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Indicators of Quality Outcome for Management of Cancer Patients

OVERVIEW – REFLECTIONS ON QUALITY IN CANCER CARE

A Penman
Chief Executive Officer
The Cancer Council
New South Wales

Four authors in this issue of Cancer Forum examine aspects of improving quality in cancer care.

Quality in health care is not unique in the diversity of terminology that divides its practitioners. The definition of quality, for instance, receives different treatment. The NSW Health Department, in its Framework for Managing the Quality of Health Services in NSW defines quality in health as doing the right thing, the first time, in the right way, at the right time, leaving the definition of “the right thing”, or how it might be derived, an open question. Neither funders nor providers of health care would be satisfied with a quality objective constructed like that of the General Electric Company around “satisfying customer needs profitably”, notwithstanding that a greater emphasis on consumer perceptions is desirable. Wilson and Goldblatt encompass these perspectives in observing that “doing the right thing” involves four dimensions:

- Technical quality – measured by likelihood of improving health status
- Caring quality – how well care met patient needs and expectations
- Cost – measured by resources consumed during care
- Value – the satisfactory resolution of trade-offs between the previous three dimensions

Defining technical quality has been at the heart of the program of the Australian Cancer Network in recent years, and in this edition, Abernethy, Phillips and Currow consider the process whereby evidence is compiled into guidelines, and the issues involved in translating these guidelines into practice policies that are implemented locally. This process of local adaptation has less formal treatment than upstream measures in evidence-based medicine, and this contribution is a welcome one. Health care professionals may be nervous about the emphasis on economic methods to define and evaluate trade-offs, but this is central to the value dimension of quality, and one where consumer participation to define acceptable trade-offs is essential.

The organisational environment in Australian health care is complex. The hospital, at least in the public system has been placed under financial pressures that have often been cost minimising rather than value optimising. At the same time, professional and organisational structures in hospitals have changed remarkably little, despite revolutions in technology and consumer expectations. (The industrial model of quality in contrast has involved fundamental re-engineering of organisations and production in order to take best advantage of new technology.) The anecdotal difficulties faced by health professionals in achieving effective change find some empirical support in the paper by Sorensen which highlights the barriers to managing quality that exist in the organisational environment surrounding a health care team. The centrepiece of her paper is the results of a survey of hospitals and health care staff undertaken by the Centre for Clinical Governance Research. It should be of concern that structures and practices to systematise clinical work appear rudimentary, and that quality opportunities appear to go begging. It underlines the need to reorganise for quality management, and the limitations of our current emphasis on qualifications, and audit of individual competence as ways of achieving quality.

These concerns unquestionably underlie the agenda of the Australian Council for Safety and Quality in Health Care (ACSQHC), outlined by Barraclough, which was initiated in January 2000. Given its provenance in the Quality in Australian Health Care Study, the emphasis on adverse events is understandable, but as he acknowledges, there are several dimensions to quality.

Through its program of national standards, the ACSQHC may help to bridge some of the gap between the availability of evidence and guidelines, and the need for benchmarks that address translation into local practice. Ultimately quality is a health service level function, and there need to be local leadership and commitment to deliver effective outcomes. Indeed, the experience of improving cancer care relates to local and regional experiments. A 1998 US review could find no published data on attempts to improve an entire system of care6.

Multidisciplinary care is recognised in cancer to be an important, even a necessary precedent to quality, but how to implement this in all Australian health care environments, and avoid the cost impediments of some models is a challenge.

