Strategies to Improve and Strengthen Cancer Control Programmes in Europe

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Executive Summary

Cancer is a major health problem in Europe, responsible for more than 24% of the deaths in men and more than 20% of the deaths in women. It is not only a problem for the elderly, but is also an important cause of premature mortality in the productive adult years. For example, more than half of all deaths among women 45 to 54 years of age in France, Germany, Italy and the United Kingdom are due to cancer. With changes in the population, and more elderly people, the cancer burden of all European countries can be expected to increase substantially.

WHO held a consultation with representatives of 17 countries to strengthen cancer control programmes in Europe. A firm basis was established for the development and refinement of cancer control programmes in Europe by analysing the extent and trends of the cancer problem and current cancer control strategies, with special focus upon performance evaluation of such strategies.

The “Europe Against Cancer” initiative launched in the mid-1980s is drawing to a close. It appears to have been associated with the avoidance of more than 92,000 expected cancer deaths in the year 2000. A similar, but more comprehensive initiative is needed at this time, especially to take advantage of the forthcoming expansion of the European Union. Recent information regarding the strengths, weaknesses and impact of previous cancer control activities and the WHO promotion of a network of national cancer control leaders at the country level provides an opportunity for establishment of a set of coordinated national efforts. Such efforts will gather strength from the mutual support, joint strategy development, and consistent implementation of effective strategies for cancer control in European countries.

The prevention of cancer offers the greatest public health potential and the most cost-effective approach to cancer control. Because lung cancer is still the most common cause of cancer deaths in men and is continuing to rise in women, efforts for the control of tobacco need further strengthening in Europe. The promotion of healthy lifestyles, including reduction of obesity, increase in physical activity, healthy diet and reduction of excessive alcohol consumption, should also be a priority.

Currently the scientific evidence only supports organized screening programmes for cancers of the breast, cervix and colon-rectum. However, the initiation of such screening programmes requires careful assessment of the situation in each country to ensure that the epidemiologic and health care infrastructure conditions would permit such programmes to be cost-effective. Evidence is inadequate to support screening for other cancers at this time.

The development of national guidelines for the diagnosis and treatment of common cancers is important because they will ensure that evidence-based methodology is used to establish national consensus protocols. Such guidelines also promote equity among the population by providing a basis upon which minimum essential diagnostic and therapeutic services can be provided to cancer patients from all sectors of society.

An often-neglected area of cancer control is the provision of palliative care to cancer patients and their families. With more complex social relationships, and often declining family support for
the elderly, there is a need for more professional care during the end of life period. The goal of palliative care is to improve the quality of life for patients with advanced disease by good symptom control, psychological, social and spiritual support. Patients and families should have access to palliative care throughout their illness trajectory and during the bereavement period. Palliative care is a team approach and in order to ensure an effective palliative care service, proper education programmes need to be provided for all members of the team. Health professionals need to overcome their hesitancy to use opioids to relieve pain and governments need to revise overly restrictive regulation that often limits practical access to pain-relieving medications. Specific palliative care programs need to be established and seen as an integral part of the cancer control program in all nations.

There are performance gaps in the cancer control programmes of all countries of Europe. These gaps frequently involve delays in the implementation of specific cancer control strategies, such as cancer prevention or palliative care, or in the suboptimal implementation of strategies, such as delay in diagnosis and weakness in the quality control of cancer screening. The process of improvement of cancer control programmes should start with the identification of the outcome goals and objectives. Subsequently the appropriate strategies should be introduced; each accompanied by suitable process or services indicators.

WHO’s next steps include the further development of the network of national cancer control leaders established at this consultation and support of the efforts of this network. International collaboration and the exchange of experiences will facilitate the strengthening of cancer control programmes in Europe.

The experience gained in Europe and the continued efforts for working in a collaborative fashion across countries could well serve as a model to be adapted in other regions willing to promote comprehensive cancer control programmes. WHO would like to facilitate the exchange of experience and knowledge in this field between regions and countries worldwide.
Introduction

This consultation was aimed to strengthen collaborative efforts to improve cancer control programmes in Europe at the regional and national level by working to reduce the cancer burden, to reduce cancer inequalities, and to achieve the best possible quality of life for cancer patients and their families. The country participants were from Croatia, Czech Republic, Denmark, France, Germany, Hungary, Lithuania, Moldova, the Netherlands, Poland, Romania, Serbia and Montenegro, Slovenia, Spain, Switzerland, Ukraine and the United Kingdom.

The main objectives of the consultation were to analyse the present situation, trends, and the desired situation of cancer control in Europe, review existing strategies on the prevention and control of non-communicable diseases with special focus on cancer control, and recommend possible strategies for improving the effectiveness and efficiency of cancer control programmes in Europe through a collaborative learning network. The consultation was designed to ensure interaction among the participants to both strengthen the network of European countries working together in cancer control and help guide future work in cancer control among an expanded number of countries in Europe and other regions. The consultation was planned by the Programme on Cancer Control at WHO Headquarters in Geneva, Switzerland and the Chronic Disease Prevention Department of the WHO European Regional Office for Europe in Copenhagen, Denmark.

Extent of the cancer problem

The percentage of cancer deaths (as a percentage of all deaths) ranged from 12%-32% with a median of 27% for men and ranged from 10%-26% with a median of 22% for women for the 17 countries participating in this consultation. In all these countries, the most common site of cancer mortality was lung cancer for men and breast cancer for women and deaths from cancer of the colon-rectum were either the second or third most common site for both men and women (Ferlay, 2000).

In the mid-1980s “Europe Against Cancer” was launched by the European Union with the aim to reduce cancer mortality by 15% by 2000. This initiative focused primarily on cancer prevention (particularly tobacco control), screening and education and training. An analysis of cancer trends in the 15 countries forming the European Union in 2003 showed that the number of cancer deaths increased in both men (+12%) and women (+9%) from 1985 to 2000 (Boyle, 2000). However, when adjusted for demographic considerations, such as the ageing population, there was a 10% reduction in the expected number of deaths in men and 8% in women. Overall, the Europe Against Cancer initiative appears to have been associated with the avoidance of more than 92,000 expected cancer deaths in the year 2000. With few exceptions, the cancer death rates are declining in most countries and appear to be set to continue to decline, at least for the near future. A major area of concern is the apparent consistent continued increase in lung cancer mortality for women, which stands in contrast to the recent observed declines for men in the majority of the countries. Strengthening of tobacco control programmes, especially targeting women, is the number one priority cancer control area.
In several countries in western Europe breast cancer mortality is decreasing, but not in eastern and southern countries. The Eurocare study confirmed differences in breast cancer survival within Europe, the best survival was in Sweden, the worst in Slovakia (IARC, 1999). For cervix there were more uniform mortality rates, with survival on average being 60%. Portugal shows the highest rates for cervix cancer.

It is important to counteract the widespread impression that cancer is a problem only of the elderly. Cancer is an important cause of premature mortality in the productive adult age years in Europe. For example, more than half of all deaths among women 45 to 54 years of age in France, Germany, Italy and the United Kingdom are due to cancer.

