- **Cost-effectiveness** to ensure all services are provided in a cost-effective manner.
- **Research and Education** to promote arrangements for appropriate research and education among staff providing cancer services.

The Strategy aims to reorganise cancer services so as to:

- identify the best use of resources available;
- maximise the benefit that can be gained from existing resources; and
- channel additional resources to best use.

1. Epidemiology of Cancer

Introduction

This chapter describes the baseline epidemiological information regarding cancer in Ireland and compares our performance with other countries. It divides the information between deaths from cancer (*mortality*) and level of illness from the disease (*morbidity*) with particular reference to the number of new cases each year (*incidence*). In the Irish context, we are particularly concerned with the high rates of morbidity and mortality from cancer compared to the EU average, and with some apparent variations in both illness and deaths from cancer in different parts of the country.

What is Cancer?

Cancer describes about two hundred different diseases which affect organs or systems throughout the body. Each form of cancer is unique in terms of its development, cause and response to treatment. Cancer is a disease of cells, the building blocks that form the tissues and organs of the body. Cells normally reproduce themselves by dividing in an orderly fashion, enabling growth and repair of the body tissues to take place.

If this function is disrupted, an uncontrolled growth of cells may occur causing a swelling or tumour. The tumour may be benign or malignant. Benign tumours usually remain contained within a localised area and, after treatment (such as by surgical removal) do not generally cause any subsequent problems.

Cancers or malignant tumours, on the other hand, can spread to nearby organs or tissues. Cancer cells can break off the original tumour and may be carried in the blood stream to distant sites in the body where they may form new tumours, called *metastases* or secondaries. Whenever cancer cells spread to vital organs such as the lungs or liver, they may affect the normal function of these vital organs. Then cancer becomes a life-threatening disease.

The investigation and treatment of cancer is multi-disciplinary. Cancer is diagnosed on clinical examination, by endoscopic examination or by specific radiological examinations. Small fragments of a cancer (biopsies) or FNA cytology specimens are examined microscopically by a histopathologist or cytopathologist to identify the precise cancer type. After a cancer has been surgically excised, its extent of spread and degree of aggressiveness are also defined by the histopathologist. This provides important information for further treatment and the patient's prognosis.

Cancer Mortality

International Comparisons

Cancer is the second leading cause of mortality in Europe. It accounts for about one quarter of all deaths. In the European Union alone, there are about 1.3 million new cases of cancer every year and more than 840,000 deaths from the disease. The number of new cases occurring each year is rising and **it is anticipated that overall mortality in the EU will**

increase over the next fifteen years in the absence of effective strategies for prevention and treatment.

Ireland's mortality from cancer compares unfavourably with that of the EU average.¹ While our death rate from cancer has declined by almost ten per cent in the under-65 age group since 1970, it is still above the EU average and our mortality rate for the overall population (ie including those aged over 65) has been rising slightly since the late 1970s. This overall rise in cancer mortality is due in part to the fact that our population is ageing, but any increase in deaths from cancer must still be addressed to whatever extent possible.

The main sources of our above-average mortality compared to the EU are in cancers of the lung, breast and colo-rectum. Deaths in Ireland from **lung cancer** have started to fall, mainly due to a decline in mortality in men, but mortality from this cause is increasing among women. Deaths from both **colo-rectal** cancer and **breast** cancer have risen slightly in recent years.

Trends in Ireland

Cancer is responsible for approximately 7,500 deaths in Ireland each year. This constitutes one-quarter of all deaths every year. Table 1 illustrates the most common types of cancer as a source of mortality in 1994. As noted earlier, lung and colorectal cancer are the single biggest causes of cancer-related deaths, but breast cancer is also significant; in women it is the leading cause of death from cancer in Ireland.

There appear to be statistically significant regional variations in Ireland in the number of deaths from various types of cancer. When data on the frequency of cancer deaths in individual counties and health board areas are examined, and differences due purely to age variations are taken into account using a Standardised Mortality Ratio (SMR)², the following trends emerge:

- Death rates from cancer are significantly higher in the Eastern Health Board area than in the rest of the country.

TABLE 1
Deaths from Cancer, 1994

| Type of Cancer | Number of Deaths | % of Total Deaths |
|--------------------|------------------|-------------------|
| Digestive System * | 1,921 | 26.2 |
| Lung | 1,538 | 20.9 |
| Genito-urinary | 1,138 | 15.5 |
| Breast | 661 | 9.0 |
| Lymphatic/Blood | 551 | 7.5 |
| Stomach | 410 | 5.6 |
| All other cancers | 1,124 | 15.3 |
| Total | 7,343 | 100.0 |

Source: CSO Vital Statistics, 1994 (August, 1995)

* The digestive system refers to a group of organs including the colon and rectum; as noted in the text lung cancer is the most common individual cancer as a cause of death.

- Death rates from cancer are significantly lower in the Southern, Western and North Western Health Board areas.
- Death rates for the major types of cancer show statistically significant variations between regions, as illustrated in Table 2 below. In general the least favourable areas are on the Eastern seaboard, while those in the Southern, Western and North Western areas of the country fare much better. (Death rates for some of the rarer cancers also show noticeable variations between regions, but the low numbers involved make interpretation less reliable. Table 2 therefore focuses on deaths from the major cancers).

TABLE 2

Variations by Health Board Area in Cancer Mortality, 1990-1994

| Type of Cancer | Significantly high (in statistical terms) | Significantly low (in statistical terms) |
|----------------|---|--|
| Lung | EHB | MWHB, NWHB, SHB, WHB |
| Digestive | EHB, NEHB | MWHB, NWHB, WHB |
| Colo-Rectal | EHB | NWHB |
| Stomach | EHB, NEHB | MWHB, SHB |

Source: Department of Health. Derived from CSO Vital Statistics, 1994 (August 1995)

Note: Care must be taken in interpreting the data since it is dependent on accurate recording of the cause of death on death certificates

These variations are significant, but the data alone cannot explain the reasons why death rates from different types of cancer should differ to the extent shown in Table 2. A similar pattern of regional variation is observed in the incidence (rate of new cases) of cancer, as discussed below.

Incidence of Cancer

An important indication of the epidemiology of a disease is its incidence, i.e. number of new cases observed in a given period. The Irish data are drawn from the National Cancer Registry which first produced National incidence data in respect of 1994. *The data should be interpreted with caution because there may be some small duplication in registering new cases (in the region of 5 per cent) and only a single year of analysis is available to date.* Ideally an aggregate of several years' data would be used so that longer term trends could become clear, but there is confidence that the data are representative of the actual incidence of cancer in Ireland.³

The following main trends in the incidence of cancer in Ireland are observed:

- Approximately 18,000 new cases of cancer were registered in 1994.
- There appear to be some noticeable variations in the incidence of the major types of cancer between different counties in Ireland. As shown in Table 3, Dublin and Cork have a statistically significant higher incidence of certain cancers, while individual

counties elsewhere (mainly in the south-east and west) have significantly lower incidences.

¹ **Shaping a Healthier Future: A strategy for effective healthcare in the 1990s** (Stationery Office, Dublin 1994)

² It is important to take account of differences in age structure between regions when comparing death rates. Higher rates of death would be expected in regions with an older population; these must be allowed for before valid conclusions can be drawn. The SMR is based on a comparison of observed and expected deaths in a given population. An SMR of greater than 100 indicated excessive mortality, while one of less than 100 indicated that mortality was less than would be expected for that population. Tests of statistical significance were also applied.

³ The information concurs with data on mortality from a similar time period. The data on which the trends in incidence are drawn relate to the frequency of cases and *standardised incidence ratios* for each county in Ireland. The principle of standardised incidence ratios is similar to SMRs. Tests of statistical significance have been applied to the data.

As noted earlier, this data must of course be interpreted with caution. ***Further examination will be necessary before clear conclusions can be drawn from it.*** The first report of the National Cancer Registry, to be published later this year, will contain additional information on the incidence of cancer.

TABLE 3

Variations by County in the Incidence of Cancer, 1994

| Type of Cancer | Significantly high (in statistical terms) | Significantly low (in statistical terms) |
|----------------|---|---|
| Skin | Dublin, Cork, Kerry | Carlow, Kilkenny, Limerick, Leitrim, Mayo, Offaly, Tipperary, Wexford |
| Breast | Cork, Sligo | Kilkenny, Wexford |
| Lung | Dublin | Cavan, Kilkenny, Roscommon |
| Colon | - | Kildare |

Source: Department of Health. Derived from National Cancer Registry data.

Conclusion

It is clear that Ireland faces a number of challenges in relation to cancer. Our mortality and morbidity rates from the disease are above the EU average and there appear to be noticeable regional variations which merit further analysis.

The information in this chapter does not answer the question as to why these variations exist. Rather it highlights areas of the country which have a particular problem with cancer. The information also enables managers to tailor prevention and treatment strategies to their catchment population. **Further research will be undertaken to determine the aetiology of these variations in cancer. Ireland will give a high priority to supporting EU initiatives on research into the causes of regional variations in the incidence and prevalence of cancer.**

3. Health Promotion

Introduction

Chapter Two discussed the main details of cancer mortality and morbidity in Ireland. It noted that our cancer rates were relatively high by reference to the EU average, and that certain areas of the country appeared to have statistically increased levels of the disease.

While it is accepted that the cause of most cancers is multifactorial, **there is strong evidence that lifestyle and environmental factors play an important role.** Smoking and diet are the two key areas where most initiatives have been directed within the Department's Health Promotion Unit to date. However, further emphasis will now be placed on focused and sensitive health promotion programmes to ensure their effectiveness. **To combat this disease a multi-sectoral approach is necessary where cancer prevention is on every agenda in every sector.**

This chapter discusses the role that health promotion must play as part of a comprehensive response to cancer. It reviews the approach that is already in place, and sets out a range of further health promotion initiatives that will be taken as part of the National Cancer Strategy.

The Context

Last year the Department of Health published a national *Health Promotion Strategy*. Its overall objective is to effect a significant improvement in the health status of the people of Ireland by '*making the healthier choice the easier choice*'. This involves greater knowledge and commitment on the part of the individual, and the creation of an environment which supports those who want to pursue a healthy lifestyle.

Cancer was identified in the Health Promotion Strategy as a key national priority for disease reduction. The strategy also documents a profile of lifestyle risk factors in relation to smoking, alcohol and diet and sets out targets for monitoring progress.

Risk Factors

Cancer specialists and researchers believe that a combination of factors play an important role in the development of cancer. Genetics, viral infections, environmental factors as well as one's lifestyle behaviours, all play key roles in the development of cancerous growths. **It is estimated that tobacco, alcohol and diet, the three major lifestyle risk factors, contribute to two-thirds of all cancers in Europe.** Other factors such as exposure to cancer-causing substances, ultraviolet rays and radiation also carry a risk of cancer. **It is important that the public be made aware of the scope for preventing many cancers by making appropriate lifestyle changes.**

Smoking

- Over 6,000 deaths each year in Ireland are directly attributable to smoking (both from cancer and other diseases).

- Smoking is a major causative factor in almost 90% of the 1,500 deaths from lung cancer which occur each year.
- Smoking is also a risk factor in cancers of the mouth, head and neck, throat, oesophagus, bladder, pancreas, kidneys and cervix.
- An increasing proportion of cancer deaths among women is due to lung cancer. 660 women in Ireland died from this type of cancer in 1994.
- Passive smoking is now recognised as a proven lung carcinogen in humans.

Alcohol

- There is substantial evidence of an increase in cancer risk to the mouth, pharynx, oesophagus, larynx and stomach due to regular alcohol consumption.
- There is also a strong association with the risk of primary liver cancer and a moderate association with cancer of the large bowel and the female breast.
- It is not currently possible to identify the upper limit of complete safe regular alcohol consumption, so moderation is advised – *'less is better'*.
- The combined consumption of tobacco and alcohol considerably increases the risk of upper respiratory and alimentary tract cancer by a factor of 10-100 in heavy smokers and drinkers.

Diet

- A higher consumption of vegetables and fruits is consistently – although not universally – associated with a reduced cancer risk at most sites. The association is most marked for cancers of the digestive system such as oesophagus, stomach, colon, rectum and pancreas.
- The consistently lower rates of many forms of cancer reported in Southern European countries has been linked to the Mediterranean diet which is typically lower in total fat, higher in fish, olive oil, vegetables, fruit, fibre and cereals.
- Diet and/or obesity has been associated with cancers of the colon, rectum, and the female breast. Some of the mechanisms to explain this link are thought to be hormonal, alcohol and dietary habits.
- There is some initial evidence implying that a total caloric intake of over 40% which is made up of fat, may act as a risk factor in some cancers.

Lifestyles

Lifestyle and risk factors are known to play a significant role in the development of many cancers. Information on lifestyle from a range of surveys gives some cause for concern:

- While the percentage of smokers in the Irish population has fallen from 43% in the 1970s to around 27% today, the figure is much higher within certain sub-groups of the population.
- Fibre intake generally fell well below the lower limit of the recommended range of 25-35 grams per day in the National Nutrition Survey.¹
- Fat intake was above the National Nutrition Survey target of 35% of food energy for 71% of women and 60% of men.²
- Two-thirds (63%) of adult men and nearly half (48%) of adult women were overweight³

^{1,2,3} Irish National Nutrition Survey, 1990.