Quality management is a data intensive discipline. Deficiencies in data and in information systems in Australian health care are a major barrier to measuring the outcomes of care in the Australian population, and to determining the specific causes that underlie particular outcomes. The paper by Semmens, Fletcher and Brameld shows the power of record linkage...
Although research, much of it Australian, has documented and appropriateness are key consumer-focused attributes. issue facing the NSW Health system, while responsiveness has researched and trialed efficacious measures to improve quality underlying the benchmark. A recent US review, in different settings found that only 10%, 14% and 28% respectively in delays in communication and a lack of understanding by other health professionals were involved in a patient’s care. Finally, the findings point confirm earlier findings on the interdisciplinary nature of improving the management of care within their unit; and review the management of care within their unit; and 76% of doctors and 59% of nurses did not use a written document that specified tasks and activities related to 30 years ago Hughes 18 showed that for each doctor, five patients with cancer’. Cancer 88, 1 (2000): 226-37. 10 S Newell, BW Sanam-Fisher, A Girgis, A Bonavento. "How well do medical oncologists’ perceptions reflect their patients’ reported physical and psychological problems? Data from five oncologists”. Cancer 83, 8 (1998): 1640-1651. 11 PK Bolme, J Kaurin, LJ Boneym, AM Griffin, SM Dure, MVN Tattaiwan. “When the diagnosis is cancer: Patient communication experiences and preferences”. Cancer 77, 12 (1996): 2630-2637. 12 R Sorensen, P Deegel. “Striking a Balance: individual competence and systems capability as precursors of quality care”. Cancer Forum, 25, 2 (July 2001). 13 R Sanson-Fisher, A Girgis, A Boyes, B Bonevski, L Burton, P Cook and 干 和 reasonably similar. Furthermore, reflecting the bed management policies of the 42% of patients with cancer”. Journal Clinical Oncology 18, 11 (2000): 2327-40. 14 Some 30 years ago Hughes 18 showed that for each doctor, five and morbidity factors attributes. Although research, much of it Australian, has documented the extent of unmet supportive care needs among patients, has researched and tailored efficacious measures to improve patients and support for patients1-3, we are a way short of efforts to incorporate these systematically into cancer care. Although there are models of evaluating cancer care in the United States attempt a consumer perspective6, we can document that specified tasks and activities related to adverse events were preventable. Within the media and in medical and policy circles, these findings were initially judged as casting doubts on clinical competence. However, it is not surprising that for medical clinicians remedy was seen to lie in the structures and methods that retrospectively focus on clinical practices of individual clinicians in individual cases7. Among others included here were morbidity and mortality meetings, clinical audit and medical peer review6. For their part, players in policy and management circles have acted to complement these strategies by developing surveillance mechanisms and by instituting systems to manage complaints. Some of the deficiencies inherent in this approach have been well documentation14,15. For example, clinical audit meetings in the NIH have been characterised as antagonistic forums. As with their ‘peer review’ equivalents in Australia, these meetings are dominated by medicine; usually identifiable individuals who determine both the focus of specific meetings and what is deemed to be within the scope of clinical audit. Consistent with this finding, there is little evidence of a systematic approach to problem identification or of an overall method for clinical quality improvement. Equally, the evidence points to the way that the clinical audit process is de-coupled from organisational processes such as research and development and clinical risk management16. While the foregoing pre-occupation with clinical performance serves to underline the accountability of doctors, there is growing evidence that the focus on medicalised focus is counter-productive. For example, a reliance on medically-dominated clinical audit and peer review as mechanisms for addressing adverse events serves to undermine the belief that medical interventions are the primary dimension of clinical service and overt problems of the inability to deal with the failure of care, and hence blame, that characterises clinical audit/peer review processes in some settings has been shown to invite defensive stances that are counter-productive for measured consideration of cause and effect. Moreover, it is likely that this defensive stance will be heightened in the event that audit and peer review are linked to credentialling and revalidation. Additional to these considerations, the tendency to focus on the performance of individual clinicians flies in the face of mounting evidence about the way that adverse events may be better understood by looking at factors across all systems. For example, what are termed “system errors” accounted for 16% of all adverse events in the Australian study cited earlier14. Additionally, 77% of the adverse events reported by Wilson et al resulted from errors of omission or commission that cannot necessarily be attributed to individual practitioner incompetence. In a similar vein, an American study found that 74% of the errors detected in a common DRG (heart failure and shock) were due to systems problems instead of individual clinical performance problems17. Equally, a recent Australian study of emergency Caesarean sections found that only 10%, 14% and 28% respectively in Level 1, 2, and 3 hospitals meet College standards for decision-to-incision times. Failure to meet standard times was attributed to delays in communication and a lack of understanding by n 80 of doctors and 90% of nurses reported that they did not receive data on quality. n 82% of doctors and 92% of nurses did not meet to review the management of care within their unit; and n 76% of doctors and 59% of nurses did not use a written document that specified tasks and activities related to treating patients. Notwithstanding these worrying results, the data also showed that 57% of doctors and 44% of nurses believed that “…there were better ways of managing patients” for the conditions under study. This response begs the question “To whom would they address their concerns and questions?” The results suggest that the organisational arrangements of individual clinical settings involved in the study may lead the doctors to nurses and doctors were likely to fall into a void. The implications of these findings are threefold. Firstly, they confirm earlier findings on the interdisciplinary nature of clinical service provision. Secondly, they indicate how systems-based factors such as a hospital’s bed management policies may affect the organisation of care. Finally, the findings point communication with and support for patients1-3, we are a way short of efforts to incorporate these systematically into cancer care. Although there are models of evaluating cancer care in the United States attempt a consumer perspective6, expect it to be some time before communication skills rank to delays in communication and a lack of understanding by other health professionals were involved in a patient’s care. Finally, the findings point confirm earlier findings on the interdisciplinary nature of clinical service provision. Secondly, they indicate how systems-based factors such as a hospital’s bed management policies may affect the organisation of care. Finally, the findings point databases in the assessment of outcomes in cancer care. They help answer the question whether the benefits of scientific and clinical progress are being reflected in outcomes for the community. The great virtue of the Western Australian database is the speed and ease with which such studies can be performed to provide the evidence feeding step in the quality cycle. Surgical outcomes can presently be most efficiently measured in this way as procedures are better documented in routine hospital reporting. With the ability to relate these results to the care received, it is feasible to more effectively associate outcomes with variations in practice, to identify quality problems, and to raise questions about the validity of practice policies that may be addressed by revision of clinical pathways, or by clinical trial. Improvements in recording of standardised data about the process of care are required together with the resources and systems required for supporting structured quality review, and quality problem identification at health service level. The use of limited sets of clinical indicators, separate from clinical pathways, as measures of quality in care is more problematic, especially when comparisons are made among institutions. Survival analyses from state cancer registers compare Australian outcomes to overseas benchmarks. In these studies, Australia performs comparatively well. However, survival from cancer is but one yardstick of quality, and even it is affected by the quality underpinning the benchmark. A recent US review, in generally the best performing jurisdiction on the survival scale, confirm that outcomes could be significantly improved there1. Although there are other dimensions of quality, the papers in this issue deal mostly with the technical dimensions of quality. But, with long waiting times for treatment, it is possible that access to radiotherapy is currently the greatest quality issue facing the NSW Health system, while responsiveness and sensitive communication are critical consumer-focused attributes. Although research, much of it Australian, has documented the extent of unmet supportive care needs among patients, has researched and tailored efficacious measures to improve...
to benefits that would derive from efforts by both managers and clinicians to establish structures and practices which were oriented to systematic clinical work. Among others, included here would be structures and practices that promote multidisciplinary agreement about the:
- composite of clinical processes that characterise the diagnosis and treatment of specified conditions
- quality standards and outcome measures that will be used to assess care, and
- organisational systems that are required to coordinate multidisciplinary work, monitor performance and deal with variances that are brought to light.