**Cancer Prevention**

WHO is attempting to integrate prevention of all non-communicable diseases (NCDs) in order to avoid the overlapping of risk factor control initiatives. The WHO Tobacco Free initiative which led to the WHO Framework Convention on Tobacco Control and the WHO Global Strategy on Diet and Physical Activity are examples. Cancer control programmes can be most easily integrated with NCD control initiatives with respect to cancer prevention. The risk factors of tobacco use, alcohol, unhealthy diet, physical inactivity and obesity are common to both cancer and cardiovascular disease.

Cancer control programmes must partner with colleagues championing prevention of other chronic illnesses. It is often found that cancer prevention endeavours tend to help bring professionals interested in other NCDs together. For example, a tobacco control policy, not a lung cancer control policy, is required. However, many groups, often seem to be more interested in the treatment of diseases than in their prevention. Their influence on government policy tends to be targeted at points further along the trajectory of illness. They must become partners in NCD disease prevention, as well as treatment.

Cancer prevention means eliminating or minimizing exposure to the causes of cancer, and includes reducing individual susceptibility to the effects of such causes. It is this approach that offers the greatest public health potential and the most cost-effective approach to cancer control. Up to 80% of cancers may be influenced by external factors (lifestyle or environment), and thus are potentially preventable (IARC, 2003).

**Tobacco**

The invidious and totally preventable effect of one commercial product, tobacco, was consistently emphasized. Tobacco-related cancers, notably lung cancer, are responsible for about 30% of world cancer mortality. In Europe, lung cancer remains the major cause of cancer mortality in males, while lung cancer mortality in females is rapidly rising and ranks second behind breast cancer as the most common cause of cancer death for most northern European countries. Success in combating lung cancer varies widely across Europe. Most countries demonstrate either a plateau or a major recent reduction in lung cancer mortality in males, though in some countries, e.g. Portugal and Hungary, lung cancer mortality is still increasing in males.
The female lung cancer situation is ominous. Women are increasingly dying of lung cancer in all European countries. Current smoking habits in young women presage a uniform dramatic rise in lung cancer deaths in the next 15-30 years unless they can be persuaded to stop smoking before the age of 40, when risk tends to become established. After that age, cessation of smoking "freezes" the risk at about the same level, so that even if a substantial proportion of older smokers can be persuaded to stop smoking, lung cancer may still occur in ex-smokers. This fact, often misunderstood, raises the importance of evaluating smoking cessation programmes directed to young adults who, as they accept family responsibilities, may be more prepared to stop smoking than when they were under the age of 20.

The credibility of governments continues to be challenged by their ambiguous response to the clear and present danger of tobacco. Dissimilar to any other cancer risk, a single international industry is associated with millions of deaths. The spread and flourishing growth of tobacco use and the resulting cancers are rooted in "receptive soil" — i.e. countries with weak tobacco control policies or where only lip service is paid to international policy agreements.

The European Commission has proposed that subsidies for growing tobacco be phased out and replaced with support for economic development and transition to alternative economic activities. A decision to this effect is expected in 2004.

The following points were emphasized during group and plenary discussions:

1. Tobacco control is the single most important public health policy that will reduce cancer mortality.

2. Strong unequivocal government support is essential as many of the most effective measures are dependent upon government policy and law. These include:
   - Increased taxation of tobacco products,
   - Elimination of advertising,
   - Dire, non-euphemistic warnings on tobacco packages,
   - Prohibition of tobacco use in public places,
   - Promotion of smoke-free workplaces,
   - Stopping the charade of so-called ‘community contributions’ by the tobacco industry, especially with regard to cultural and sports organizations
   - Supplements to promote substitution of tobacco growth by other agricultural products in producing countries,
   - Specific penalties for enticement of any harmful tobacco product to groups at special risk, especially children and youth, and those of lower socio-economic status,
   - Harsh penalties for corrupt company practices.

3. Public education should be stressed, especially for the most vulnerable groups (children, adolescents and lower income people). Education for children should commence at a young age, activities among children and youth in kindergartens, elementary and high-schools should be encouraged (Tubiana, 1999). General educational campaigns, where implemented, have successfully influenced the smoking habits of well-educated people in most cultures. Today, public education must be developed to focus on the population sub-groups where smoking is most prevalent. The development of novel educational initiatives for young women should receive high priority. Those shown to be effective should be implemented widely.
4. Health professionals must set an example. In many countries, smoking among physicians is so unusual that it has become a covert activity undertaken by the few. However, in some countries, physicians and other health professionals continue to exhibit inappropriate smoking behaviours.

5. Another very important target are school teachers, both in primary and secondary schools. They can be a good (but sometimes are a bad) example for their pupils.

6. Enlistment of societal ‘heroes’. The people of every society look up to prominent and successful individuals, often in the sports or entertainment fields. Efforts should be made to enlist their aid as major message carriers in public education.

The WHO Framework Convention on Tobacco Control, the first treaty ever negotiated under the auspices of the World Health Organization, was unanimously adopted by all WHO Member States during the World Health Assembly in May 2003. Its provisions cover the essential elements of comprehensive and sustainable tobacco control.

The European Community and 29 member states in the European region are among more than hundred signatories to-date, Norway, Malta, Hungary and Slovakia have already ratified (status update as of 7 May 2004).

Diet
The second major priority for prevention is diet and nutrition. It is uniformly accepted that dietary change influences cancer occurrence, but unlike tobacco the relationship is multi-factorial and complex. Of note, stomach cancer mortality has plummeted in all European countries, while in many countries favourable trends are noted for colorectal cancer.

In the light of current knowledge, public education on diet should stress (WHO, 2003):
   1. Increased consumption of fruits and vegetables.
   2. Decreased consumption of animal products, especially animal fat and red meat.
   3. Substitution of monounsaturated oils for saturated fat in food production and cooking.
   4. An increase in consumption of omega 3 containing foods (e.g. dark oily fish).

A major endeavour is needed to prevent and control obesity. Government policy on diet should be planned to increase the provision of less expensive nutritious foods, bearing cancer and other NCD risk factors in mind. Elimination or reduction of taxation for healthy foods could influence eating habits. To date such policies are not in place. If anything, especially in the EU, policies tend to be antithetical to a healthy diet. However, some view policies designed to promote healthy diets as overly coercive, a view that should be challenged.

Physical activity
Physical activity reduces the risk of several cancers, notably colorectal, breast and probably prostate cancer. Physical exercise reduces obesity and helps promote a healthy lifestyle including consumption of a healthy diet as recommended above. By introducing exercise into the cancer control program a positive behavioural change is to be expected. Exercise should be encouraged as a universally positive contribution to good health.
Alcohol
Moderate (20-40 g/day) alcohol intake has an overall health benefit; higher intake, especially combined with tobacco, increases cancer risk. Education and public policy must centre on the overall devastating effects of alcohol consumption, not exclusively on cancer risk.

Infections
Infections are now believed to be responsible for about 15% of cancers worldwide. The impact of heavy infestation of the public with H. pylori is not clear, particularly in view of the dramatic reduction in stomach cancer, normally attributed to the spread of refrigeration and the availability of fruits and vegetables, but possibly also associated with increased antibiotic use. Other infections, notably with human papilloma virus, hepatitis B and C, are responsible for cervix cancer and liver cancer, respectively, both major public health problems. Control of these two cancers must be partnered with colleagues concerned with sexual health and addiction behaviour.