Existing Programme of Health Promotion

Given the importance of lifestyle factors in the aetiology of cancer, it is important to ensure that our health promotion programmes are well focused, sensitive and sustained. The programmes can then show a considerable dividend in adding quality to life and reducing premature mortality.

Much is already being done. The existing programmes are described briefly below. These are followed by a series of new initiatives which will build upon the work already in progress.

European Union

The Department of Health endorses the EU's *European Code Against Cancer*. This is a simple set of recommendations by which people can help significantly reduce their own risk of cancer. The Department also supports the *European Week* each year (the second week of October) which promotes a specific aspect of cancer prevention.

Department of Health

A National Consultative Committee on Health Promotion chaired by the Minister of State at the Department of Health was established recently. It is adopting a multi-sectoral approach with a high-level intersectoral and expert representation, including the Irish Cancer Society. Since cancer is one of the key issues identified in the Health Promotion Strategy it will be an important area in the work of the Consultative Committee.

Health Boards

Health Boards have taken a number of initiatives with the support of the Department of Health. These include the development of:

- Health promotion functions in most Boards;
- Anti-smoking centred policies and programmes;
- Community nutrition programmes;

- Nutrition programmes integrated into general practice units;
- Health education materials at primary and secondary school levels; and
- Specific materials for cancer prevention.

General Practitioners

General practitioners are becoming increasingly involved in health promotion in relation to cancer risks. In addition to opportunistic health promotion activities, they are also taking a proactive part in such areas as:

- Smoking clinics;
- Promoting awareness of self-examination for breast cancer in women and testicular cancer in men; and
- Advising on risk avoidance for patients with a family history of cancer.

Voluntary Agencies

The Department works in partnership with the Irish Cancer Society in developing health promotion initiatives targeted at cancer prevention in:

- Smoking;
- Sun Exposure; and
- Early detection programmes for women and men.

Smoking

The Health Strategy *Shaping a Healthier Future* set a target of reducing the percentage of those who smoke by at least one percentage point a year so that more than 80 per cent of the population aged fifteen years and over are non-smokers by the year 2000. The Strategy identified a number of means of achieving this target, and an action plan to reduce the incidence of smoking is now under way. It consists of:

- extending the environmental controls over tobacco;
- reducing the allowable budgets for advertising of tobacco products and sponsorship by tobacco manufacturers and distributors;
- continuing and intensifying multi-media anti-tobacco campaigns and health education programmes;
- the launch of a Voluntary Code on Smoking in the Workplace. (This was developed by the Health Promotion Unit of the Department of Health with the support of the Irish Cancer Society, the Irish Heart Foundation and the Health

and Safety Authority and endorsed by the Irish Congress of Trade Unions and the Irish Business and Employers Confederation); and

- continued action by doctors and other health professionals to encourage a decrease in smoking.

Diet

The publication of the *Nutrition Health Promotion – Framework for Action* by the Health Promotion Unit in 1991 outlines a five year action plan aimed at improving the eating habits of the Irish population. As part of this plan, people are encouraged to increase fibre intake, reduce fat, drink alcohol in moderation and maintain appropriate weight through healthy eating and regular exercise. Implementation of the framework involves:

- Promotion of the Healthy Eating Guidelines;
- Promotion of the Annual National Healthy Eating Week;
- Development of Nutrition Education Programmes for specific target groups;
- Development of Healthy Catering Policy in workplaces;
- Maintenance of the National Nutrition Surveillance System; and
- Support of National Conference in nutrition and related areas.

Further Action in Health Promotion

This Cancer Strategy will build upon the initiatives already taken in the area of health promotion, with particular emphasis on a multi-sectoral approach. Cancer prevention needs to be part of every agenda in every sector. Intersectoral co-operation between government departments, voluntary organisations and commercial enterprise is essential to the success of health promotion. **The Department of Health will continue to encourage, co-operate and participate in this process.**

The epidemiological data in Chapter Two points clearly to the need for a regional focus in health promotion. Strategies targeted at specific groups at local level afford opportunity for greater effectiveness. With this in mind the following approach will be taken:

Coordination of health promotion activities

- Health boards will be encouraged to establish the intersectoral consultative committees proposed in the Health Promotion Strategy. Such committees will enhance the existing co-operation at local levels and between the Department and the health boards. Some boards have already established local health promotion committees, and most health boards have now appointed dedicated Health Promotion Officers, using seed funding from the Department's Health Promotion Unit. The appointment of dedicated staff will give impetus to local developments, and these will be supported as far as possible by the Health Promotion Unit.

Data collection, monitoring and evaluation

- A national database for prevalence of the main risk factors is urgently required. To date, smoking patterns are the only annual figures gathered. Greater information on why and how people decide to change or not to change lifestyle habits would enable the Health Promotion Unit of the Department of Health and other agencies to design more appropriate and effective health promotion programmes. Discussions on establishing a data base are now taking place with a number of interested parties, including the Directors of Public Health and the Department of Health Promotion in UCG. It will be important to ensure that the data collected are comprehensive and comparable to similar surveys in other parts of Europe.
- The monitoring and evaluation of health promotion initiatives/programmes is a necessary and integral step for all future developments to ensure quality control, programme effectiveness, health benefit and cost effectiveness. Evaluation is now an integral part of the campaigns and programmes initiated by the Health Promotion Unit.

Smoking

- Since smoking is a major factor in lung cancer, a reduction in smoking through effective policies offer substantial benefits to the Irish population. There is strong evidence from the WHO regarding the link between tobacco advertising and the rate of smoking in the community. Ireland already has among the most stringent controls over tobacco advertising in the EU, including a complete ban on radio and television advertising, significant controls over advertising in the print media and a cap on advertising budgets. As Ireland is a small, open economy, a complete ban on tobacco advertising would not be effective unless it was in the context of a similar ban in other countries whose publications circulate widely here. Such a ban within the EU has been under consideration for several years. **Ireland will continue to press for an EU-wide approach to banning advertising of tobacco products.**
- There is mounting evidence about the negative effects of passive smoking. Countering the problem of passive smoking requires the enforcement of environmental controls, with continuous monitoring and regular review to ensure that protection is given to the majority of the population, i.e. those who do not smoke. With this in mind, the Government introduced new regulations, effective from 1 January 1996, which further prohibit or restrict smoking in various public areas and facilities:
 - With the exception of designated areas for staff or patients, smoking is now completely prohibited in a wide range of locations such as buildings owned or occupied by the State or State bodies, schools, food preparation areas in hotels and restaurants, supermarkets, places of entertainment such as cinemas and theatres, indoor sports centres, hospitals and other health facilities, doctors' and dentists' waiting rooms, public areas in banks and building societies, hairdressing salons, public transport and taxis.
 - There are restrictions on smoking in other areas. A no-smoking area of at least a specified size must now be provided in certain places. In the case of psychiatric

hospitals the area is at the discretion of management, while in trains, aircraft and passenger ferries, and the arrivals and departures areas in airports and harbours two-thirds of the seating must be designated as non-smoking areas.

- In restaurants, canteens, cafes and snack bars the no-smoking area was until recently at the discretion of the management. However, since 1 May, 1996 the area has to be either at least one-half of the seating area or at least one-quarter of the seating area where the health board is satisfied that the ventilation or other system is adequate to prevent circulation of tobacco smoke into the no-smoking area.
- Health professionals, particularly general practitioners and nurses who are well placed to support patients through lifestyle change, have a major role to play in communicating anti-smoking messages. A valuable initiative would be the provision of appropriate training in patient counselling techniques as part of their continuing education and training. The Irish College of General Practitioners deals with smoking cessation in their Continuing Medical Education groups in the context of health education generally. The College is currently developing proposals for a training module on smoking cessation as part of providing wider skills training to general practitioners.

Alcohol

- A National Alcohol Policy was recently launched by the Minister. The objective of the policy is to reduce the general level of alcohol consumption in the population in order to reduce the prevalence of alcohol-related problems. **The policy will have a valuable contribution to increasing information and awareness of the link between regular alcohol consumption and certain cancers.**

Nutrition

- Support for the ongoing implementation of the *Nutrition Health Promotion – Framework for Action* programme will be continued.

Skin Cancer

- Skin cancer will be the target of a strong preventive focus, given the high morbidity rates in Ireland and the low adherence to sun protection behaviours among the Irish population. The European initiative this year is on skin cancer. The Health Promotion Unit of the Department of Health has been working closely with the Irish Cancer Society on programmes aimed at preventing skin cancer.

Conclusion

Health promotion will form part of an integrated approach to the National Cancer Strategy. The fact that so much of Ireland's premature mortality is preventable must be at the forefront of health promotion policy. So too must the fact that cancer is the single biggest cause of death in those aged under 65 years (and the second largest cause of death in the whole population as a whole).

The health promotion programmes currently in place have been effective in encouraging healthier lifestyles and in raising awareness of health risk factors.

The National Cancer Strategy will build upon the present approach to health promotion by:

- placing further emphasis on multi-sectoral coordination;
- developing information systems for the monitoring and evaluation of health promotion programmes; and
- taking a series of initiatives in such areas as smoking, alcohol and nutrition.

4. Screening and Early Detection

Introduction

Prevention of cancer is among the primary goals in any strategy on the disease. While screening and early detection should not be seen as part of prevention, they are key elements of any strategy to reduce the prevalence of cancer in Ireland. It is vital that the resources available be channelled towards screening and detection programmes of proven value; otherwise there is a danger that time and effort will be wasted on initiatives that have little or no impact on the prevalence of the disease. It is sometimes difficult to make choices about priorities for screening, and to identify the groups that will most benefit from them, but these decisions are critical to the development of an effective cancer screening policy.

This chapter discusses the most appropriate approach to take in relation to screening for different types of cancer. Current screening programmes are concentrated on identifying cancers of the breast and cervix since these have been shown to be effective, but screening for other types of cancer is also considered below.

Basic Principles

Screening and early detection have been shown to help reduce mortality and morbidity from some cancers. It is only in these cancers that screening programmes should be considered. Screening can be undertaken either on an opportunistic basis or through organised programmes. Opportunistic screening may be of some value to the individual, but may be less efficient in identifying cancers in a given population than an organised programme directed at a target group.

For an organised screening programme to attain its potential it must adhere to certain criteria regarding specification of objectives and protocols for follow-up of participants. **Under the National Cancer Strategy, the following criteria will underpin cancer screening programmes funded by the public system:**

- Aims and objectives of screening programmes must be clearly stated and include targets for compliance and reduction of mortality.
- Steps to ensure a high compliance must be specified so as to maximise the potential for reducing mortality.
- Protocols for screening, follow-up and referral must be devised and adhered to for quality assurance.
- Results must be fully documented in a way that assists evaluation of the effectiveness of the screening programme.

- Design and evaluation of screening programmes must take account of client satisfaction with the programme itself, the communications process surrounding it and the psychological impact of false positive results.¹

Ideally, a screening programme should be supported by an appropriate data base. This would include a population register enumerating each individual in the target population and a computerised information system containing a call and recall facility to issue personalised screening invitations. There is no population register of this type in Ireland at present and a number of questions would have to be addressed in its development. These include data protection issues and the length of time and resources required to develop such a large data base.

However, another key requirement of any screening programme – a population-based surveillance system – has already been developed for cancer. The National Cancer Registry has been collecting data on a national basis since 1994 and its first national report is expected in the near future. This will be an essential data base for evaluating the outcomes of cancer screening programmes.

The main issues and plans relating to screening for different types of cancer are examined below.

Screening for Breast Cancer

The incidence of breast cancer in Ireland is among the highest in Europe with over 1,200 new cases diagnosed each year. Hereditary factors, alcohol, increasing age and late first pregnancy, nulliparity², late menopause, previous benign or malignant breast disease, as well as living in Western developed countries are mentioned as some of the influences which can increase the risk of breast cancer. As the causes of breast cancer remain to be established, it is not known how it can be prevented. Emphasis is therefore placed on detection at the earliest possible stage, through physical examination, mammography (as part of a screening programme involving appropriate clinicians) and early treatment.

There are approximately 660 deaths annually from breast cancer. The Department of Health's Discussion Document *Developing a Policy for Women's Health* reports that about 20 to 30 per cent of deaths from breast cancer in women over the age of 50 could be prevented if a quality mass screening programme was established for women between 50 and 64 years, but there was no evidence to support mammography screening for women aged under 50.

In Ireland, a pilot programme of screening for breast cancer was established in 1989 by the Mater Foundation. Known as the Eccles Breast Screening Programme, its objectives were

- to evaluate the impact of mammographic screening on morbidity and mortality from breast cancer in Irish women; and
- to address the feasibility and potential value of a national breast screening programme.