How systems-based factors such as these may affect quality is suggested by findings in the research cited earlier. Showed that clinical settings which exhibited elements of the foregoing structures and processes produced better quality care than those that did not, without adversely affecting cost.

References

Systems redesign for better cancer care

B. Barraclough
Professor of Cancer Services,
University of Sydney
Chairman, Australian Council for Safety and Quality in Health Care

Cancer care is a complex and important component of health care and safety and quality in cancer care is dependent on the approach that the whole health system takes to the issues of safety and quality of care. Setting benchmarks for quality performance in complex systems is difficult and may involve different dimensions including appropriateness, effectiveness, efficiency, responsiveness, accessibility, safety, continuity, sustainability and capability. Of these dimensions, safety has been identified as the foremost dimension of quality and the most important to patients and their families.

The Australian Council for Safety and Quality in Health Care (ACS/QHC) was formed by the Australian Health Ministers in January 2000, with its role being to lead national efforts to promote system improvements in the safety and quality of health care in Australia with a particular focus on minimising the likelihood and effects of error. The Council’s first report to Health ministers in July 2000, Safety First: a broad view of five year plan. The ministers agreed in principle to allocate $50 million for this work to improve safety. By doing this they identified safety as core business of the health system. After wide consultation with professionals and consumers, the Council’s ‘National Action Plan for 2000-2001’ was produced. The work detailed in this plan has a major emphasis on developing and strengthening national standards with educational support to enable these standards to be put in place across the system. All areas of the Council’s work will help those giving care to cancer patients. However, the focus in the next few months will be on key priority areas.

High risk systems of the future will be addressed by the development of national standards with associated education and compliance systems. To reduce hospital-acquired infection, promote safer use of drugs and blood products and improve assessment of patients. Other key priorities include developing national standards for:
- credentialing and performance assessment of all who have independent decision making responsibility; specialist vocational registers;
- curricula for educational modules in systems safety, human factors and communication;
- national audits and benchmarking;
- full disclosure of adverse events and saying “sorry”; and
- improved organisational accreditation, certification and licensing, addressing best practice, structured risk management and systemic training, resource use, skill mix and safety standards.