Environmental carcinogens
Aside from isolated regional situations, environmental pollution with carcinogens stemming from industry is not a major cause of cancer, though there is concern that an increase in bioaccumulating pesticides and herbicides may be contributing to the rise in non-Hodgkin’s lymphoma. The public appears to often blithely ignore the menace of the tobacco industry while expressing unwarranted concerns about industrial pollution. When people perceive they lack control over potential risk factors, they tend to overestimate the risk.

Discussion of cancer prevention
Cancer prevention - general:
The following points were raised as weaknesses in the prevention of cancer:
- Lack of evidence-based outcomes focusing on effectiveness,
- Lack of level 1 (randomized trial) evidence of prevention strategies,
- Lack of economic incentive,
- Prevention requires long-term programmes with delayed return that are not attractive to politicians,
- Opposition from industry and pressure from private companies,
- Lack of priority for prevention among the oncology community,
- Lack of understanding that cancer is a major cause of premature mortality,
- Issues with sustainability, lack of political will, and lack of resources,
- Lack of public funds to finance valid research,
- Lack of research on behavioural change interventions,
- Not enough transfer of skills from more developed to less developed countries
- Too much competition with other health priorities.

The following strengths were mentioned for cancer prevention:
- When cancer is prevented, other NCDs are also prevented and the overall quality of life is raised due to a decrease in tobacco consumption, obesity and an increase in exercise and other healthy lifestyles,
- Common guidelines developed, co-financed, and an opportunity for the new Europe,
- An interdisciplinary approach,
• Comprehensive programmes that integrate prevention with early detection, treatment and palliative care (the WHO National Cancer Control Programme approach),
• Programmes recognized by the government, with political support,
• When the right balance is achieved between NCDs and other conditions,
• International collaboration,
• Healthy habits promoted in the media, with positive messages conveyed and messages changed periodically (an element of surprise),
• Communities involved in cancer prevention,
• Peer groups involved in cancer prevention.

Priority 1: Tobacco
The following weaknesses were identified:
• Laws are not obeyed, or fines not levied,
• In some countries health professionals (medical doctors and nurses) smoke,
• Subsidy for tobacco production to farmers,
• Inefficient education, especially in schools,
• Provision of small packs (kiddie packs),
• Unrealistic goals for smoking reduction adopted,
• Myth that another form of nicotine addiction is preferable and more achievable than smoking cessation.

The following points were identified as strengths:
• Anti-tobacco legislation enforced and implemented,
• Advertising bans,
• Costs of tobacco regularly increased by taxation,
• Non-smoking associations collaborate as counterparts against tobacco monopolies,
• Proportion of tobacco taxes applied to smoking prevention,
• When activities of tobacco industry to subvert the public are exposed,
• Politicians forced to declare support from the tobacco industry,
• Support provided to individuals for smoking cessation,
• Effective warning labels,
• Specially designed education in schools,
• E-learning programmes.

Priority 2: Diet, physical exercise and weight reduction
The following areas were identified as weaknesses:
• High costs and low availability of fruits and vegetables,
• Poor diet promoted by commercial interests,
• Promotion of snacking – empty calories,
• Lack of awareness (schools may not promote healthy diets or exercise),
• Too few facilities for physical activity,
• Town planning that concentrates on the automobile rather than walking.

The following strengths were mentioned:
• When fruits and vegetables are readily available year round,
• Collaboration between agriculture and health interests in place,
• When governments plan municipalities with physical activity needs in mind,
• Subsidies provided for fruits and vegetables, not animal farm produce,
• Provision of exercise areas (and showers) at work.

Priority 3: Alcohol
The regarding of wine as a food and conflicting public information regarding risks were identified as weaknesses. The identified strengths were the enforcement of drinking and driving laws.

Priority 4: Sun exposure
The lack of education (public and professional) and over-reliance on sunscreens were identified as weaknesses, as were lack of knowledge on the sensitivity of light skin-types, and the impossibility for people with some types of fair skin to tan. Advertisements on tanning as a beauty canon should be curbed. The provision of shade in schools and public areas and the promotion of sun-protective clothing were mentioned as strengths.

Priority 5: Environmental pollution
The continuing use of bioaccumulating pesticides was identified as a weakness and the enforcement of legislation to reduce occupational exposure was identified as a strength.

Conclusion on cancer prevention
Cancer prevention strategies must be evidence-based in order to ensure effective and efficient activities. In practice, the extent of available resources and the recognition of cultural values will influence priorities. Community values are central to a national disease control strategy, but the level of evidence and the relative importance of the condition must influence resource allocation. Those who set public policy must embrace NCD prevention. Enlightened governments will adapt measures to reduce overall disease burden while also concentrating on the unequal burden placed upon the socially disadvantaged members of society and the need to ensure that preventive measures are adopted by the young.

Early detection
Early detection includes downstaging and screening. Downstaging is the detection of cancer in an earlier and more treatable stage (e.g. moving from stage III to II or even from stage II to I) as the result of greater public awareness of the early warning signs of cancer and greater health professional awareness of the need for rapid referral and diagnosis for suspected cases. In contrast, screening is performed on asymptomatic individuals, with the aim to detect preclinical cancer, or precancerous lesions. In the discussion below, we will refer to the early diagnosis of cancer, rather than downstaging, because early diagnosis may still result in improved outcomes even if earlier detection is only achieved within a specific disease stage (e.g. resulting in a smaller tumour burden).

It is important to decide on the relevant strategy in each country by considering the stage that cancers are most often detected. If nearly all cancers are detected at an advanced stage, placing
resources into early diagnosis will be preferable to concentrating upon screening. Alternatively, if a considerable proportion of cancers are detected in relatively early stages, then the appropriate strategy would be to concentrate on organized screening programmes. Whatever choice is made, the risk-benefit balance must be acceptable for the community. For both approaches adequate resources are needed, with access to diagnostic and treatment facilities and quality assurance of tests used in the diagnostic processes.

Measures to ensure quality in all aspects of the screening process are essential, from the recruitment of the target population through to treatment of the detected abnormalities. These measures will often positively impact the community, with improvement in quality of cancer care generally. This can be regarded as an important side benefit from an organized screening programme, and may help to "sell" the programme to politicians. There is some evidence that the introduction of a national breast screening policy in some countries of Europe had an important spill over effect by increasing the effectiveness of breast cancer treatment generally, and that this contributed to a reduction in breast cancer mortality.

Currently, the evidence only supports screening for three cancer sites: breast, cervix and colorectum (Arbyn, 2003). It is important to note that there is no evidence-based justification for including prostate and lung screening in cancer control programmes at the present time.

Monitoring of all cancer control measures is essential and cancer registries are of value for this process. Unfortunately, most cancer registries do not record stage at diagnosis. However, nearly every cancer patient is staged (at the minimum according to local versus regional versus distant disease) to facilitate decisions on primary treatment, so it should be possible for all cancer registries to set up mechanisms to collect these data. These data would be of great help in the interpretation of cancer incidence and mortality trends, as well as providing valuable information for the planning and evaluation of early detection programmes and diagnosis and treatment services. For example, in France 59% of breast cancer patients were stage I in 1975-80, as compared to 70% in 1990-95, indicating downstaging in the absence of organized screening.