¹ A *false positive* result is one which incorrectly detects the presence of a disease or condition.

² Refers to the number of women who have had no previous live or still births.

The Eccles programme had a breast cancer detection rate of 7.9 per 1,000 screened in the first round. This indicates that the prevalence of breast cancer in the target population was among the highest in the EU. The Eccles programme successfully demonstrated that a mammography screening programme is feasible in an Irish setting.

The Report on the programme was submitted to the Minister for Health last year and work to extend breast cancer screening on a phased basis to women in the 50-64 age group has commenced. **The Minister allocated £600,000 for this purpose in 1995. A total of £1.1 million was available for the programme in 1996, including money carried forward from 1995. As noted in the Discussion Document *Developing a Policy for Women's Health* the expert advice available to the Minister stresses the importance of building up expertise in this area gradually, so that the programme will be of the highest quality and of proven value.**

With this in mind, the Department of Health has set up a project team to advise it on implementation of breast screening for women in the 50-64 age group. The project team will:

- consult with a number of agencies on the question of establishing a national population register. This is being done in co-operation with the Data Protection Commissioner;
- set out the terms of reference and suggested membership of the national steering committee for the programme;
- review staffing and capital requirements;
- investigate the best location for the programme;
- advise on the structures necessary to ensure quality assurance; and
- advise on the health promotion/awareness campaign that must accompany such a programme.

Cervical Screening

Cervical Cancer accounted for 61 deaths, or almost one per cent of all cancer deaths in 1994. Although it is commoner in older women, about 60 per cent of deaths from cervical cancer in 1994 occurred in women under the age of 65 years.

The exact cause of cervical cancer is unknown. However, the Human Papilloma Virus types 16 and 18 as well as cigarette smoking are considered to be among the risk factors. Cervical cancer is more common among sexually active women. Cervical screening involves screening for the pre-malignant condition Cervical Intraepithelial Neoplasia (CIN) which may be asymptomatic and usually precedes cervical cancer. **Treatment of CIN is almost 100 per cent successful in preventing cervical cancer whereas treatment of cancer of the cervix has an overall 5 year survival rate of less than 60 per cent.**

Developing a Policy for Women's Health states that while cervical screening is simple, quick and relatively inexpensive, not all women respond to requests to attend for screening. It has been found that women from the lower socio-economic groups may fail to do so. It is mainly among the latter groups that deaths from cervical cancer occur.

Experts in the Europe Against Cancer programme recommend that women between the age of 25-60 should have a cervical smear regularly and that they should participate in organised screening programmes where available. This is the target population in any programme of cervical screening that may be developed in Ireland.

At present, cervical screening in Ireland is primarily opportunistic. Some women may be screened more often than necessary, while others are never screened. There is general agreement that **opportunistic screening, while being of benefit to the individual, is not effective in reducing overall mortality in the population.** This can only be achieved by a population screening programme which requires a population register.

The Department of Health has been working with health professionals to develop a comprehensive policy on cervical screening. An expert committee under the chairmanship of the Chief Medical Officer reviewed all aspects of the service and submitted its report to the Minister for Health. Among its main recommendations were:

- A national cervical screening programme based on an age/sex register should be established and screening offered to women in the 25-60 age group. Its objective should be to reduce the prevalence of, and mortality from, cervical cancer in the target population.
- Cervical smears should be available free of charge under the General Medical Service.
- The minimum interval between screenings should be five years, but with two screenings within twelve months for women entering the programme if they have never had a previous smear.
- A system of call/recall should be established to ensure uptake in the target population and to aid evaluation of the programme.
- An expert advisory committee should be set up to oversee the establishment, implementation and monitoring of the cervical screening programme.
- The Director of Public Health in each health board area should have overall responsibility for the cervical cancer screening programme and for its evaluation.

The report makes a number of other recommendations in relation to laboratories, personnel, training and arrangements for efficient provision of services and speedy results of tests.

As indicated in the Health Strategy *Shaping a Healthier Future* and the Discussion Document *Developing a Policy for Women's Health* **the Minister will reorganise screening services for cervical cancer taking account of the expert group's recommendations.** Among the concerns will be to improve access by women to cervical

smear tests and to inform women in the 25-60 age group of the benefits of screening and of the appropriate intervals at which these should take place.

As part of improvements in cervical screening the Minister will take the following steps:

- In order to contribute to the debate among experts in the area, the Report of the Working Party on Cervical Screening (1995) will be published in the near future.
- Arrangements will now be made to prepare the ground for a national programme of cervical screening. The target date for commencement of a national programme will be no later than 1999, or earlier if resources permit.
- Pending establishment of an organised cervical screening programme, laboratories which fulfil the criteria for participation in such a programme will be assisted in every way possible to deal with backlogs. (It is important that laboratories do not develop waiting lists longer than one month. Given that the abolition of charges in public laboratories has increased uptake, a system of monitoring and control is all the more important).

Screening for Other Cancers

Bowel and Prostatic Cancers

Screening techniques for bowel and prostatic cancers are not yet sufficiently developed for population screening, although recent reports suggest that techniques for the former may now be more advanced. There will have to be continued emphasis on research, particularly through the use of pilot projects. The prognosis of patients with bowel cancer is poor when the tumour has spread beyond the wall of the bowel. There has therefore been considerable interest in early detection through screening, and strong emphasis on patients with symptoms attending their doctor at an early stage.

It is not yet clear that screening for occult blood in stools or digital rectal examination/sigmoidoscopy for colorectal cancer would lead to a reduced risk of death amongst those participating in such screening programmes. Similarly, digital rectal examination, screenings for prostate specific antigen (PSA) or transrectal ultrasound are not yet recommended as techniques for population screening for prostatic cancer.

A random study of prostate cancer screening involving 200,000 people in five member states of the EU was started in 1993 following the positive results of a feasibility study co-funded by the European Commission between 1989 and 1991. The results of this study, which is being co-ordinated by the Universities of Rotterdam, are expected in 1998. The co-ordination of this trial is financed by the *Europe Against Cancer Programme*.

Skin Cancer

Cancer of the skin accounted for 102 deaths in Ireland in 1993. Non-Melanoma Skin Cancer (NMSC) is the most commonly occurring malignancy in a white-skinned population. Risk factors for skin cancer include sun exposure and having a fair skin type (which burns easily).

Skin cancer develops slowly and usually manifests itself in those aged 60 or over in Ireland. The disease is curable in the early stages. Another form of skin cancer, Malignant Melanoma, is rare but increasing in incidence. It is linked to sunburn, especially that acquired during childhood.

Prevention and reduction of skin cancer can be achieved by a vigilant approach to sun exposure and artificial forms of UV radiation. Utilising sun protective clothing and creams as well as early detection can reduce deaths from skin cancer. Early detection of melanoma can be facilitated by consulting a physician if a mole changes shape, size or colour.

Population screening for skin cancer has not been shown to be effective and is therefore not recommended by experts. However, early detection programmes for malignant melanoma are to be encouraged as there is good evidence internationally that prognosis is related to thickness of the lesion.

Europe Against Cancer has designated 1996 towards the prevention and early detection of skin cancer. A melanoma control programme requires a co-ordinated and sustained strategy involving a wide variety of agencies at national and local level. As there is a long latent period between exposure and development of skin cancer, the impact of prevention strategies would not become apparent for some years.

Occupational Health and Cancer Prevention

The Health and Safety Authority has responsibility for initiatives in occupational health. Almost four per cent of all cancers are attributed to occupational environment. Chemical/industrial processing can be associated with cancer of the lung, bladder, nasal cavities, leukaemia, skin and kidney. It is important that health and safety regulations should be strictly followed, to prevent exposure to known cancer-causing substances. **In line with the National Cancer Strategy, the Health and Safety Authority will continue to give a high priority to cancer prevention and early detection.**

Conclusion

Under the National Cancer Strategy, screening and early detection will continue to form a vital element of the programmes to combat cancer mortality and morbidity. The approach set out above is concerned with targeting screening campaigns at areas of proven value. Screening programmes will be directed towards carefully identified target groups and towards the types of cancer in which early detection is possible.

Specific initiatives have been put in place, or will shortly be established, in the areas of screening for breast cancer and cervical cancer. In addition the scope and advisability of further screening initiatives will be kept under review, based on evidence from Ireland and abroad. In each case, screening services funded publicly will accord with the criteria set out earlier in this chapter.

Appendix 4.1 European Code Against Cancer

Chapters three and four have dealt with health promotion, screening and early detection issues. Many of the main messages of these chapters are encapsulated in the Revised European Code Against Cancer which was adopted in 1995.

Certain cancers may be avoided and general health improved if you adopt a healthier lifestyle.

- 1 Do not smoke. Smokers, stop as quickly as possible and do not smoke in the presence of others. If you do not smoke, do not try it.
- 2 If you drink alcohol, whether beer, wine or spirits, moderate your consumption.
- 3 Increase your daily intake of vegetables and fresh fruit. Eat cereals with a high fibre content frequently.
- 4 Avoid becoming overweight, increase physical activity and limit intake of fatty foods.
- 5 Avoid excessive exposure to the sun and avoid sunburn especially in children.
- 6 Apply strictly regulations aimed at preventing any exposure to known cancer causing substances. Follow all health and safety instructions on substances which may cause cancer.

More cancers may be cured if detected early.

- 7 See your doctor if you notice a lump, a sore which does not heal (including in the mouth), a mole which changes shape, size or colour, or any abnormal bleeding.
- 8 See your doctor if you have persistent problems, such as persistent cough, persistent hoarseness, a change in bowel or urinary habits or an unexplained weight loss.

For women

- 9 Have a cervical smear regularly. Participate in organised screening programmes for cervical cancer.
- 10 Check your breasts regularly. Participate in organised mammographic screening programmes if you are over 50.

5. Cancer Treatment Services

Introduction

Treatment for cancer is provided at all levels of the health service. **Responses to cancer span the full range of early detection, treatment and care services and cannot be regarded as separate from the health care system.** This chapter examines the existing treatment services for cancer in this light. The main elements of the services are considered below, and the more detailed approach to treatment of individual types of cancer is set out in the appendix to the chapter.

Types of Cancer Treatments

After the preventive and screening stages, there are three main forms of treatment for cancer, used separately or in combination:

- surgery;
- radiotherapy; and
- chemotherapy.

These may be followed by, or provided in conjunction with, rehabilitation and palliative care. Rehabilitation and palliative care are discussed in Chapter Seven.

Surgery

Surgery is the primary curative treatment for the majority of cancers. It may be used as a primary curative treatment in many early cancers and also plays a significant role in the treatment and palliative care of certain advanced cancers. Cancer surgery is often combined with radiotherapy or chemotherapy either before or after operation.

Surgical treatment of cancer is provided in all acute hospitals and forms a considerable part of all surgeons' practice. Details of the role of surgery in cancer treatments are contained in Appendix 5.1.

Radiotherapy

Radiotherapy involves the use of high energy rays to kill cancer cells in the part of the body being treated. The rays concerned may be x-rays, or gamma rays produced by a radioactive source. Radiotherapy may be delivered either *externally* using a machine to produce x-rays or gamma rays, or *internally*, involving the placement of a radioactive source into the tumour area.

The principle underlying radiotherapy is that cancer cells are more sensitive to radiotherapy than normal cells and are killed at a greater rate. Any normal cells that are affected may recover and repair themselves. In order to minimise damage to normal cells it is important that the therapy is very carefully controlled and directed exactly at the tumour area requiring treatment.

In Ireland, radiotherapy is provided, at a specialist level, in two health board areas – the Eastern and the Southern. There is also a number of outreach clinics that provide radiotherapy in other parts of the country.

Chemotherapy

Chemotherapy involves treatment of cancer cells using drugs called *cytotoxic agents*. The drugs are used to destroy or control cancer cells in established tumours. They are also used when there is a high likelihood of secondary spread of the cancer to other sites of the body.

Cytotoxic drugs destroy cancer cells by interfering with their ability to grow and divide. Normal healthy cells may also be affected, and it is the damage to these cells that causes side-effects for patients. Fortunately, normal cells recover quickly and the side effects of treatment are usually temporary.

Chemotherapy is usually administered by injection or by varying lengths of intravenous infusion. There are many different types of chemotherapy drugs, a combination of which is sometimes necessary to produce the desired effect. Chemotherapy often involves a course of treatment, during which time the patient must be under careful supervision in order to detect unwarranted side effects of treatment.

More detailed information on each of the types of treatment above, and their use in the case of different forms of cancer, is contained in the appendix.

Treatment Services

Treatment for cancer is provided in two main settings: *primary care* and *hospital care*. Hospital treatment is provided on an in-patient, day case and out-patient basis, and may be divided broadly between services commonly provided in most acute general hospitals and the more specialised treatments requiring multi-disciplinary teams that are found in a smaller number of locations.

Primary Care

Primary health care is the starting point of cancer services. It begins with health promotion activities, and is followed up by programmes of screening aimed at early detection. It then provides community-based care and support for people with cancer, and stretches through to rehabilitation and palliative care.