The Council’s work will also address the better use of data to ensure that lessons are learnt. This will involve:
- improved reporting and review of deaths in health care facilities;
- analysis and dissemination of results of coronial investigations;
- national standards for incident monitoring and assessment, and;
- improved methodology to allow reporting of quality improvement in the system.

There has already been a national consultation consumer workshop and seminar and the first Asia Pacific Forum will be held in Sydney in September 2001 to share international experiences in safety improvement.

We anticipate that the end product of the work of the Council will be that those working in health will be working in a culture of safety which will allow the system and its facilities and resources to be better managed as individuals feel secure and are rewarded for seeking, identifying and reporting errors and opportunities for improvement. The system will provide care informed by the needs of consumers and there will be national standards to be met in key areas with better and more appropriate data collection, analysis and feedback.

This work, focused on improving safety, will complement other national work by the National Breast Cancer Centre, the Australian Cancer Network, the National Health and Medical Research Council, National Cancer Control Initiative. Cancer Councils and the Royal Colleges to foster best practice using evidence-based care and the production of evidence-based guidelines. All of these groups also encourage organisational change for safety, high quality care by encouraging the provision of multidisciplinary care and evidence-based decision-making. Evidence-based medicine has been defined by Sackett and others as “the conscious and judicious use of current, best evidence from clinical care research in the management of individual patients” and therefore evidence-based decisions are those involving knowledge of the research evidence, clinical expectations and patients’ preferences.

The National Breast Cancer Centre is currently investigating models for multidisciplinary care that fit the Australian health care system. The Centre has defined the five principles of multidisciplinary breast cancer care that are equally applicable for other cancers:
- A team structure is necessary with a core team of health professionals who can be expanded as necessary to provide a full range of options and care.
- Provision of a full therapeutic range is necessary and this should be made possible by establishing collaborative links, not limited by geographical size.
- Standards of care must be identified and agreed and to these standards should be consistent with guidelines. These standards should be developed and strengthened by national and state organisations, and national organisations, and local health services.
- National standards to be met in key areas, with better and more appropriate data collection, analysis and feedback.
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The role of epidemiology in achieving clinical best practice

J Semmens, D Fletcher* and K Brameld

* Centre for Health Services Research, Department of Public Health, The University of Western Australia, Nedlands, WA

** University Department of Surgery, Fremantle Hospital, Fremantle, WA

Introduction

The escalating of health care costs during the 1980s and 1990s resulted in the demand for accountability of the health care industry by policy makers, health service providers and consumers. This call for accountability has provided the impetus for a review of the distribution of resources and the provision of evidence-based medicine philosophy. The Cochrane Collaboration internationally has lead to the analysis of clinical trial data and also by its dissemination via the Web. Priorities identified in the National Health Information Development Plan and the Taskforce on Quality in Australian Health Care emphasised the importance of record linkage data to health data to assess health outcomes, and the increasing demand by the health care industry and consumers for explicit standards of care for the evaluation of surgical practice and outcomes.

Governments and health authorities are increasingly taking seriously their responsibility in ensuring best outcomes. This has been seen with its support of Cochrane Centres and, more recently, with its establishment of Australian Council for Safety and Quality in Health Care (ACSCHQ). Rather than concentrating on bureaucratic issues associated with quality funding is finally being made available to clinicians to enable them to improve outcomes. There has also been a realisation that many of the adverse events that occur are associated with structure and process of health care delivery, rather than individual clinician error.

Providing the best practice information and encouraging evaluation, however, is only part of the story. To try to encourage uptake of best practice is known to be best practice, the Federal Minister for Health and Aged Care established the National Institute of Clinical Studies in December 2000. Its role is to work with consumers, health professionals and health organisations to promote the use of evidence and clinical practice in those areas that will effect significant change in health outcomes.

There are multiple reasons as to why best practice does not occur. First, it may be lack of research data confirming what is best practice. Second, there may be a failure to disseminate that information for clinicians. There also could be structural impediments in the way the health care system is organised to prevent best practice at individual clinician level but also in teamwork. This potentially applies to the multidisciplinary care of cancer.