Data from Europe have been collected for breast screening since 1988. Policies vary over countries: Iceland and some municipalities in Sweden start screening at age 40, other countries at age 50. Usually biennial screening is offered, with double view mammography for initial screens. Many use one view for subsequent screens. Programmes are now extending to other countries. Portugal will start from the age of 40, Spain from age 45. Most countries in western Europe have organized programmes.

For cervical cancer screening, most countries do not have organized programmes; coverage ranges from 48% in Germany to 90% in Finland. For colorectal cancer in most countries only pilot programmes are in place, as mechanisms to ensure adequate coverage of the target groups in the population need to be evaluated. In Germany, however, the statutory screening programme for the early diagnosis of cancer recommends digital rectal examination and the fecal occult blood test from the age of 50 and from the age of 55 two colonoscopies at an interval of 10 years or a fecal occult blood test every two years. In 2002 48% of the eligible women and 20% of the men participated in the screening programmes for the early detection of cancer.
Screening has to be considered in the context of the national or regional cancer control programme, involving planning and priority considerations. It is difficult to combine cancer screening with NCD screening because different tests and facilities are required, even if the population to be recruited overlaps. Even cervix and breast cancer screening are rarely integrated. Screening requires effective treatment and as treatment improves the contribution of screening becomes less. Further, there are sometimes competing prevention and early detection strategies for a specific cancer. For example, colorectal cancer may benefit more from greater resources placed into dietary change than into screening; thus the cost-effectiveness of colorectal screening as compared to prevention requires careful evaluation.

There are many issues that need to be considered to improve the outcome of cervical cancer screening in Europe. They include reconsideration of the ages to start and stop screening, the desirability of reducing opportunistic screening, and the need to cease unnecessary annual screening. It is notable that the most successful programmes in Europe, in Finland and more recently in the UK, were based on organized programs that used registers that enabled them to recruit a high proportion of the population at risk at three or five yearly intervals. Discussions on the type of test to be used should not overlook the necessity for high quality in all aspects of the screening process. In cervical cancer the contribution of HPV testing may be largely to guide in stopping screening for those HPV negative at older ages than using the test at young ages because of its low specificity.

An early detection programme reflects the society within which it operates. An effective programme requires political support and organization. Political support provides funding and the infrastructure required to operate a screening programme. Control of those who deliver the programme (adequate load of examinations for experience, for example) is achieved by having political support.

The organization of screening has to be within the existing health system, rather than setting up something new. There has to be provision to reach the hard to reach population. For cervical cancer, the women with the least contact with health services are generally those at the greatest risk of the disease. Call and recall has to be organized to reach the hard to reach. Population registers are often available, but may not be recognized as such. Monitoring of coverage is essential to identify whether or not a sufficient proportion of the population is being screened for the programme to have an impact and be cost-effective. On a small area basis, monitoring of coverage can also identify groups within the population which are underserved. Organized programmes have been demonstrated in many countries to be less expensive and more effective than opportunistic screening. They provide the opportunity to control costs and can often benefit from collaboration with local medical societies so local physicians do not feel they are excluded from the process.

The beliefs of the population have to be addressed in public educational programmes. Those who believe “it doesn’t make any difference, cancer will kill you anyway” tend not to come for screening. The balance of harms and benefits has to be understood. Women’s perspectives must be used to facilitate recruitment for screening. Outreach activities to the extended family network will help. Mass media can help to inform clients, but approaches should be tailored to the culture of the community.
Commercial pressures have to be dealt with. For example, high technology approaches to early detection, such as low-dose CT screening for lung cancer, are often based on the mistaken principle that “early detection has to be good”. It is essential that politicians and other opinion leaders understand why only evidence-based screening interventions should be included in cancer control programmes. At present, large trials on sigmoidoscopy for colorectal cancer and PSA screening for prostate cancer are in place in Europe and the United States. Similarly low-dose (helical) CT screening for lung cancer is being evaluated in the United States and trials are also being started in Europe.

The Alliance for Cervical Cancer Prevention (ACCP) is addressing the needs of developing countries, where less than 5% of women are screened. Often services are inaccessible, and women frequently have inappropriate treatment and inadequate follow-up. With little or no monitoring and evaluation, high-risk women are not reached. Screening must be linked to primary care facilities. ACCP members are evaluating the role of cytology, HPV testing and visual inspection for cervical cancer precursors – visual inspection with Acetic Acid (VIA) and VI with Lugols Iodine. Both approaches provide an immediate result, thus permitting treatment to be linked with detection. Cryotherapy is largely used for treatment, using midlevel providers, with a low rate of major complications; minor complications (discharge) occur in 2-4% of women treated. The single visit integral to this approach is acceptable to both women and providers, but long-term results still need to be evaluated. The multiple visit approach inherent in cytology and HPV screening requires a well-organized system. Many European countries also need to upgrade their tracking and referral practices.

On December 2, 2003, the European Council of Ministers endorsed a Council Recommendation on Cancer Screening. This recommends mammography for women age 50-69, the Pap test for women starting at 20-30 years, and colorectal cancer screening for men and women age 50-74 (Arbyn, 2003). Screening should be offered in organized programmes and everything should be done in accordance with privacy quality-assured guidelines. It is important that new screening be evaluated according to established scientific principles (e.g. randomized controlled trials). European guidelines for quality assurance on breast and cervical cancer will be updated in 2004; guidelines for colorectal cancer will follow later. It is not clear if screening can be offered in accordance with these guidelines in the new member states.

Tolerance of false positives may be greater in the USA than in the UK, probably because of the different organization and philosophy of health care. Organised programmes may be more able to improve specificity without reducing sensitivity. A recent comparison between the UK and the USA has shown better specificity in the former, with organized screening.

The following were identified as needs for early detection programmes:

• Implement the EU recommendations and translate them into national guidelines,
• Plan and promote appropriate intervals between screens,
• Ensure equity of access, e.g. ensure the socially deprived have access to the programme,
• Provide economic incentives for the hard to reach to attend screening,
• Ensure insurance programmes cover approved screening,
• Provide support (i.e. information, advice, reassurance) for those who have been screened,
• Fully inform the customer (the subject), use personalised methods to reach them and provide free screening for target groups for approved evidence-based interventions,
• Quality assurance of tests, especially diagnostic tests, and treatment must be encouraged,
• Provide clear guidelines (protocols) for follow-up, diagnosis and treatment,
• Publicise the accessibility of treatment,
• Ensure a multidisciplinary approach, avoiding competition between specialities,
• Access professional groups and provide adequate training,
• Ensure unified cancer registration using common outcome measurements,
• Appoint a skilled programme coordinator (manager),
• Promote public awareness of the risks as well as the benefits of screening,
• Promote linkages between various organizations that emphasize different components of the cancer control spectrum,
• Plan, manage and monitor programmes and introduce corrective actions when needed.

The following weaknesses were mentioned:
• High technology companies marketing unproven technologies to professional groups and directly to the public,
• Lack of information on baseline stage of cancers detected and public/professional knowledge before initiating screening,
• Lack of information exchange between public health, professional groups and primary care workers,
• Private care initiatives that conflict with national guidelines,
• Low education level of the target population.