General practitioners play a key role in providing primary care services. These include:

- nursing services, including public health nursing and home care palliative care nursing;
- social services;
- rehabilitation; and
- palliative care.

The voluntary sector makes a significant contribution to the provision of primary care cancer services, particularly in relation to health promotion, support and self-help groups, counselling services and palliative care.

Hospital Services

Hospital services for cancer treatment are provided through a network of acute hospitals, including general, regional and major teaching hospitals. However, since the treatment and management of cancer is multi-disciplinary in nature and may involve any of the specialties or subspecialties in medicine or surgery, there are variations between the health board areas in the availability of specialist services.

Surgery and chemotherapy are widely available at the secondary care level, but because of the unsystematic development of specialist cancer therapies there are variations around the country in the adequacy of the services provided. For example, public specialist medical oncology services are largely confined to the Eastern Health Board area, apart from sessions provided by medical oncologists, radiation oncologists and haematologists in a number of other centres. Specialist oncology services at consultant level are provided for adults in St. Vincent's, the Mater Misericordiae and St. James's Hospitals.

In addition to the services for cancer described above, a network of diagnostic mammography units has been developed at secondary care level. Access to them is on the basis of need as assessed by a general practitioner or specialist. Allied to this initiative, specialist breast clinics for their catchment area have been provided in a number of hospitals. Similar clinics in the UK have proved effective in providing the full range of services for women with breast cancer, including modern diagnostic services, high quality surgical treatment, medical oncology and radiotherapy, specialist nursing services and paramedical support.

Certain more specialised treatment for cancer are provided in a limited number of hospitals. These include radiotherapy, bone marrow therapy and specialist paediatric oncology. Specialist **paediatric oncology** services are provided at Our Lady's Hospital Crumlin, but paediatric patients are also referred to Musgrave Park Hospital, Belfast for total body irradiation in preparation for bone marrow transplant. Ultimately it is intended to provide this service in St. Luke's Hospital as part of the comprehensive upgrading of facilities there.

Our Lady's Hospital, Crumlin is the major referral centre for paediatric oncology in Ireland and is responsible for the care of a large proportion of all children with cancer in this country. It provides chemotherapy, bone marrow transplants and other treatments, catering for up to 200 children at any one time.

There are two public centres for **radiotherapy** in Ireland – St Luke's Hospital, Dublin and Cork University Hospital. There are also two recently constructed small private radiotherapy units in Dublin at the Mater Private Hospital and St Vincent's Private Hospital.

Radiotherapy is a very specialised area with high-cost, advanced-technology equipment. In addition to the high technology treatment, planning and dosimetry equipment, substantial support services are provided. These include the provision of medical physicists, treatment planning/dosimetrists, therapeutic radiographers and nursing staff with training in oncology, technical and engineering support staff. For these reasons, a high throughput of

patients is required so that specialist staff can develop and maintain the level of skill necessary for a quality service.

These considerations mean that, to date, radiotherapy services have been concentrated in a small number of locations serving a population large enough to ensure sufficient throughput, to maintain quality and to justify the costs involved. This may lead to difficulties for patients who have to travel relatively long distances for radiotherapy, but the nature and cost of the service does not make provision possible beyond a selected number of centres. The policy, therefore, has been to develop radiotherapy services in selected sites.

The largest single investment in cancer services in recent years is currently in progress at St. Luke's Hospital. The facilities there will be brought up to the highest standards and will serve to enhance greatly the level of treatment and comfort for patients attending the hospital. Development of the site involves a complete upgrading of accommodation and equipment at a cost in excess of £15 million. This includes the provision of three new linear accelerators and a new simulator for planning of treatment. The upgrading project is scheduled for completion in early 1997.

The recent establishment of formal management links between St. Luke's Hospital and St. Vincent's Hospital, Dublin are aimed at maximising the benefits of close cooperation between a specialist site and an acute general hospital.

Specialist Cancer Nursing Services

Specialist cancer nurses are important members of multi-disciplinary teams for the more specialised forms of treatment. These specialist nurses usually function in a consultative capacity with patients and their relatives, other nurses and members of the multi-disciplinary team. As a result of their specialist knowledge and expertise, they have an important role in preventing and managing the side-effects of cancer and its treatment and in the provision of psychological support.

Some of the specialist nurses provide services such as the administration of cytotoxic drugs. At present, there are specialist cancer nurses working in the area of medical oncology, radiation oncology, surgical oncology, breast care, stoma care, palliative care (both community and hospital-based), bone cancers and head and neck cancer. There are also specialist oncology liaison nurses working in a number of tertiary centres.

Trends in Utilisation of Hospital Based Cancer Services

Two important trends emerge in the utilisation of hospital services for cancer patients. The first is the apparent variations in the usage of hospital treatment services between different parts of the country. The second is the growing use of day care services since the early 1990s.

Admission Rates for Cancer Treatment

Chapter Two pointed to apparent differences in the incidences of certain types of cancer between health board areas, and concluded that further examination would be necessary before their significance, if any, could be determined. Similar issues arise in the case of hospital admission rates for cancer. Analysis of data from the Hospital In-Patient Enquiry

(HIPE) for the years 1992 to 1994 suggests that admission rates to public hospitals seem to vary quite noticeably between health board areas, even after standardisation for differences in age profile. Neither is there always a clear link between the incidence and mortality of different types of cancer in a particular health board area and the rate of hospitalisation of its residents for those cancers.

This issue will be examined further to establish whether the apparent differences in approach to hospitalisation are significant. Further details on the incidence of cancer will shortly be available from the National Cancer Registry, and this will be an important source of comparison with HIPE when reviewing admission rates for cancer treatment. Among the issues to be considered in relation to each region will include:

- accuracy of the data;
- demographic trends;
- level of social support available;
- availability of consultant and other staffing;
- practices relating to referral of patients for the more specialised services (such as radiotherapy and specialist oncology); and
- organisation and management of services.

An important consideration is that the data available at present refer only to publicly funded hospitals, since HIPE is not recorded by the private hospital sector. This underlines the need to encourage private hospitals to participate in HIPE, so as to ensure a complete epidemiological picture.

Use of Day Care

Data from HIPE indicates that in 1995 there were over 49,000 hospital episodes due to cancer, of which 19,000 were day cases. The day care figure has grown significantly in recent years. However, data for 1992 should be interpreted with caution because of relatively low coverage of day cases on HIPE at that stage. The number of in-patient episodes for cancer also grew in the early 1990s and peaked in 1994. The main trend is towards day case treatment instead of in-patient services, particularly in the case of chemotherapy.

Table 1 shows the trend toward use of day care in public hospitals in the treatment of people with cancer for the period 1992 to 1995.

TABLE 1**Utilisation of Public Hospital Cancer Services, 1992-1995**

| Year | In-Patient | Day Case | Total |
|------|----------------|----------------|--------|
| 1992 | 23,523 (80.2%) | 5,819 (19.8%) | 29,342 |
| 1993 | 28,862 (76.5%) | 8,855 (23.5%) | 37,717 |
| 1994 | 30,314 (66.0%) | 15,611 (34.0%) | 45,925 |
| 1995 | 29,887 (60.7%) | 19,312 (39.3%) | 49,199 |

Source: Hospital In Patient Enquiry

Conclusion

This chapter has described the main treatment services in Ireland for people with cancer. It illustrates that there is already an extensive range of treatment services for cancer. Substantial investment is in progress to bring about planned improvements in them. However, some significant challenges remain. These include:

- how best to provide a co-ordinated, patient-focused service;
- how to ensure a consistently high-quality service, based on best practice, throughout the country; and
- how to harness the resources available to produce as effective and efficient a service as possible that is capable of adapting quickly to changing needs.

These and a range of other issues are addressed in the next chapter, concentrates on the improvements that will be made to the structure of the existing services and the philosophy that will underpin them.

Appendix 5.1 Treatment of Cancer

Introduction

This appendix describes the application and effectiveness of the treatment modalities in cancer. Over the past ten to twenty years there have been significant advances in the diagnosis and treatment of cancer. New approaches under evaluation include chemoprevention, the use of biomarkers and the identification of predisposing genes for many of the common cancers. **For many people however, prevention is not a possibility and the goal is to identify the cancer at the earliest possible stage and to apply curative therapy.**

The possible objectives of treatment are:

- (i) to eliminate all the cancer and rid the patient of the disease; or
- (ii) to retard the progression of the disease and prolong survival; or
- (iii) to eliminate or relieve the symptoms of the disease and by doing so to enhance the quality of life of those people with cancer.

Palliative care is an important dimension of cancer care, particularly in eliminating or relieving the symptoms of those at an advanced progressive stage of illness.

In the medical literature, *treatment effects* may be measured objectively by a variety of means. Prolonged survival may be registered as an increase in the percentage of patients surviving at the given time following the onset of treatment. These common measures include the percentage of people alive at one, three, five, ten and fifteen years after diagnosis.

Other means of registering treatment effects include measurement of the tumour size, its characteristics and an assessment of spread to other areas of the body. Objective criteria have been defined by the WHO which measure the response to treatment using specific clinical criteria.

There are many factors which influence prognosis. These include in particular, the stage at which the cancer was detected and whether or not the cancer had spread to other organs. This makes comparisons of differing treatment modalities very difficult. In recent years the use of chemotherapy has become more prevalent and there is an increasing practice of combining all modalities of cancer treatment leading to qualitative, as well as quantitative, improvements.

Before treatment commences, it is important that there is an assessment of the patient which involves a thorough medical examination and relevant diagnostic laboratory and radiological techniques. This will provide an assessment of the tumour, its local extension into surrounding tissues and any distant spread.

Prognosis in Cancer

Table 5.A summarises the results of a European Cancer study, showing five-year survival rates for adult cancers diagnosed between 1978 and 1985. The information is given by

main types of cancer and is broken down between males and females. It is important to note that the data in Table 5.A refer to cancers at all stages – both early and advanced. The prognosis for those diagnosed at an early stage is considerably better. Advances within the past ten years have led to improved outcome, especially for patients with leukaemia.

TABLE 5.A

Five-Year Relative Survival for Adult Cancers Diagnosed in Europe, 1978-1985

| Males | % 5-year Survival | Females | % 5-year Survival |
|-------------------|-------------------|-------------------|-------------------|
| Testis | 85 | Corpus uteri | 72 |
| Penis | 68 | Breast | 67 |
| Hodgkin's Disease | 66 | Hodgkin's Disease | 67 |
| Larynx | 57 | Larynx | 62 |
| CLL | 46 | Cervix | 59 |
| Kidney | 45 | Oral cavity | 53 |
| Colon | 43 | Vulva/vagina | 52 |
| Bone | 43 | CLL | 51 |
| Oral cavity | 43 | Kidney | 45 |
| Nasopharynx | 38 | Bone | 45 |
| Rectum | 36 | Tongue | 43 |
| Tongue | 36 | Oropharynx | 42 |
| Oropharynx | 29 | Colon | 41 |
| CML* | 19 | Rectum | 40 |
| Hypopharynx | 19 | Nasopharynx | 37 |
| ALL * | 17 | Ovary | 32 |
| Stomach | 17 | CML* | 21 |
| Brain | 14 | Hypopharynx | 20 |
| Lung | 8 | ALL * | 20 |
| AML * | 7 | Stomach | 19 |
| Oesophagus | 5 | Brain | 15 |
| Pancreas | 3 | Lung | 10 |
| | | AML * | 7 |
| | | Pancreas | 5 |
| | | Oesophagus | 5 |

Notes: ALL: Acute Lymphoid Leukaemia; AML: Acute Myeloid Leukaemia; CML: Chronic Myeloid Leukaemia; CLL: Chronic Lymphoid Leukaemia.

As noted in the text, the data above are for cancer at all stages, whether early or advanced. The five-year survival rate for those diagnosed at an early stage is far better.

* Since 1995 there have been major improvements resulting from chemotherapy and bone marrow transplantation in ALL, AML and CML.

Source: Coebergh, JWW Chapter 18, *Survival of Cancer Patients in Europe. The Eurocare Study* (IARC Scientific Publications No. 132, Lyon, 1995)

Methods of Treatment

There are three main methods for treating cancer – surgery, radiotherapy and chemotherapy. Table 5.B summarises the role of these treatments in the main types of cancer. It uses the results of the European cancer study referred to earlier, but includes a number of modifications to reflect improvements since 1985.