A further, and major, impediment is the evaluation of health care and its outcomes for the individual clinician, organisation, and its subsequent feedback to those clinicians and organisations to ‘close the loop’. Herein lies the value of epidemiology. Epidemiology is the study of the distribution and determinants of morbidity in populations. It focuses on the factors that influence the control of disease and disability and the measurement of health outcomes and it is integral to public health. It can define the population-requiring service and, with record linkage, as occurs in Western Australia, can track long-term outcomes of care.

In keeping with the move to assess the quality and outcomes of surgical care, the Quality of Surgical Care Project (QSCP) was established in Western Australia (WA) in 1996 as a collaborative venture of the Royal Australasian College of Surgeons (WA), Department of Public Health (University of WA) and the Health Department of WA, and facilitates multidisciplinary collaboration towards better planning, provision and evaluation of surgical services. The QSCP is a unique quality assurance program in Australia with a focus to promote best practice in surgical and procedural care. The specific objectives of the QSCP are to:

1. describe the clinical epidemiology of selected diseases requiring surgical care;
2. monitor trends in utilisation of surgical procedures;
3. establish benchmark standards of surgical care;
4. compare results with national and international standards of best practice;
5. evaluate and compare the outcomes of new procedures with those of established surgical procedures;
6. recommend and evaluate the implementation of appropriate changes in surgical practice; and
7. disseminate the results of the evaluation process to surgeons, the RACS, health service managers and policy makers, and consumers.

The surgical procedures for review have been selected on the basis of national priority, in consultation with the RACS and with input from the Australia and New Zealand Register of New Interventions Procedures-Surgical (ASERNIP-S). The QSCP’s contribution to quality assurance in surgical care in Australia is possible due to the existence of the unique WA Record Linkage Project. Record linkage of health service data will allow the development of models to evaluate health service outcomes, particularly at the community level and is one of the top priorities of the federal Government. Large-scale, systematic applications of record linkage in health research are uncommon due to the necessary commitments to long-term planning and inter-agency cooperation. The WA Health Services Research Linked Database (WA Linked Database) brings together around 9 million records and consists of population-based hospital morbidity data, birth and death records, mental health services data, cancer registrations and midwives’ notifications, linked back to 1980. In addition, it is intended, in future extensions, to include data on primary, residential and domiciliary care and health surveys. Linkage is performed using probabilistic matching of patient names and other identifiers. Geocodes for spatial analysis are assigned using address linkage and mapping software. The use of record linkage in health services research has attracted support because it has distinct advantages over methods involving case series based at one or more hospitals or clinics. The real value is that the determined surgical outcomes are for all patients of all surgeons, ie all comers not just those in clinical trials or teaching institutions.

Hospital-based cancer registers are the most common source of information on the processes and outcomes of cancer care. Although they are rich in detail on the disease and its management and outcomes, these collections are not representative of the care and outcomes of cancer in the whole population. To complement the knowledge base provided by these specific registers, the integration of data on care and outcomes from administrative systems of health care institutions covering the whole population offers the possibility of representative information at comparatively little cost.

Clinical epidemiology

The WA Data Linkage Project has already been used to evaluate the dietary epidemiology and outcomes of colorectal cancer including colorectal cancer1; breast cancer2; benign prostate hyperplasia3; oesophageal, stomach, and pancreatic cancer; and ovarian, cervical and uterine cancers. These features include age-specific and age-standardised incidence and mortality trends back to 1982; procedural treatment patterns, including shifts in practice; post-operative complications; hospital readmission by time period, eg within 30-days; and survival analysis including crude, actuarial, Kaplan-Meier and relative survival. This data is of particular value for the surgical care of cancer as the concentration of cases in limited specialist centres may improve outcomes. It is planned that surgeons will be provided with state-wide standards as well as their own results and so be able to compare themselves against these standards. In rectal cancer for example, concentration of practices has resulted in marked improvements in the quality of cancer care. This latter trend (10% improvement between 1988-98) has been supported by the use of circular stapling devices, improved operative technique, the acceptance of a distal clearance of 2cm in low rectal cancer and an increased public awareness of alternatives to permanent colostomy. While the shift in surgical practice is consistent with the international recommendation to perform the anal sphincter-saving operation, it is still below the standard reported in specialist centres. This means that for low rectal tumours, patterns of rectal repair may need to change even further.

Prevalence modelling

Historically, planning of cancer services tends to have been based on estimates of cancer incidence rather than prevalence. The prevalence of a disease is the number of patients alive with the disease at a specific point in time, whereas the incidence of a disease is the number of new cases in a defined period of time. However, recent innovations in methods to measure cancer prevalence that take account that many patients may be cured mean that we can now make meaningful estimates of cancer prevalence that allow for greater precision in the planning of cancer services. This is particularly desirable due to the wide range of services that are available, for example, post-operative adjuvant therapy, physical and psychosocial support services and palliative care.