Cancer diagnosis and treatment

The diagnosis of cancer is based upon histology or cytology. Classification of cancers is facilitated by the uniform application of internationally recognized criteria, e.g. the WHO International Histological Classification of Tumours. Tumour grading, presence of specific membrane markers and molecular characteristics are important prognostic and predictive indicators.

Evaluation and treatment of cancer is determined by the extent of the disease (i.e. staging). The clinical stage of the disease is assessed by the clinical classification system (cTNM), subsequently followed by the pathological classification (pTNM), developed by the UICC.

Diagnosis may be by different diagnostic tools: clinical examination, laboratory examinations, radiology, nuclear examinations, endoscopy or surgical exploration. There are major differences in countries in Europe in the availability and accessibility of modern diagnostic tools (e.g. CT-scan, MRI, PET scan).

Although health specialists such as medical (clinical) oncologists and surgical oncologists are taking care of cancer patients, in some countries in Europe only radiation oncologists are recognized as specialists for cancer treatment. Variable training standards for medical
oncologists and varying use of general surgeons, as distinct from specially trained surgical oncologists, exist in Europe. No quality control systems exist.

All cancer patients should receive optimal cancer treatment and care by a multidisciplinary team, as such care has been shown to result in improved outcomes. European multidisciplinary reference centres for rare tumour types should be developed. Best care can be achieved through comprehensive cancer centres and regional cancer treatment centres, staffed by specially trained staff.

With current standards, 50% of cancer patients can be cured. In some sites adjuvant therapy with chemotherapy, hormone therapy or radiotherapy is required after or before surgery. Supportive care is required throughout to ensure an adequate quality of life.

Measurement of the effect of therapy is based upon response to treatment and disease free survival. For society, costs as well as extent of morbidity and mortality are important. Guidelines for evidence-based cancer therapy are important. New treatments should be developed through participation in clinical trials.

Integration with other NCDs
Integration of diagnosis and treatment of cancer with control of NCDs is desirable because all NCDs have features in common, especially after specific disease-related treatment is completed. These include ongoing management by the health care system, recognizing that patients and families have a central role in management and that patients have social and environmental needs. Unfortunately most health care systems are designed primarily for acute care. Many of the solutions to the health care needs for NCDs are similar. The benefits of integration are believed to be the optimisation of scarce resources, more effective response to patient’s needs, and the reduction of fragmentation and the provision of better care. A model has been developed by WHO of integrated care for NCDs. Partnerships between the health care teams and community partners are central to this model, which is dependent on a positive policy environment, the community and health care organization. Many of the features of the WHO national cancer control programme (NCCP) approach are incorporated, especially planning, leadership, quality and the use of information systems for planning and monitoring. Implementation is dependent on planning, doing, study and modification. This approach has been used to improve access to chemotherapy. Wait times have been reduced in the UK by this approach, beginning with cancer and then extending to other NCDs.

Making cancer diagnosis and treatment more effective in Europe
A number of European cancer organisations have been influential in identifying shortcomings in diagnostic and treatment facilities for cancer. Collaborative epidemiological studies (EUROCARE) showed wide variations in survival for common cancers in Europe (IARC, 1999). Poorer survival figures in the UK compared to many continental European countries were pivotal in influencing government policy to improve the organisation of cancer services and make new investments in diagnostic and treatment facilities.

Agreement upon common, evidence-based standards for treatment and care is important. European clinical guidelines have been produced by a number of European societies of cancer
professionals and advocacy groups. These range from the organisation of breast cancer services to the management of individual tumours and the provision of patient information. It is important to ensure that there are robust monitoring, reporting and feedback processes to refine the guidelines. The challenge in many countries remains the implementation of guidelines in clinical practice. Challenges include shortage of resources and trained personnel. It was estimated, for example, that a 5% improvement in cancer specific survival could be achieved by application of best practice in curative radiotherapy in Europe as a whole. In central and eastern Europe this could be as much as 15%. European physicists and radiation oncologists have developed quality assurance guidelines to improve the accuracy of the delivery of radiotherapy, the standardisation of reporting of morbidity and to facilitate the introduction of novel radiotherapy treatment techniques.

Clinical trial research has led to improved therapy, especially for childhood cancer, but also for breast and colorectal cancers. Participation in clinical trials is associated with improved outcomes. Participation in large multicentre clinical trials has been encouraged by the EORTC. For example, molecular signatures for breast cancer can provide better prognostic information than standard histology and this knowledge will now be included in a clinical trial organised by the EORTC. The European Union plans through its recent directive to harmonise the arrangements for clinical trials across Europe. This is a welcome initiative. However there are concerns in the research community that the complex regulatory framework proposed may actually discourage participation.

There is a need for a common set of health monitoring indicators for cancer. The EU funded EUROCHIP project has developed a set of indicators covering epidemiology, prevention, screening, diagnosis and treatment. The feasibility of their collection in all 25 EU member states will be assessed in a second phase of the project (EUROCHIP 2).

In the world as a whole, cure rates have improved due to early detection and better treatment and organ function preservation has become possible for many types of cancers. Over 200 million cancer patients will require treatment over the next 20 years worldwide, the majority being advanced cancers in developing countries. Improved early diagnosis and cancer treatment will therefore be essential in these countries. There are similar needs in several European countries, especially in the east. Radiotherapy as well as chemotherapy and surgery are important in contributing to the cure of some cancers, especially cancers of the cervix, rectum, head and neck and prostate. For chemotherapy, the WHO essential drugs list should be used in preference to most new agents. Agents that require very large numbers of patients to show statistically significant differences in clinical trials are unlikely to be cost-effective in most countries, even if the US FDA accepts them. In central and eastern Europe there is a pressing need to upgrade the infrastructure for cancer diagnosis and treatment.

Surgery is an effective therapy for most solid tumours, especially in early stages. Unfortunately not all procedures are evidence-based. With differences in surgical training and experience, similar procedures may result in different results in different institutions. The teams that have
adequate experience in cancer surgery tend to have better results. Thus there is a need to develop focused oncological surgery services in many countries. Obstacles to improved oncology surgery services can come from general practitioners, general surgeons and insurance companies. These groups may not recognize the need for specialized training in surgical oncology, and may not distinguish the differences between cheap ineffective surgery, and more complex effective procedures.

Guidelines for cancer treatment are very useful as they tend to improve diagnostic and treatment strategy by establishing national consensus protocols using evidence-based methodology as well as providing a basis upon which minimum essential diagnostic and therapeutic services can be provided to patients in all corners of society (equity). However, such guidelines need to be updated periodically, should be refined using input from those who have used the services, and must be adaptable to the individual patient. This may include adaptation to special groups, such as those with socio-cultural difficulties. Care guidelines also need development, to ensure that appropriate high quality care follows after primary treatment has finished. New agents should only be introduced in the context of a research clinical trial. There is a need to prioritise research for health care initiatives that are generally applicable throughout the world. Some of the recent advances in treatment produce only minor improvements in survival, and are too expensive to be used in many countries.

The psychosocial needs of patients require special consideration. Patients may need assistance in asking the appropriate questions about their care and prognosis. In the EU doctors are required to provide the information that patients and relatives need, but they may not have been trained to do so adequately.