TABLE 5.B

Role of Common Treatments for Survival among Cancer Patients

| Tumour | Surgery | Radiotherapy | Chemotherapy |
|-------------------|---------|--------------|--------------|
| Tongue | +++ | +++ | |
| Mouth | +++ | +++ | |
| Pharynx | +++ | +++ | |
| Oesophagus | + | ++ | + |
| Stomach | ++ | | + |
| Colon | +++ | | ++ |
| Rectum | +++ | ++ | +++ |
| Pancreas | + | ++ | + |
| Nasopharynx | | +++ | + |
| Larynx | ++ | +++ | |
| Lung (NSC) | ++ | ++ | +/- |
| Lung (SC) | + | ++ | +++ |
| Bone | +++ | ++ | ++ |
| Breast | +++ | ++ | ++ |
| Cervix uteri | ++ | +++ | |
| Corpus uteri | +++ | ++ | |
| Ovary | ++ | | +++ |
| Vulva | +++ | + | |
| Testis | ++ | ++ | +++ |
| Penis | +++ | + | |
| Kidney | ++ | | |
| Brain | ++ | ++ | |
| Hodgkin's Disease | - | ++ | +++ |
| Non-Hodgkin's | | | |
| Lymphoma | - | ++ | +++ |
| Leukaemia | - | + | +++ |

Key

-: No relevance; +: relevant in <25% of patients; ++: relevant in 25-50% of patients; +++: relevant in >50% of patients. NSC : Non small cell. SC: small cell.

Source: Modified and updated from Coebergh, JWW Chapter 18, Survival of Cancer Patients in Europe:

The Eurocare Study (IARC Scientific Publications No.132, Lyon, 1995)

Surgery

Surgery is the most common form of treatment for the great majority for patients with cancer. Some types of cancer require high-technology facilities with a team of surgeons from different specialties and, as noted earlier, surgery is often combined with radiotherapy or chemotherapy.

In common with other types of treatment, surgery for cancer has undergone significant change in recent years. Modern surgical techniques have reduced operative mortality and post-operative morbidity. Advances in assessment of patients for surgery and refinements in techniques have contributed to improvements in patient outcome.

The role of surgery in the treatment of cancer can be classified as *diagnostic, staging and therapeutic*.

Diagnostic: most patients suspected of having cancer are referred to a surgeon for confirmation of the diagnosis. Diagnosis takes the form of biopsy or removal of tissue for laboratory analysis. This allows the type of disease to be identified and is critical in the planning of treatment.

Staging: assessment of the extent of disease and confirmation on exclusion of local or distant spread is a most important exercise in the care of patients. It facilitates the planning of therapy and is the most definitive indicator of the appropriateness of various modalities in attempting to cure the patient.

Therapeutic: surgical treatment offers the best prospect of cure for many cancers. In addition, surgical treatment often plays a large part in the treatment of advanced disease by relieving complications or preventing distressing symptoms.

The surgeon also has an important role in helping to guide and co-ordinate the course of therapy through the patient's illness, together with the patient's general practitioner and other health professionals.

Radiotherapy

Radiotherapy can be used in up to half of all patients who develop cancer every year. It has a potentially curative role in two-thirds of these patients and a palliative role in the remainder.

Radiotherapy is also used in combination with surgery for many cancers. The role of radiotherapy is under continuous evaluation and audit and clinical trials are particularly important in deciding on the appropriate balance of treatments for many cancers.

The role of radiotherapy is determined by the radio-sensitivity of the tumour and partly by the probability that the tumour is well localised. Head and neck tumours and cervical cancer often fulfil these conditions and radiotherapy has a major role in their treatment. Early lymphomas, prostate cancer and lung cancer also respond well to radiotherapy. Radiotherapy has a complementary role to surgery in the treatment of breast cancer, rectal cancer and soft tissue sarcomas. It also has an important role in pain and symptom relief, particularly bony pain or when the patient bleeds from their lungs as a result of the disease.

Radiotherapy can be combined successfully with chemotherapy for some tumours, but for most tumours the clinical effects of combined therapies have been disappointing. The risk of toxicity to the patient has been shown to be increased especially when drugs and radiation are administered simultaneously. However, increasingly they are used together in particular clinical situations to achieve tumour eradication without resort to potentially mutilating surgery. This approach has been very successfully applied to selected cases of cancer of the larynx and many patients can now avoid laryngectomy. Much of current research revolves around improving the sensitivity of tumours to radiotherapy. Prediction of individual tumour radiosensitivity is important in determining the appropriate radiation dose and the effective choice of treatment. Research has been directed at increasing the sensitivity of the tumour to radiotherapy through a variety of mechanisms and the results of clinical trials are awaited.

Other recent advances in radiotherapy include the use of computed tomographic scanning and magnetic resonance imaging. New imaging has had a profound effect on radiotherapeutic practice

and increased the effectiveness of therapy. There have also been advances in the development of linear accelerator design which allow for more precision in radiation treatment. This is important because the limiting factor in the dose of radiation is the volume of normal tissue within the overall target volume. If the dose of radiation to the tumour could be increased and normal tissue excluded, this may either reduce the risk of normal tissue damage or allow escalation of the radiation dose and the increased likelihood of a successful outcome of the treatment.

The development of three-dimensional imaging and of computer control over a range of treatment machine parameters now allows for much more precise targeting of the individual tumours. Research has shown that a dose escalation of the order of 10 per cent may improve local control by between ten and twenty per cent. This demonstrates the potential of radiotherapy for improving survival from cancer over the coming decades.

The table below summarises the main roles of radiotherapy, divided between curative and palliative functions.

Clinical Roles for Radiotherapy

| | |
|--|--|
| Potentially Curative Role | Head and Neck Cancer Cervical Cancer Hodgkin's Disease and Non-Hodgkin's Lymphoma Bladder Cancer (Surgery has the major curative role) Prostate Cancer Early Lung Cancer Seminoma Anal and skin cancer Some Brain Tumours including Medulloblastoma Thyroid cancers |
| Multi-Modality, Potentially Curative Treatment | Breast Cancer Rectal Cancer Cancer of the Head and Neck Whole Body Radiotherapy before marrow transplant Soft Tissue Sarcoma |
| Palliative Radiotherapy | Pain, especially Bone Metastases Spinal Cord Compression Venous-Lymphatic Obstruction Bleeding, Lung, Renal |

Chemotherapy

Chemotherapy involves using cytotoxic drugs in the treatment of cancer. These drugs act primarily by affecting tissues where cells divide rapidly, as in the case of tumours. The difficulty in treatment is that, as in radiotherapy, normal cells and tissue may also be affected.

While not all tumours contain rapidly dividing cells, those which have a rapid dividing time are more sensitive to chemotherapy and radiotherapy. Cytotoxic drugs cannot differentiate between cancerous and normal cells, making normal cells which are dividing rapidly (eg those in bone marrow, gastrointestinal tract and scalp) prone to toxicity. This results in side-effects such as risk of infection, bleeding, anaemia, nausea and vomiting, hair loss and ulcerated mouth.

However, major advances have been made in recent years in the prevention and management of side effects of chemotherapy. Most patients no longer experience nausea and/or vomiting.

Even small tumours contain many millions of cells and, where disease is resistant or bulky, it is difficult to ensure widespread cure of the cancer by using cytotoxic agents. The purpose of treatment may be curative, i.e. aiming to rid the patient of cancer, or palliative, attempting to eliminate or relieve the patient's symptoms of the disease.

Chemotherapy may be combined with radiotherapy or surgery, or a combination of all three may be used. Prior to receiving chemotherapy, it is important that the patient undergoes a full clinical assessment so that the long term prognosis can be ascertained and potential benefits and risks are explored.

Outcomes depend on the type of cancer, whether the tumour is sensitive to cytotoxic agents, and the extent of the cancer. Outcome also depends on the patient receiving the optimal dose of chemotherapy.

A significant recent advance has been the advent of adjuvant chemotherapy, particularly for breast and colo-rectal cancers. The treatment has shown encouraging results. There is also a trend towards high dose chemotherapy with peripheral blood stem cell transplantation for some cancers.

The table below summarises the main types of tumours for which chemotherapy can be used, ranging between those which are highly responsive and those which are less responsive.

Treatment of Tumours by Chemotherapy

Highly Responsive:

Acute leukaemia
Lymphomas: Hodgkin's
Non-Hodgkin's Lymphoma (Intermediate and High grade)
Multiple Myeloma and Non-Hodgkin's Lymphoma (Low grade)
Testicular
Bone Tumour (osteogenic sarcoma and Ewing's Tumour)
Ovary
Breast
Small Cell Lung
Colon/rectal

Less responsive:

Bladder
Sarcoma
Non-small cell lung
Melanoma
Prostate
Upper gastrointestinal

In recent years, large scale screening of compounds with potential anti cancer activity has been performed and this has identified several new chemotherapeutic agents with biological

activity. This approach is likely to produce new drugs that may substantially reduce the toxicity associated with treatment. More specific anti cancer treatments, directed for example against nuclear targets or membrane and cytoplasmic targets, are likely to be identified with the hope of improved survival rates.

The management of cancer patients is likely to change significantly in the next number of years. For example, there have been major advances which may lead to the application of molecular biology in the fight against cancer. Medical understanding of the disease process whereby a series of defects in the genes that accelerate cancer growth, *oncogenes* and in those that slow down cellular turnover, *tumour suppresser genes*, has increased in recent years. The production of vaccines against cancer and other forms of gene therapy may have a positive impact on the treatment of patients with cancer in the future.

Multi-disciplinary Cancer Care

Optimal treatment for the patient with cancer involves rapid access to an efficient multi-disciplinary programme of care. Essential components of this are diagnostic pathology and radiology services and surgical expertise to provide a diagnostic, staging or curative service. Appropriate introduction of other disciplines such as medical oncology, radiotherapy and palliative care requires a full understanding of cancer and a breadth of vision which must be fostered and developed.

The Minister is committed to developing and structuring the service towards facilitating the application of different treatment modalities and multi-disciplinary care as appropriate. This patient-focused approach will offer the individual with cancer the best chance of cure and quality of life.

6. Development of Cancer Treatment Services

Introduction

The organisation and provision of a patient focused, highly quality cancer service must include an integrated approach to treatment services. Chapter Five described these services as currently provided. This chapter reviews the main challenges facing cancer treatment services, describes the principles that must underpin them and sets out the main elements of a reorganised treatment service.

It is clear that this integration of cancer services must span prevention, early detection, treatment, rehabilitation and palliative care. Chapters Three and Four have dealt with screening and preventive services, while Chapter Seven will address rehabilitation and palliative care. This chapter deals primarily with treatment services, but the linkages with other elements of the service are critical, and must be to the fore in any reorganisation of services.

Major Challenges

As shown in the previous chapter, there is already an extensive treatment service for people with cancer, and considerable investment is in progress to bring about further improvements. However, some significant challenges remain. They include the following key issues:

- At present, treatment services are not always well co-ordinated between or within primary and hospital-based levels of care. Cancer treatment services must be reorganised to ensure that they meet the needs of patients as efficiently and effectively as possible.
- There is a need for greater emphasis on an evidence-based approach to the use of new or alternative therapies in cancer treatment. This is vital if patients are to receive the most appropriate treatment and care in line with best practice.
- There is a lack of specialist medical oncology services, other than those provided in the Eastern Health Board area. Sessions are provided by certain professionals such as medical oncologists, radiation oncologists, haematologists and histopathologists, but some patients living outside the EHB area must travel long distances for specialist medical oncology. This gives rise to, inconvenience for patients, longer waiting times and a less effective service. It also runs counter to the principle outlined in *Shaping a Healthier Future* that each health board area should have a self-sufficiency in regional specialties.
- As noted earlier, there are some variations between health board areas in utilisation of publicly funded hospital services for cancer which do not seem to be very closely related to incidence or prevalence of particular types of cancer. These apparent differences merit further analysis.

These are the principal challenges that must be addressed now in order to ensure that treatment services for people with cancer are provided in a co-ordinated and effective way.

Basic Principles of Treatment Services

The revised arrangements for delivering cancer treatment services will be underpinned by the following principles:

- The services must be patient-centred and capable of responding effectively to the needs of patients and their families.
- The services must be of uniformly high quality throughout the country.
- The services should be based on an integrated multi-disciplinary approach, determined by patient needs rather than by accidents of domicile, location of services or traditional patterns of referral.
- Most of all, services must be based on current best practice, using the therapeutic regimes and organisational arrangements that are likely to yield the best results. Services must be flexible so that they can react quickly to reflect changing evidence regarding best practice and organisational arrangements.

Key Requirements

In line with the basic principles above, the proposed reorganisation of cancer treatment services will be designed to meet a number of key requirements. These are:

- A concentrated approach to **identifying and implementing best practice** throughout the country. The spread of best practice is likely to offer the single biggest dividend in terms of improved morbidity and mortality for those diagnosed with cancer. The emphasis on best practice will include:
 - *Development of realistic protocols for diagnosis and treatment:* These should be applicable across disciplines (such as oncology, surgery and radiotherapy) so as to ensure a coordinated approach to treatment. **In this regard the Department has recently published guidelines for the safe administration of cytotoxic medical preparations of cancer patients.** The guidelines were drawn up by a multi-professional group representative of public health medicine, oncology, surgery, radiotherapy, pharmacology, nursing oncology and the Department of Health.
 - *Agreement between clinicians as to which types of cancers can best be treated where:* It is critical that all patients be treated in the location that offers the best chance of success. This requires that all hospitals must identify the types of cancer which they are best able to treat. Just as importantly, there must be agreement about the types of cancer which would be inappropriate to particular hospitals because of size, expertise or other factors.
 - *Agreement regarding the minimum and maximum caseloads for clinicians:* There is growing recognition of the need to ensure that the number of patients treated by clinicians for certain cancers is set within agreed limits; clinicians must have a caseload sufficient to build up an expertise in that

type of cancer, while not placing too heavy a burden on any individual. Only in this way can the highest quality of care be assured.