Discussion of cancer diagnosis and treatment
The following weaknesses were identified for cancer diagnosis and treatment:

- Primary care physicians who fail to recognize individuals with symptoms or signs of early cancer,
- Late diagnosis linked to poor referral systems,
- Lack of quality assurance in diagnosis,
- No guidelines on diagnosis and treatment,
- Shortage of diagnostic facilities in regional hospitals, early cancer may not be recognized,
- Patients that require specialist care treated in general hospitals, where patient load is not sufficient to enable physicians to obtain sufficient experience,
- Shortage of radiotherapy equipment,
- Physicians who see the patient as a collection of symptoms, not as a person requiring holistic care,
- Clinical trials are not available for all types of patients in need,
- Pressures from the pharmaceutical industry,
- Financial barriers for effective modern treatment,
- Lack of analysis of cost-effectiveness of high technology diagnostic methods,
- Oncologists participating in the brain drain,
- Lack of adequate curricula in graduate and post-graduate education,
- Lack of quality highly trained oncologists,
• Inequities of access to diagnosis and treatment due to economic difficulties.

The following points were mentioned as strengths:
• Organization with multidisciplinary teams,
• Collaboration in international groups,
• Collaboration in clinical trials,
• Availability of continuing education for physicians treating cancer patients,
• Equity of access,
• Involvement of service users,
• Provision of a variety of information media for patients, including a cancer information hotline,
• Agreed treatment protocols available compatible with national guidelines,
• Adequate social support for patients and families,
• Evaluation of outcomes possible through data collected by cancer registries.

Palliative care

WHO defines palliative care as “an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual” (WHO, 2002). This applies to all chronic diseases.

It is important to recognize that the patient and family are the most important partners for palliative care and that the care-giving team should be interdisciplinary. The provision of palliative care is not limited to the final months of a patient’s life. Rather, it should be considered from the time of diagnosis, especially for those patients that are clearly incurable. Palliative care affirms life, not death, provides symptom relief and psychological and spiritual assistance. Palliative care offers a support system to the family during the patient’s illness and bereavement. It is an essential part of a cancer control programme. If palliative care and opioid analgesics are absent, the appellation "cancer control programme" is not warranted. The programme must provide a palliative care organization and structure, integrated within the existing health care system, that will then be in a position to infuse the principles of palliative care throughout the patient’s trajectories of illness.

Early palliative care interventions can improve the patient’s quality of life by controlling pain, other symptoms and psychosocial distress. In addition, there is increasing biologic evidence that symptoms influence the course of cancer. “Pain can kill” (John Liebskind). Unrelieved cancer pain becomes more difficult to treat and may affect the tumour growth. Cancer wasting certainly kills. It is estimated that 20% of cancer deaths stem from progressive cachexia. Recent evidence suggests that the useless chronic inflammatory process associated with advancing cancer may influence the successful application of chemotherapy. Model programmes combining symptom management, nutritional counselling, and tailored exercise programmes with other anti-cancer therapies are beginning to appear.
Despite the importance of palliative care, it is still inadequately represented in professional education programmes. Education programmes should include training on symptom control, communication skills and ethical aspects to enable health professionals to take appropriate decisions in end of life care. Related to this, many health professionals are fearful of using opioids, and have failed to influence their governments to ensure that opioids are readily available. Using the WHO pain relief ladder, most cancer patients can achieve pain relief (WHO, 1996). However there are major deficits in many areas across Europe. In most countries, it is estimated that a high proportion of patients die with unrelieved cancer pain and other sources of suffering. Epidemiological cross sectional studies in many countries have identified that approximately only 50% of cancer patients with pain achieve satisfactory pain control. It has been determined that 80-90% of patients will receive such control if the health care providers follow the WHO pain ladder.

Europe is establishing functional palliative care networks. For example, the European Association of Palliative Care has over 50,000 members. The Committee of Ministers of the Council of Europe has issued recommendations to member states on the organisation of palliative care. An assessment of palliative care is needed in each country. Indicators of quality control and common clinical guidelines are required, but they should not be too complex. In eastern Europe attempts are being made to introduce WHO palliative care principles into health policy. The European Association for Palliative Care (EAPC) together with the Open Society Institute (OSI) have established a specific program to promote the establishment of palliative care programs in eastern Europe. Palliative care services need to be regarded as an integral part of the health care system, not simply an "add-on". Steps are also being taken to increase opioid availability. WHO has supported efforts in eastern Europe to modify national policy to improve the availability of opioid analgesics. In Catalonia (Spain) application of WHO principles has been extended to over 70% of cancer patients. In Norway, adoption of a national cancer plan in 1997 resulted in the recognition of the importance of palliative care, and the infusion of needed resources. An International Observatory for End of Life Care has been established in the UK. There are several international and national organizations sponsoring palliative care. These are helping to mobilize public support of palliative care, as well as encouraging the adoption of palliative care principles in many countries. The International Association for the Study of Pain is concentrating on providing help to developing countries.

The European federation of 28 national chapters of the International Association for the Study of Pain is active in promoting better management of pain for patients with cancer and in the elderly, as well as stimulating research on management of severe types of cancer pain that cannot be managed by applying the WHO-analgesic ladder principles alone.

Many successful programs are based upon an integrated organisational approach, meaning that palliative care is organised within the health care system and formalised links are established between hospital care and home (community care). The university programs often include an inpatient unit which gives opportunity not only for specialised care for the most challenging patients but also becomes an arena for teaching both pre- and postgraduate students as well as facilitating dedicated clinical research in palliative care. Outpatient consultation services will serve as a professional link between the hospital and home (community care). It is recognised that advanced homecare is necessary to establish in order to give patients and their families a
relevant offer to stay at home. The general practitioner and other doctors at the community level in collaboration with the home care nurses and other members of the interdisciplinary team need to be the professional base to enable patients to stay at home. In many countries it has been a challenge to recruit doctors who are dedicated to palliative care and also have formalised training in this field. It is acknowledged that palliative care has been established as a specialty in medicine in the UK for more than 10 years; this has given a large pool of qualified doctors to provide optimal palliative care. It is recommended that all nations and the EU look into how palliative care can be organised on a European level as a speciality for MD’s. Without this formalisation there remains concern both about the quality of medical care and a lack of steady recruitment of qualified personnel.

The increase in numbers of cancer patients simply due to the increase in number of elderly individuals will increase the pressure on palliative care services as it will on cancer treatment services generally. Further, the improvement in treatment for many cancers is prolonging life, sometimes with symptoms, thus increasing the need for improved symptom control and the duration of palliative care. There may be a conflict between symptoms produced by treatment that does not result in tumour response and the need for other forms of palliative care. Fatigue can be an effect from chemotherapy. There is also an increasing need for palliative care research, capitalizing on recent development in molecular biology and knowledge of the pain receptors and their interaction with opioids.

Discussion of palliative care
The following weaknesses were mentioned:
- Lack of data on the number of patients in need of various methods of palliation,
- Unstable financing for palliative care,
- Organization of multidisciplinary care has not been affected in some countries, and care is fragmented,
- Competition between disciplines rather than cooperation,
- Trained professionals are not available in many countries,
- Danger in using pain as a proxy for the much wider implications of palliative care provision,
- Lack of attention given to the inter-sectoral relationship between the administrative structures for cancer control and narcotics control at the international, regional and national levels of government, if opioid analgesics are to be made adequately available for palliative care,
- Discontinuity in patient care; the patients and their families may have difficulty in navigating the care system,
- No beds for palliative care,
- Lack of evidence-based information regarding palliative care,
- Difficulty in measuring the outcome of an intervention,
- Lack of guidelines for palliative care,
- Too many patients die in hospital,
- Obstructive administrative framework for the use of opioids,
- Patients and their primary care physicians may fear the use of opioids (inappropriate fear of addiction),
• Pharmaceutical companies may over-influence treatments offered,
• Palliative care may be offered too late in the disease process because of reluctance by the patient’s physicians and their families to accept that a patient has an incurable illness,
• Home care system is underdeveloped,
• In some cultures, there may be difficulties in communication about death,
• Palliative care may not be offered recognizing the spiritual, ethical, psychological problems of patients.

The following points were identified as strengths:
• Support provided by ministry of health,
• Formalised staff education and training,
• Recognition of the specialist role for doctors and nurses in palliative care programmes,
• Availability of WHO guidelines for achieving balance in national opioids control policies that can be used by cancer and drug regulatory officials to identify and address barriers to pain relief and palliative care (WHO, 2000),
• Cross boundary working,
• Good palliative care programmes that are an example to others,
• Supportive regulatory framework for opioid use,
• Good drugs that are available and relatively inexpensive (e.g. oral morphine),
• In some countries, legislation is facilitating palliative care,
• Insurance companies have recognized the need for palliative care,
• When services and medications are available and accessible,
• Clear patterns of assessment and referral for palliative care,
• Volunteers provide support to such programmes.

The following recommendations were made with respect to palliative care:
• Address the issue of over-treatment of some cancer patients, that may conflict with their quality of life,
• Include palliative care in the undergraduate syllabus using “problem-based” and “role-playing” approaches, involving both patients and caregivers,
• Improve recognition of palliative care as a medical speciality (not just pain relief),
• Improve recognition of palliative care nursing as a speciality,
• Emphasise systems and processes that enable people to be cared for at home,
• Invest in training for community nurses and primary care physicians to deal with terminal patients so that they know when to refer to palliative care programmes in their area,
• Engage patients and their families in decisions about the place of death,
• Include palliative care as an integrated part of the national health care plan,
• Encourage national governments to continue and expand their efforts to address regulatory barriers to pain relief using the WHO guidelines (WHO, 2000) so that opioids are sufficiently available for the development of palliative care in Europe,
• Establish palliative care programmes that should include
  o Specialised palliative care units at all university hospitals including beds for advanced palliative care
  o Interdisciplinary team providing outpatient service, also at the patient’s home
  o Establish formal links between hospital and home care
Establish dedicated beds units at the community health care level, i.e. in nursing homes,

- Promote palliative care research programs,
- Develop model programmes integrating palliative care with other modalities of cancer care, from the time of diagnosis of an advanced cancer.

**Improving Cancer Control**

There are performance gaps in the cancer control programmes in all countries of Europe. In some countries this is because the programme has hardly begun, in others because all aspects of a comprehensive cancer control programme are not yet in place. In federal states (such as Germany) the organisation of cancer control is at a regional (Laender) level. It is necessary to have outcome goals and objectives identified first, and then the appropriate strategies can be introduced. Resources must be obtained to address these strategies, and they should usually be introduced first in a pilot area to ensure both effectiveness and efficiency in the local context, before national implementation.

Planning for cancer control must be preceded by a situation analysis, which identifies the strengths, weaknesses and gaps in existing cancer control activities. Although it may seem that there is a substantial need for new resources, it is probable that by optimising the use of existing resources, many services could be improved. Key people must be activated to facilitate this. Countries with limited resources cannot afford not having national cancer control programmes, since such programmes are essential for the most cost-effective use of available resources (WHO, 2002).

Countries should focus on the identification and development of strategies that can accelerate the cancer control programme development process and result in measurable improvements. They must be evidence-based and accompanied by short and medium-term outcome objectives that can be used to monitor the process. Some outcome objectives will measure the increase in the proportion of people who have adopted a particular strategy, others may relate to the introduction of legislation that will facilitate the process. International collaboration and exchange of experiences will facilitate the strengthening of cancer control programmes. With WHO as a partner, many countries will be assisted in developing and strengthening cancer control. This will be critical in raising the profile of cancer control as new countries enter the EU.

All strategies should be evaluated with respect to acceptability, accessibility, appropriateness, competence, continuity, effectiveness, efficiency, equity, and safety. Although most programmes are organized in a “top down” manner, communities should be encouraged to facilitate the process by a “bottom up” approach. Nongovernmental organizations (NGOs) can facilitate this process. In this respect patients are important, but they may need to be encouraged to consider prevention. Primary prevention is in practice the most important domain for NGOs as it concerns everybody. NGOs have a unique role to play in lobbying politicians to support collective control of identified risks. The future cancer patient is unknown and unrecognisable, even though in many countries over a third of adults will encounter cancer in their lifetime. In early detection programmes, members of the community can often serve as volunteers encouraging compliance with screening and facilitating attendance for diagnosis and treatment. Volunteers can also help
by offering to drive those that need care to the necessary facilities. Measures to provide parking at relevant institutions will facilitate this.

Endeavours are needed to improve the management process. This requires strong leadership. Monitoring of short-term outcomes and subsequent adjustment will facilitate this. To do so, it is necessary to strengthen appropriate information systems to support the decision-making process. This is a circular process; action followed by monitoring and assessment, adjustment of plans, and then revised actions.

The Canadian experience indicates that a good plan is not sufficient. It is necessary to have the political will and investment of all in the oncology community in every aspect of cancer control, especially prevention and palliative care. In France, development of a cancer plan required agitation by cancer patients before the government recognized the need.

In assessment of cancer control programmes, it is important to recognize all the components and the relationships between them. Further, the programme rests within the general health system, itself within the general ecosystem of the country and the world. The information system used for monitoring therefore must be able to capture the complex interactions within the system and their relationships with relevant external factors. WHO is attempting to facilitate this process by developing a comprehensive approach to assessment of cancer control programmes, intended as a self-assessment guide to provide an overview of the process, supplemented by additional tools to facilitate in depth evaluation of specific components of the programme.

The countries represented in the consultation presented their proposals for improving cancer control. Among the important themes that all countries are recommended to consider are:

- Requirements for increased government support and funding and innovative ways to increase funding,
- Initiating or revitalizing the existing national cancer control programme, though in some countries this has to be at a state or regional level,
- Ensure the plan is based on a situation analysis and has realistic measurable goals,
- Improve the balance of the national programme by placing appropriate emphasis on cancer prevention, especially in some countries to improve tobacco control and encourage dietary modification and physical activity,
- Encourage their governments to sign and ratify the WHO Framework Convention on Tobacco Control,
- Increase collective measures to control exposure to risk factors,
- Evaluate the proportion of the total cancer control budget devoted to prevention, early detection and screening, diagnosis and treatment, and palliative care and revise when necessary to ensure a balanced approach,
- Introduce a tracking mechanism for the budget, and ensure it is spent on what was intended,
- Improve education in schools and for the general public with respect to healthy lifestyles,
- Provide better education of physicians and improved training of oncologists,
- Introduce licensing and accreditation of oncology specialities,
- Provide better quality control of cancer control procedures,
• Improve compliance with screening (in some countries, there is a need to introduce organized programmes that have been already approved in principle),
• Reduce inequities of access to screening, diagnosis and treatment across regions and social class,
• Provide national standard guidelines for cancer diagnosis and treatment,
• Provide essential equipment for treatment (include radiotherapy) according to international standards,
• Provide national guidelines for supportive and palliative care,
• Better define responsibilities for palliative care,
• Improve psychosocial support and information to patients,
• Improve information systems for monitoring purposes, including the provision of cancer stage information within cancer registries that are able to link with other control activities (e.g. screening),
• Promote surveys that provide data that will facilitate assessment of prevention, compliance with screening, and assessment of the other components of cancer control,
• All countries are encouraged to share their experiences in cancer control strategies and activities, both for those initiatives that did not work as well as for those that did.