- *Encouragement of medical and nursing training and education bodies to give cancer appropriate emphasis:* Undergraduate and post graduate students must be given a solid grounding in cancer prevention, treatment and palliative care. This must be an integral part of training at all levels. Bodies such as the medical schools and the Irish Cancer Society have an important role to play in this regard.
- **Well organised, co-ordinated treatment services** which are structured to take full account of the type of cancer involved and the complete needs of patients. This must include agreed arrangements for referring patients quickly to the most appropriate point of care (whether primary or hospital-based).
- Emphasis on **developing close links between general practitioners and all levels of care.** The general practitioner plays a central role in referring patients with cancer to the most appropriate point of treatment, and must be assisted in doing so without delay.
- **Rapid communication on the status and progress of each patient** throughout the system. This includes ensuring that the patient's general practitioner is kept fully informed of progress. Within the hospital setting **there should be one clinician with overall and continuing responsibility for every individual patient.** This would aid communication between the patient and all clinicians involved.
- **Clear information for patients and their families** so that all aspects of their treatment and care are fully explained in a sensitive and comprehensible way.
- **A revised structure for cancer treatment services** which is strongly patient-focused, coherent and based on best practice. It must be flexible and capable of absorbing new developments in the treatment and care of cancer in a cost-effective manner.
- **Provision for evaluating the effectiveness of cancer services.** It is vital that the arrangements for providing cancer treatment services should be evaluated periodically to ensure that they are meeting the needs of patients in the most appropriate manner. This requires that evaluation of the services be an integral element of any revised arrangements.

In summary, **a structure is needed which emphasises good communication, a strong patient focus and services based on agreed best practice.**

New Structure for Cancer Treatment Services

With these principles and key requirements in mind, **the Minister proposes that cancer treatment services should be reorganised in the manner outlined below.** In doing so, he has consulted widely with health professionals in the field of cancer. He has also taken account of the views of the *Cancer Strategy Group* which he established last year to advise, among other issues, on the organisation of cancer services in Ireland.

The Minister proposes that the structure of the cancer treatment services in Ireland should be centred around a system of

- primary care services;
- **regional services** provided by designated groups of hospitals with a remit to treat specific cancers according to agreed protocols and best practice;
- **supra-regional services** responsible for treating the full range of cancers and for providing the more highly specialised therapies not available in the regional services; and
- a **national co-ordinating function** to act as a unifying link between all levels of the service.

The proposed structure and main features of the services are set out below.

Primary Health Care

The importance of primary health care as the starting point of cancer services was noted in Chapter Five. It pointed to the continuum of services ranging from health promotion activities, to programmes of screening, to community-based care and support for people with cancer, and on to rehabilitation and palliative care.

In the primary care setting, the part played by general practitioners in prevention, screening, initial diagnosis, and patient management is paramount. In addition to diagnosis and treatment of individual patients they have an important role in identifying patients at greater risk for different forms of cancer and for arranging selective screening and counselling. They also have a role in arranging or providing treatment, rehabilitation and palliative care for patients.

General practitioners must be fully involved at all stages of a patient's treatment, and they must have a close link with hospital-based cancer services so that they can refer patients for appropriate treatment without delay.

Other health care personnel are involved in health promotion in the prevention of cancer, screening, counselling and care of individuals in their own community. These services are very important in ensuring that people are properly informed, educated and encouraged to take responsibility for their own health. Community based health personnel, such as general practitioners, public health nurses and the services of voluntary organisations must continue to play a pivotal role in being the closest point of contact for many people affected by cancer. In particular, public health nurses play a key function in ensuring continuity of care and in providing palliative care.

The Department and the health boards will take the following steps in developing the role of primary care in cancer services:

- General practitioners and hospital specialists will be encouraged to agree on and implement guidelines for the management, referral and discharge of cancer patients so that a full integration of patient care occurs.

- Specialists, in conjunction with general practitioners, will be encouraged to develop guidelines for the management of individual cancers and for symptom control.
- Hospitals will be required to establish clear procedures for ensuring speedy referral by general practitioners of patients to the most appropriate point of diagnosis and treatment.
- Primary care personnel will be encouraged to develop further their communication with hospital colleagues and voluntary organisations to ensure best outcomes of care and support. In particular, general practitioners must be kept fully informed of decisions regarding the treatment and care of patients. Regular joint clinical conferences between general practitioner and relevant hospital personnel are essential.
- Hospitals will be requested to notify patients of the names and addresses of local Public Health Nurses, voluntary organisations and other appropriate contacts on discharge from hospital so that they are fully aware of the type of support available to them.
- Close liaison will be promoted between public health nurses, general practitioners and others in primary care to ensure continuity of care for patients.

Hospital Services

At hospital level, the revised organisational structures involves the establishment of **regional services** based on designated groups of hospitals, and three **supra-regional services** responsible for providing the full range of cancer services for a defined catchment area. There must be very close co-operation between the supra-regional and regional services. Co-operation would be further assisted by a **national forum** representative of all service levels which would act as a focal point of communication on policy for cancer treatment services.

The details of these elements are set out below.

Regional services

The first level of hospital-based treatment services for cancer should be organised around **regional services** in designated groups of hospitals. **The regional services would be responsible for organising an appropriate cancer treatment service for the region and would be led by one of the hospitals.**

Regional Director

Each regional service should have a **Regional Director (RD)**, appointed on a part-time basis for a period of up to three years, with responsibility for organising and auditing the region's cancer services on a continuing basis. The person should be of sufficient standing, and therefore at consultant level, to ensure that the job can be carried out effectively. The RD should be afforded sufficient support and facilities to enable him or her to remain clinically active while serving in the post.

The RD should, on behalf of the health board, prepare a cancer plan for the region reflecting the principles set out in this Cancer Strategy. The plan should be submitted for approval by the health board. As part of the plan, the RD should examine the need for, and appropriate distribution of, cancer related services. The Regional Director would have a vital role in determining priorities for the region: all proposals for additional funding to develop services would be made through the Director.

Among the RD's ongoing functions should be to promote the use of protocols in line with this Strategy. This would include developing protocols for general practitioners for referral to and from hospitals, and for referral to palliative care. The RD should be involved in continuing medical education and liaison with supra-regional level services and general practitioners.

The role of specialist cancer nurses in the organisation of services is very important. The RD should liaise closely with them so that their experience and skills are used to best effect as part of an integrated service. To this end the RD should, when developing a plan for the region, examine the scope for appointing a director of nursing oncology services for the region to liaise on the organisation of services and to guide the development of nursing oncology.

Services at hospital level

A key requirement is that each hospital must bring together its cancer services into a single cohesive entity. The services would not necessarily be on the one campus, but would operate as a co-ordinated entity. The hospital would be required to develop a planned programme of diagnosis, treatment and care for each patient with cancer. Each hospital should designate an appropriate clinician as Coordinator of cancer services within the hospital so as to ensure a cohesive approach.

Role of Regional Services

The role of the regional services would be:

- to provide a multi-disciplinary cancer service within the regional group as appropriate, while referring upwards to a supra-regional service as necessary;
- to refer patients without delay to the most appropriate hospital and form of treatment; and
- to help to develop and apply protocols in conjunction with the supra-regional services. This would include:
 - linking in with supra-regional level to ensure a co-ordinated approach to cancer services and
 - identifying the types of cancers which each hospital within the regional service should and should **not** provide.

In essence, each hospital should develop its cancer services within the protocols and structure devised by the Regional Director in consultation with the hospitals and professions. It is critical that the regional services have close links with the supra-regional services, primary care facilities and palliative care so as to ensure rapid systems of referral, diagnosis and effective management.

The larger hospitals within the regional services would manage the more common cancers such as those of the breast, bowel and lung, and would be of sufficient size to support a clinical team with staff and facilities to manage these cancers. Many of the smaller hospitals would not have the specialist staff or volume of cancer-related work to cater for certain cancers, since a minimum critical throughput of patients with different forms of cancer is necessary to provide effective care. Nonetheless, these smaller hospitals must form an integral part of the regional service. In particular they enable more patients to be treated close to their home where this is possible.

All hospitals providing regional cancer services must have adequate diagnostic facilities to enable them to manage the type of cancers for which they are responsible under agreed protocols. In addition, specialist out-patient clinics should be available in designated smaller hospitals and these should have appropriate back-up from clinicians and specialist cancer nurses.

The Regional Director of cancer services will need to examine selected hospital services and facilities without delay. In particular the RD should examine histopathology staffing and facilities in the region, and advise on allocation of resources where appropriate.

Regional cancer services should have an important role in research. In conjunction with the supra-regional services, they should be involved in the development of diagnostic and support services, with an active involvement in clinical trials.

Supra-Regional Services

In order to ensure the greatest possible integration and co-ordination of cancer services, it is proposed to define three catchment areas – one each in Cork, Dublin and Galway, within which a set of **supra-regional services** would be provided. These would provide diagnostic treatment and management expertise relating to all types of cancer and would also provide the more highly specialised therapies which cannot be provided at regional level.

The supra-regional service should provide the full range of multi-disciplinary specialist diagnostic techniques and therapies: specialist surgery (including plastic and reconstructive surgery), medical oncology (with haematology support), radiotherapy, rehabilitation and specialist palliative care. However, as discussed later in this chapter, radiotherapy would, for the present at least, be confined to the existing two locations. Certain rare cancers would be treated in one location only.

The supra-regional service would be organised around a major teaching hospital or group of such hospitals. It is not necessary (or feasible) to locate all supra-regional services on one site, but close collaboration between clinicians and management teams from different sites will be essential to ensure that they function effectively.

Appendix 6.1 sets out the proposed organisation of cancer treatment services at regional and supra-regional level. It indicates the hospitals around which the regional cancer

services should be organised; these hospitals will co-ordinate the work of the other hospitals in the region.

It is proposed that each of the three supra-regional services would be headed by an overall **Director**, responsible for co-ordination of services and for communication between all levels of the service – both community and hospital based. As in the case of the Regional Directors described earlier, the overall Directors should be appointed on a part-time basis for a period of up to three years. The post should be occupied by a clinician of standing, at consultant level, with adequate support to carry out the task effectively.

In Dublin, Cork and Galway there should be a single Director of the regional and supra-regional services, as shown in Appendix 6.1. In Dublin the existing group of hospitals would be involved in providing both the regional and supra-regional service.¹ The Directors of the supra-regional services in Dublin, Cork and Galway should be appointed on the same basis as the RDs for all other parts of the country. Each of the Dublin hospitals should have a co-ordinator of cancer services, who would work closely with the overall Director in Dublin.

The communications process at supra-regional level should be assisted by a coordinating group for each of the three supra-regional services, representative of all the hospitals involved and of the disciplines dealing with cancer, including clinicians, nurses and paramedical staff.

A key concern will be to ensure that patients receive the best treatment at the most appropriate location. This underlines the need for close links between hospitals providing cancer treatment services at regional and supra-regional level. The following arrangements would apply:

- Supra-regional services should have formal links with regional cancer services. There may be scope for joint appointments of specialists between the two levels.
- Hospitals providing a regional service may be expected to refer patients with the less common malignancies to a supra-regional service. This would also be done when the workload in the regional group hospital does not justify the management of some types of cancers. Some patients may be treated by the supra-regional services and followed up at regional level.
- Where appropriate, highly specialised services, including those for rare cancers, should be located in just one supra-regional service. This might arise in such cases as the genetic aspects of cancer.
- While cancer treatments are available in all major hospitals, there will continue to be one supra-regional referral centre for paediatric cancer. Decisions on locating such services will draw as appropriate on the principles of external review, evidence-based medicine and the need to maintain links with other centres.

¹ St. Luke's Hospital is the only exception; radiotherapy would be a supra-regional service.

- Nursing care in the supra-regional services (and at the regional level, above) should be planned under the direction and guidance of nursing staff with post-registration training in oncology, who have developed specialist skills in the administration of cytotoxic chemotherapy, breast care, stoma care, management of lymphoedema, rehabilitation, palliative care, counselling and support.

The balance of practice between supra-regional and regional levels will vary across the country, reflecting the distribution of the local population, existing services and local expertise. This balance would be expected to change over time as new treatments become available. These are likely to be costly and technically demanding at first and therefore may initially be delivered only by a supra-regional service. With further developments, new treatments may be provided within the regional services, but decisions to do so must be based on careful evaluation, taking account of changes in practices and available resources.