Cancer control performance indicators

In assessing the impact of cancer control programmes, it is important to establish comparability and ensure that the same questions are being asked and similar data are collected. This will permit comparisons within and across countries and will facilitate the evaluation and programme development process.

It is essential that basic data are available, such as cancer incidence and mortality by age and sex. This requires the establishment of population-based cancer registries that can cover sufficient areas as to provide a sound basis for cancer planning and evaluation of cancer control activities. Maintenance of high quality international standards and the networking of cancer registries should be encouraged.

The establishment of a set of “core indicators” for all countries and additional “extended indicators” for countries with sufficient resources is important for the planning and evaluation of national cancer control programmes. However, additional development is needed in this area before such indicators can be formally identified. It was recommended that WHO undertake the process of identifying the key indicators for cancer control programmes in Europe next year by drawing upon the expertise of the participants of this consultation and others with experience in this field.

Core indicators for cancer control programmes should include outcome, process and output (services) indicators. Outcome indicators, for example, include lung cancer and breast cancer mortality. The establishment of a national (or in federal states regional) cancer control programme endorsed by the ministry of health and the participation of key nongovernmental organizations in the development of the cancer control programme would be examples of process measures. Examples of output (services) indicators would be the percentage coverage of women in the target group with a Pap smear and the proportion of cancer patients with advanced disease.
who have received palliative care. The process of development of these indicators should proceed in the same order as they would be used in the development of a cancer control programme. For example, the first step would be to specify the outcome indicator goal (e.g. the reduction of breast cancer mortality by 15%), the second step would be the process goal of establishing the national breast cancer screening programme and policy, and the third step would be the identification of the related output (services) goal (proportion of women 50-69 years of age who receive a biennial mammogram).

The indicators summarized below were identified as suggestions that are likely to provide valuable information for the planning and evaluation of cancer control programmes.

Indicators can be assessed by answering questions such as:

- Has a detailed situation analysis been performed?
- Is there a cancer plan?
- What proportion of the health care budget is devoted to cancer control?
- How is the budget distributed to the four main components of cancer control?
- Are NGOs involved in the cancer control programme?
- Is there a prevention strategy?
- Are there screening/early detection programmes?
- Are there standards for:
  - Diagnosis and treatment?
  - Structure and facilities?
  - Training and staffing?
  - Monitoring and audit?
- Are surveys conducted to obtain other required data?

**Prevention**

**Tobacco:**
- Percentage of smokers by age and gender
- Number of outlets selling tobacco
- Policies that ensure tobacco taxes increase more rapidly than the cost of living
- Extent of smuggling tobacco
- Laws enacted to discourage passive smoking and tobacco advertising.

**Alcohol:**
- Per capita consumption
- Percentage consuming more than 2 drinks per day
- Number of outlets selling alcohol

**Diet:**
- Availability of fruits and vegetables year round
- Percentage consuming more than 5 portions of fruits and vegetables per day
- Percentage with BMI more than 30 (obese) by age and gender

**Physical activity:**
- Percentage of adults undertaking physical activity > 30 minutes 5 days per week
- Availability of facilities for physical activity
- Promotion of physical activity in schools
Use of cars, public transportation facilities, availability of specific lanes for bicycles.

**Early detection**

**General:**
- Percentage of cancer patients diagnosed in stage I by cancer site
- Introduction of organized evidence-based screening programs
- Participation in external quality control assessment of programs

**Breast:**
- Percentage women age 50-69 who received mammography in the last 2-3 years
- Percentage women screened and then recalled for further examination
- Availability and accessibility of breast diagnostic and treatment units
- Percentage with a detected cancer
- Sensitivity, specificity and PPV of the programme
- Percentage lost to follow-up
- Ratio of tumorectomy to mastectomy
- Change in mortality (after 10 years)

**Cervix:**
- Percentage women age 25-60 who received cytology screening in the last 5 years
- Percentage of women screened and then recalled for further examination
- Availability and accessibility of colposcopy for diagnosis and management
- Percentage of inadequate smears
- Ratio of benign to malignant lesions
- Types of treatment administered
- Sensitivity, specificity and PPV of the programme
- Change in incidence (after 5 years)

**Diagnosis and treatment**

- Percentage of patients treated by multidisciplinary teams
- Development of site-specific treatment guidelines
- Availability of cancer diagnosis and treatment equipment, drugs and supplies
- For the major cancers – the following indicators should be available by stage, gender and age:
  - Average waiting time for diagnosis
  - Average waiting time for definitive therapy
- Percentage of patients who receive each specific treatment modality
  (complete resection, radiotherapy, chemotherapy, hormonal therapy)

**Palliative care**

- Availability of palliative care, i.e.:
- Removal of barriers to prescription of opioids,
- Existence of palliative care standards and plans,
- Number of trained staff in palliative care,
- Number of palliative care units,
- Number of palliative care beds,
Percentage of patients with advanced (terminal) illness who receive opioids,
Collaboration with pain management units for treatment of cancer pain,
Completion of the WHO opioid availability guidelines checklist by a country team
that includes regulators, cancer and palliative care representatives.

Next Steps

This meeting established a firm basis for the development and refinement of national cancer
control programmes in Europe by analysing the extent and trends of the cancer problem and
current cancer control strategies. It also created a collaborating network of cancer control
professionals in 17 European countries who are interested in working together to establish
effective cancer control programmes. WHO was requested by representatives of central and east
European countries to directly address their governments (ministries of health) indicating the
high priority of cancer control in public health policy and recommending the establishment and
support of national cancer control programmes.

The report from this consultation will be available in early 2004 in two forms, the current full-
length version and an executive summary version. The executive summary is designed to serve
as a document targeted to senior public health officials and politicians.

Based on feedback at this consultation WHO is developing a web site with password access by
the consultation participants. This web site will serve as a source of current national cancer
control programme statements, national case studies of the development of cancer control
programmes and their components (indicating strengths, weaknesses, and lessons learned), and
other resources that aim to fulfill the needs of those responsible for such programme development.
WHO is also seeking feedback on other tools designed to assist the development of cancer
control programmes, such as the draft “Comprehensive approach to assessment of cancer control
programmes”.

Depending on funding, WHO is planning to hold a follow-up meeting in 2004 to ensure
continued development and evolution of the cancer control programmes process in Europe. The
building up of case studies of country-level experiences with cancer control programmes in
Europe will also serve as the basis for extension of this initiative to regions outside Europe.
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30