The supra-regional centres will have an important role in the areas of training, education and research. In this regard it is expected that:

- The supra-regional services will undertake education and research at undergraduate and post-graduate level. They should have an important role in continuing professional education, clinical audit and an evidence-based approach to medicine. They should be responsible for the coordination of clinical trials and audit and should liaise closely with regional service in this regard.
- All doctors training in oncology should have experience in the management of patients attending a supra-regional or regional service. All specialists treating cancer should take part in continuing medical education.
- Supra-regional services should provide postgraduate training courses for nurses wishing to specialise in this area and should forge links with universities in providing such specialist nurse education.

Radiotherapy Services

In the context of supra-regional services, the Minister has carefully examined the question of siting a third radiotherapy centre in Galway and has taken expert advice on the matter. A critical requirement for radiotherapy is that the volume of patients be sufficient to maintain the high level of medical and technical expertise needed for such a high-technology unit. Expert advice is that, to be viable, a tertiary service incorporating radiotherapy facilities should serve a minimum population of 650,000. The western region (i.e. the areas covered by the Western and North Western Health Boards, Clare and parts of Counties Longford and Tipperary) is 620,000, falling somewhat short of this figure. In addition, as noted in Chapter Two, the incidence and mortality rates for cancer in the western region appear to be low by comparison with the national situation.

There are already significant development projects in St. Luke's and Cork University Hospital at present, which involve additional funding and which will allow for increased and speedier throughput in these centres.

There may be scope for developing radiotherapy in Galway in the future. The case for it will be kept under review in light of demographic trends, costs and expert advice. In particular there may be merit in developing links with Northern Ireland to explore the scope for co-operation in the provision of radiotherapy services. The larger catchment area that this would offer might provide a case for the level of investment necessary to establish a radiotherapy facility in Galway.

National co-ordination of cancer treatment services

One of the principal concerns in reorganising cancer services is to ensure that developments in best practice can be adopted nationally on an agreed basis to the benefit of patients. There is also a concern that services for the diagnosis, treatment and care of cancer are properly co-ordinated throughout the country. With these requirements in mind **the Minister proposes the establishment of a national forum on cancer services to act as the focal point of communication and co-ordination.** The forum should be multidisciplinary and representative of all levels of service (both community and hospital based) and of the health boards' Departments of Public Health. It will also have consumer representation. The role of the forum would be to:

- act as a unifying link across all levels of cancer services for the purposes of planning and delivery;
- help ensure co-ordination of services;
- act as a focal point for best practice and the development and implementation of protocols;
- promote evaluation of the effectiveness and quality of cancer services; and
- help co-ordinate research into cancer in conjunction with the Health Research Board.

It is proposed that the group meet on a quarterly basis to review developments in services and agree on a common approach to issues that are best addressed nationally. The group would therefore play an important role in promoting good communication at all levels of cancer services in Ireland.

The Regional and Supra Regional Directors of Cancer Services should have an input into the work of the national forum. While it would not be necessary for each of them to be a member of the forum, they should be represented on it, and should be fully involved in its work to promote co-ordinated services.

Table 6.1 below now summarises the main elements of the proposed reorganisation of services.

TABLE 6.1

Proposed Reorganisation of Cancer Services: Main Elements

| | |
|--------------------------------|---|
| <p>Primary Care</p> | <p>GPs and cancer specialists to agree on guidelines for management, referral and discharge of cancer patients.</p> <p>Clear procedures to enable speedy referral by GPs to most appropriate point of diagnosis and treatment.</p> <p>Closer links between hospitals and community-based services, particularly in relation to follow-up of discharges.</p> <p>Greater co-ordination and integration of community-based cancer services</p> |
| <p>Regional Services</p> | <p>Regional groups of hospitals to organise cancer treatment services for region</p> <p>Regional Director to develop a cancer plan for the region, for health board approval</p> <p>Regional Director to organise and audit cancer services in region and develop protocols with GPs for referrals to hospitals and palliative care</p> <p>Each hospital to draw its cancer services together in one entity (not necessarily on same campus) under a Coordinator</p> |
| <p>Supra-Regional Services</p> | <p>Supra-regional services (in Cork, Dublin and Galway) to provide the full range of cancer services but with provision for concentration in fewer centres for radiotherapy and rare cancers</p> <p>Director of supra-regional services to be responsible for co-ordination of services and communications. One Regional/Supra Regional Director for Cork, Dublin and Galway</p> <p>Multidisciplinary co-ordinating group representative of all hospitals in the supra-regional service</p> |
| <p>National Forum</p> | <p>Multidisciplinary national group, including consumer representation, to act as communication point between all levels of cancer service</p> <p>National forum to promote protocols, adoption of best practice and evaluation of services</p> |

Appendix 6.1 Proposed Organisation of Cancer Treatment Services

A: Supra-Regional Services

To be organised in three centres, around:

- Dublin
- Cork
- Galway

B: Regional Services

To be organised around the hospitals below. These hospitals will co-ordinate the work of the other hospitals in the region.

Eastern Region

To be organised around the existing group of hospitals in Dublin

Southern Region

Cork University Hospital

Western Region

University College Hospital, Galway

South Eastern Region

Waterford Regional Hospital

North Western Region

Sligo General

North Eastern Region

Cavan/Mpnaghan

Mid Western Region

Limerick Regional

Midland Region

Tullamore

Note: Each regional service would be led by the hospital shown in bold type. In the case of Dublin, the supra-regional service and the regional service for the area will be provided by the existing group of hospitals and would be headed by a Director. Cork and Galway would also have one Director for regional and supra-regional services.

7. Rehabilitation and Palliative Care

Introduction

This Strategy has stressed the importance of organising cancer services in a continuum, ranging from health promotion to screening and early detection, to treatment services, to rehabilitation and palliative care. This chapter deals with the last two elements, with particular reference to the importance of palliative care for all patients with active and progressive disease, which is no longer responsive to curative treatment.

Rehabilitation Services for Cancer Patients

For the purposes of cancer, rehabilitation can be defined as the restoration of patients with residual defects as a result of their disease or its treatment, to as normal a functional state as possible. The central focus of cancer rehabilitation is a programmed attempt to achieve sufficient improvement in functional, physical and mental capacity to allow life to be lived as fully as possible.

It is increasingly recognised that speedy recovery from illness and improved quality of life result from an active rehabilitation programme at primary and secondary and tertiary stages of treatment. Rehabilitation is beneficial to all patients with cancer and not just those who may be cured. It is an integral part of patient care and take many forms, such as

- self care;
- carer support;
- psychological support;
- physiotherapy;
- occupational therapy;
- dietetics;
- speech therapy;
- patient education and health promotion;
- appliance fitting;
- nursing services;
- community liaison;
- support groups;
- sexual health including infertility, early menopause and sexual difficulties; and

- practical help, such as stoma care and management of lymphoedema.

National and local voluntary support groups play an important part in the care of cancer patients both in and out of hospital. The philosophy behind many voluntary groups is to provide patient support by people who have already been through the same type of cancer. There is growing evidence of the need for psychological supports for cancer patients and their families to assist them to return to activities of daily living with the potential for full and productive lives. These are also social issues to be addressed, including unemployment and finances.

Many voluntary groups have developed expertise in providing support and counselling to patients and their relatives. These organisations are making an excellent contribution to the quality of life of cancer patients in Ireland. Good selection, training and support of volunteers is vital if groups are to be able to offer a professional service. As with other aspects of the cancer service, it is vital that quality assurance applies to voluntary groups.

Under this Cancer Strategy, the following principles will guide the approach to rehabilitation services:

- Rehabilitation must be seen to be proactive. It should be instituted at the onset of treatment and form a part of the initial and continuing treatment plan.
- The role of hospitals and general practitioners in the provision of rehabilitation services will be emphasised. This must be done as part of the philosophy of providing an integrated service for all people with cancer.
- Health agencies which provide supports to voluntary groups will be responsible for ensuring that the groups' activities meet health needs and support implementation of the Cancer Strategy. This will involve evaluation by the health agency concerned.

Palliative Care

Palliative care has been defined as:

‘the continuing active total care of patients and their families by a multi-professional team at a time when the medical expectations is not cure and the primary aim of treatment is no longer to prolong life. The goal of palliative care is the highest possible quality of life for both patient and family. Palliative care responds to physical, psychological, social and spiritual needs. If necessary it extends to support in bereavement’.

- *EU Europe Against Cancer Committee*

Palliative care is therefore concerned primarily with the quality of life. It is not limited to certain types of illness or to certain age groups, and it applies to all places of care such as hospitals, hospices (such as long term care units), home care (involving a network of palliative care nurses who work closely with general practitioners) and other community settings.

Palliative care should not be perceived as being exclusively limited to patients in the last weeks or days of life; it has much to offer at the earlier stages of illness, both for the patient and his or her family. Terminal care is a continuum of palliative care and usually refers to the management of patients during the final few days or weeks of life.

A distinction is made between a *palliative care approach* and *specialist palliative care services*. The palliative care approach, which aims to promote both physical and psychosocial wellbeing, is a vital and integral part of all clinical practice. Indeed, much of the workload of cancer specialist and general practitioners is concerned with adopting a palliative care approach.

Specialist palliative care services are those services with palliation as their core speciality. A significant proportion of patients (though by no means all) will require specialist palliative care input. The Medical Council has recently approved palliative medicine as a distinct medical speciality.

Palliative Services

Palliative Care Services are at an early stage of development in hospitals in Ireland. A number of hospitals have medically led specialist palliative care teams, while others are developing links with local hospice/home care services. At present there are a number of Consultant specialists with joint appointments between in-patient specialist palliative care units and general hospitals.

While a number of acute hospitals in Ireland have palliative care nurses on staff, the majority liaise with such nurses in hospices or alternatively have palliative care nurses jointly appointed with their local hospices. There are four in-patient hospices staffed by multi-professional teams offering specialist palliative care.

The voluntary sector plays an important role in the provision of palliative care services, particularly through the Irish Hospice Foundation and some twenty independent hospice support groups throughout the country. The IHF has taken the initiative in funding a number of specialist palliative care sisters. The Irish Association for Palliative Care, representative of the hospices, management and professions providing services for cancer patients, has also done substantial work in this area.

The support of the Irish Cancer Society has been critical to the development of palliative care services; it plays a vital role in developing home care services, and funds a large number of specialist home care nurses throughout the country. It has also been involved in an educational programme for professionals encouraging the dissemination of the principles of palliative care.

General Practice and Palliative Care

General practitioners have played an important role in the provision of palliative care for cancer patients. Under the General Practice Development Fund, the Minister introduced a national programme in September, 1993 to improve palliative care provided by general practitioners for seriously ill patients in the community, including those with cancer.

The scheme applies to general practitioners who provide domiciliary palliative care for the final phase of terminal illness in accordance with a treatment programme approved by the health boards. This programme includes:

- management and treatment of pain;
- administration of any other concurrent therapy to maximise the quality of the person's remaining period of life;
- support and counselling of immediate family and other carers; and
- co-ordination, organisation and liaison with services such as district nursing, specialist palliative care services and social services.

The Minister has made a total of £1.1 million available during the years 1994, 1995 and 1996 for the provision of this important service by general practitioners. In addition he has made a further £75,000 in each of these years to support initiatives in the training of general practitioners so as to improve their expertise in palliative care.

Preliminary evaluation of the scheme indicates that it is proving successful in meeting the needs of patients requiring palliative care, including those with cancer. The Minister has recently asked each health board to carry out a formal review of the scheme to assess its effectiveness and the scope for extending it further. The emphasis will be on seeing how best to improve linkages with hospice nursing teams and other personnel providing palliative care.

In addition to the scheme provided under the General Practice Development Fund, the Irish College of General Practitioners organises a course in modular form for general practitioners in palliative care. The College appointed a Fellow in Palliative Care Skills recently to organise and disseminate the course throughout its Continuing Medical Education networks. The Fellow will also evaluate and refine the course and assist in the development of ICGP policies on palliative care. The College adopted a policy document, *The Role of the General Practitioner in Palliative Care* in September, 1994.

Development of Services

It must be acknowledged that to date the development of palliative care services in Ireland has been somewhat sporadic. The principles for development of palliative care as set out in this chapter therefore aims to address this problem, so that the future development of palliative services will best meet the needs and personal preferences of patients with cancer or other long-term conditions.

Underpinning the approach to the development of palliative care will be the following elements:

- relief for patients of pain and distressing symptoms to the greatest extent possible;
- an integrated approach to all aspects of care (including physical, psychological, social and spiritual aspects) so that patients can be helped to come to terms with their own death in whatever way that is appropriate to them;

- support systems to enable patients to live as actively as possible and to help families cope with their illness and death.

The decision on the location of care (such as home, hospice or hospital) to offer patients requiring palliative care is critical. The implications of each type of care must be examined carefully in each case, based on the needs of the patients. However, palliative care must be viewed as a therapeutic approach to be delivered in the best possible way irrespective of location. Most palliative services are likely to be in a primary care setting; this means that close liaison between primary and secondary care services will be vital.

In developing palliative care services, the following principles will be adopted:

- patients should be enabled and encouraged to express their preference about where they wish to be cared for and where they wish to spend the last period of their life;
- services should be sufficiently flexible and integrated as to allow movement of patients from one care setting to another depending on their clinical situation and personal preferences; and
- the ultimate aim should be for all patients to have access to specialist palliative care services where these are required. It is recognised that patients with an advanced progressive disease will not be able to travel long distances for services.

The importance of developing appropriate specialist palliative care services is fully recognised. Some patients who are at an advanced stage of their disease may present with difficult problems of symptom control and complicated family-related issues. A significant minority of patients (though by no means all) will require specialist input. The structured development of specialist palliative care services in acute hospitals would

- offer appropriate specialist input at a critical time for patients and their families;
- help focus on maximising quality of life;
- provide the support needed to help patients to return home, with reassurance for families who may have fears about bringing home a relative for continuing care; and
- provide a linking service to community based teams so that general practitioners will be encouraged to refer patients at an early stage.

It is clear that since palliative care is a new and evolving speciality, awareness of the needs of patients and their families is still growing. The Health Strategy *Shaping a Healthier Future* undertakes that the continued development of palliative care services ‘will be promoted in a structured manner’. The discussion above illustrates that this will require careful planning with inputs from a broad range of disciplines, both professional and voluntary. To this end **the Minister will ask the national forum proposed in Chapter 6 to provide detailed advice on the development of palliative care services nationally.**

In parallel with this process, the following initiatives in the development of palliative care services will be taken:

- all health boards will be asked to draw up a set of priorities for the development of palliative care services in their area;
- the proposed supra-regional cancer services discussed earlier in this Strategy will have a consultant-led palliative care service;
- there will be a programme of phased development of specialist palliative care in regional cancer services, in consultation with the health boards and others involved in palliative care.

The National Forum will also be asked to address a number of key personnel and training issues in the provision of an effective palliative care service. These include the need for:

- carefully selected and adequately trained staff from medical, nursing and allied disciplines;
- the inclusion of palliative care in the under-graduate and post-graduate curriculum for all doctors, nurses and allied health care professionals; and
- formal systems for ensuring full communication between staff and other agencies.

8. Cancer Research

Introduction

Effective management of cancer requires a fuller understanding of its causes, better approaches to its management, a clearer definition of the efficacy of various modalities and interventions and co-ordination of the efforts of the many groups and individuals involved in the field of cancer.

There has been a major effort to address these issues internationally over the last fifty years. The steady advances that have been achieved have flowed from research in the areas of epidemiology, screening and prevention, cell and molecular biology, clinical trials and, more recently, trials of targeted screening and chemoprevention. These efforts must continue if progress is to be maintained. Ireland must play its part in this area.

Areas of Research in Cancer

The major areas of research in the field of cancer may be summarised as follows:

- Epidemiology
- Primary prevention
- Basic science
- Clinical research and clinical trials

It is useful to consider briefly how research in each of these areas can be applied in a practical way.

Epidemiology

As mentioned in Chapter Two, the spectrum of cancer in Ireland is similar to that in other European countries. Nonetheless, within Europe, and possibly within Ireland, regional differences exist. Definition of such differences is important and, with the availability of data from the National Cancer Registry, it will be possible to achieve a greater understanding of their causes. It may also be possible to use the finding to recommend modifications to the environment or lifestyle which may help to reduce the incidence of cancer.

Irish participation in projects such as the (EPIC) programme¹ co-ordinated by the IARC² will be given a priority.

¹ European Prospective Investigation into Cancer and Nutrition.

² International Agency for Research on Cancer.

Primary prevention

Ireland has a higher proportion of younger people than many other EU countries. Unfortunately, the dominant role of tobacco in cancer causation has not yet been fully recognised by young people, and too many still take up the smoking habit. Modifying lifestyle in this respect seems to be extremely difficult; effective means of doing so must be found to limit exposure to tobacco and other carcinogens. Much research has been done in this area.

Another recent area of interest is the interaction between the environment and genetic composition, known as *ecogenetics*. There is an obvious association between pale skin and exposure in the development of skin cancer. However, this is just one area; much more is likely to be learned through research about gene-environment interactions which will be of relevance in the field of cancer.

Secondary prevention (screening)

To date screening for cancer at a pre-invasive or early invasive stage has been the subject of much study. As noted in Chapter Four, results indicate that such a strategy is effective in reducing deaths from breast cancer (in older women) and cervical cancer.

Recently there has been an increasing ability to identify the 5-10 per cent of people who have an inherited risk of developing common cancers such as breast, bowel, ovary or prostate. Screening strategies should be much more successful in cohorts such as these, with the management options of focused screening, prophylactic surgery or preventive treatment with drugs for individuals found to have a high risk.

Proof of the efficacy of such strategies will need to be confirmed. Ireland should play a full role in these studies, particularly given its homogenous society and large extended families.

Basic Science

Basic science research has been a major activity in Ireland, particularly in cell and molecular biology, and much of the funding provided by a range of key bodies³ has been devoted to it. There is very valuable North/South co-operation in exchanging information on research, particularly through the Irish Association for Cancer Research and the Irish Blood Club.

Recently there has been an effort to achieve a greater balance between laboratory and clinical research, and to promote better understanding between the two fields. It is hoped that these efforts will help to translate the benefits and lessons learned in the laboratory in a more efficient way to the patient – the so called *bench to bedside* approach. Efforts to support cancer research will work especially to further this approach. An example of the collaboration that is possible between fields is the current research on acquired genetic mechanisms underlying cancer and the work to translate these into effective cancer therapies.

³ Including the Health Research Board, the universities, the Cancer Research Advancement Board of the Irish Cancer Society, the St. Luke's Institute for Cancer Research, the Bone Marrow Leukaemia Trust, the Research Foundation at Our Lady's Hospital Crumlin, and the Children's Leukaemia Research Project.

Clinical Research and Clinical Trials

Clinical research is the study of the natural history of the cancer process in humans and the assessment of efficacy and toxicity of treatment. Clinical research helps to identify and develop the best types of cancer care. In addition, it fosters an academic environment suitable for the training of health care professionals. The yardstick of clinical research is critical scrutiny; systematic application of clinical research is the pathway to clinical excellence.

The major types of clinical research include:

- **retrospective reviews** involving analysis of patients treated for a certain disease in a previous time period. These reviews can be used to gain a preliminary assessment of the value and toxicity of a particular treatment approach and to determine if that approach warrants prospective evaluation.
- **prospective trials** designed to evaluate the potential value of clinical treatment techniques. Clinical trials are important for *all* types of cancer treatment, and not only for drugs. They have produced valuable conclusions regarding the most appropriate forms of treatment in cancer.
- **health services research** concerned with evaluating such elements as standards of care, quality of life and functional outcome. Some elements of this go beyond clinical research itself, but the same stringent methodology is required. Clinical trials play an important role in different aspects of health services research.

The human face of cancer and the individuals affected by it should never be ignored in providing cancer services. Ideally, therefore, the knowledge gained in the treatment of individual patients should be used to further the treatment of all. This is best achieved by realising that cancer therapy is constantly developing and by adopting the principle that, ideally, each patients' therapy should be viewed as a therapeutic trial which should ultimately be subjected to audit and analysis.

Over the last 25 years or more, some patients have been treated in the context of controlled clinical trials. Such trials have been based on the results of basic research and the development of new surgical techniques, new surgical and radiation equipment and new drugs and approaches. Major developments have flowed from such trials, leading to better cure rates in many of the common cancers and the acceptance of the efficacy of adjuvant therapy in cancers such as breast and colon cancer.

There is evidence that patients treated in the clinical trial setting have a better outcome overall. Progress in the area of clinical trials is slow; greater success in the treatment of established malignancy will depend on a rigid application of the available therapeutic modalities and the proper testing of hypothesis.

In Ireland, lack of personnel and organisational factors have meant that participation in clinical research and entry of patients in clinical trials has been limited to date. This needs to be addressed now, in the context of reorganisation of cancer services proposed in the

Strategy. Cancer research must be structured so that the undoubted scientific and clinical talents available are used to the best advantage of patients. A major advantage in the pursuit of clinical research in Ireland - and of course in the care of patients - is the excellent specialist oncology and general support in medical and paramedical disciplines.

Co-ordination and Development of Cancer Research

There is now a clear case for establishing a more formal and co-ordinated approach to cancer research in Ireland, with particular reference to clinical research. **The Minister is strongly committed to assisting the co-ordination and development of clinical research in cancer and will take appropriate steps, in conjunction with the relevant health professionals, to help bring this about.**

What is required is a focal point for multi-disciplinary, multi-institutional clinical research which commands the support of all involved. It must be seen as a neutral body, demonstrably independent of all hospitals and individual professionals in the research fields. It should be linked with the national forum on cancer described in Chapter Six.

The Minister proposes that a Cancer Clinical Research Unit be established within the Health Research Board. Its purpose would be:

- to provide an infrastructure for a multi-disciplinary, multi-institutional approach to clinical cancer research;
- to focus clinical research in a way that contributes to the knowledge and treatment of the most common cancers in Ireland; and
- to assist participation in collaborative clinical research with other countries, and in particular in EU countries and co-operative groups.

The Minister is committed to supporting an initiative of this kind. The Department of Health, in conjunction with the Health Research Board, will invite proposals from those in the field of cancer research on how best to put such a system in place. The HRB will then hold discussions with relevant health professionals on the detail of a Cancer Clinical Research Unit, including the basis on which it would operate and its relationship with the national forum proposed in Chapter Six.

9. Conclusion

Aims of the Cancer Strategy

The aim of this Cancer Strategy has been to review the existing range of preventive, treatment and palliative services relating to cancer in Ireland, and to set out the Minister's plans for their further development and improvement. This has been done in the context of the Health Strategy *Shaping a Healthier Future* and in particular the targets established for cancer in that document.

The initiatives signalled in this Cancer Strategy relating to health promotion, screening and early detection and treatment/curative services are being put in place in the context of the Health Strategy's medium term target:

To reduce the death rate from cancer in the under-65 age group by fifteen per cent in the ten-year period from 1994.

This will be a difficult target to reach in the face of current trends in cancer mortality and morbidity in Ireland, but the Minister is committed to bringing about the improvements set out in this Cancer Strategy so that the target can be achieved in the timescale set down.

The Existing System

The services currently in place for the prevention, early detection, treatment and palliation of cancer are already substantial. They enjoy significant advantages from

- committed and well qualified staff;
- a strong and hard-working voluntary sector; and
- a range of developments already in progress which will improve the present services considerably

The commitment of individual families and friends in giving practical and emotional support to those with cancer must also be acknowledged as a critical factor in our response to the disease.

However, this Cancer Strategy has identified a number of serious challenges facing us. Cancer is the greatest cause of death among those aged under 65 years and the second largest cause of death in the population as a whole. This is quite apart from the level of long-term illness to which it gives rise.

This Strategy pointed to a number of features that give cause for concern. These include the following issues.

- Ireland has a **higher mortality** from cancer than the average for EU countries;
- the disease accounts for about **one-third of all deaths** in those aged under 65, with an average of 18,000 new cases each year; and

- there is a clear need to reorganise treatment services so that existing and additional resources can be channelled to best effect.

Cancer: The Response to a Challenge

Having reviewed the challenges posed by cancer and the scope for improving cancer services, this Strategy contains the following commitments and initiatives:

- Research will be undertaken into the causes of the apparent variations in rates of cancer morbidity and mortality between different parts of the country. Further analysis of differences in hospitalisation rates across the country will also be carried out.
- Health promotion will form a key element of an integrated approach to the Strategy. The Minister will build upon existing initiatives by placing further emphasis on multi-sectoral coordination and taking a series of initiatives in such areas as smoking, alcohol and nutrition.
- Screening and early detection programmes will continue to form a critical part of the drive to combat cancer mortality and morbidity. Screening programmes will be targeted towards the types of cancer where early detection is possible. Specific initiatives in breast screening and cervical screening are in the course of development.
- Cancer treatment services will be reorganised using an integrated model of primary and hospital care. There will be a structured network of regional and supra-regional services, with an emphasis on closer links with primary care. There will be a national forum on cancer services to provide a focal point for communication and co-ordination of services.
- Significant additional resources have been devoted to cancer services in recent years, including a major upgrade of St Luke's Hospital which is in progress. There are also plans for the development of cancer treatment services in a number of other sites.
- The proposed Regional Directors of cancer services will be asked to prepare a plan for the development of cancer services in their region. This will form the basis for a phased development of services and for greatly improved co-ordination of existing provisions.
- There will be further development of specialist palliative care services to ensure that the needs of patients with cancer and other long-term serious illnesses are met in the last period of their lives. Palliative care services will be integrated with other community and hospital-based services, and health boards will be asked to draw up priorities for the development of palliative services in their area. The Minister will also ask the national forum to provide detailed advice on the development of palliative care services nationally.

- The Minister will support an initiative to co-ordinate and develop clinical research through the establishment of a Cancer Clinical Research Unit within the Health Research Board. Its purpose will be to provide a multi-disciplinary, multi-institutional approach to clinical research in a way that benefits patients to best effect.