At the simplest level, all cancer registries that collect follow-up information may calculate cancer prevalence in terms of the number of patients diagnosed in the last X years. These estimates need not affect the benefit from the length at which the Cancer Registry has been in existence. A registry that has only been in existence 12 years, for example, can still produce estimates of the number of prevalent patients diagnosed in the last year, the last five years or the last 10 years. Such estimates of prevalence are more useful than trying to estimate the number of all prevalent patients as any trend data will be based on a varying number of years’ data. In addition, the time since diagnosis is reflective of the type of treatment required by the patients. This approach has been used by the European and Nordic Cancer Registries as well as South Australia and Victoria.

An estimate of the proportion of prevalent patients who will require treatment for their disease at present or in the future may also be calculated using a relative survival model as was proposed by Coldman et al. Using relative survival, a “time to cure” can be calculated. This is the stage at which the relative

<table>
<thead>
<tr>
<th>Cancer type</th>
<th>Bladder (f)</th>
<th>Breast (f)</th>
<th>Colorectal</th>
<th>Leukaemia</th>
<th>Lung (m)</th>
<th>Prostate (m)</th>
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<td>Prevalence measures†</td>
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<td>0.2</td>
<td>0.4 0.4</td>
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<td>Diagnosed in last 5 years</td>
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<td>0.5 0.3</td>
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<td>Diagnosed in last 10 years</td>
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<td>0.3 1.3</td>
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<td>Length of stay3</td>
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<td>Length of stay4</td>
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<td>3.2 0.7 4.3</td>
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* Incidence and prevalence per 1000 population
† Admission rate per 1000 prevalent patients (active prevalence)
‡ Average length of stay per prevalent patient (active prevalence)
1 = including chemotherapy and radiotherapy
2 = excluding chemotherapy and radiotherapy

Table 1: Cancer incidence, prevalence, hospital admission rates and length of stay in hospital, Western Australia, 1997
survival curve straightens out, when there is no longer any excess mortality from the disease. The proportion of patients who die before this point will be those who have ongoing disease requiring treatment.

Having defined a population of patients requiring treatment for cancer, it is then possible to study survival utilisation in that population. Records linkage of hospital morbidity data to Cancer Registry data, as in the WA health services research-linked database, allows the calculation of hospital survival rates in length of survival in hospital per prevalent patient.\(^{1}\) This is illustrated in Table 1.

Prevalence measures provide a more accurate indicator of the level of the disease in the community than incidence measures and will better reflect the mix of cancer patients present to Government practitioners. For example, record linkage of hospital morbidity data to Cancer Registry data, as in the WA health services research-linked database, shows that the active prevalence of cancer is rising and indicates that General Practitioners, as well as cancer specialists, will be increasingly required to manage patients who are living with active disease, many for a considerable number of years.\(^{2}\) As stated in the latest report of the South Australian Cancer Registry, "Trends in prevalence are of direct interest to the cancer control practitioner and should be included routinely in outputs of population-based cancer registries".\(^{3}\)

### Survival analysis

The observed survival rate from cancer represents the proportion of cancer patients that survive for a specified time after diagnosis. The relative survival rate adjusts the observed survival rate for expected mortality and takes into account that the patient may die from a cause not specifically associated with their cancer.

While South Australia has been producing reports on cancer survival for a number of years, more recently reports on survival have been published for the New South Wales, Western Australia and Queensland and the first national reports on cancer survival in Australia are planned for release shortly.\(^{4}\) Despite the availability of usually linking cancer registry data between Australia States and Territories and other countries we can now begin to monitor cancer survival over time and to compare cancer survival in Australia with other countries. Without such data we have no basis by which to compare the effectiveness of treatment programs, to see if new treatment regimes are improving patient outcomes and to identify needs and strengths of care that may give patients in one state/country an advantage over those in another state/country.

Monitoring of population-based data on cancer survival ensures that we can deliver outcomes that affect all cancer patients and not just those who are eligible for clinical trials. To inform patients of their prognosis following cancer diagnosis, accurate survival data by age-group, sex, period of diagnosis, histological type of cancer and cancer stage is required.

The WA Record Linkage Project has renewed the vision initially proposed by Hobbs and McCall three decades ago and provides the facility to produce routinely measures of the performance of health care.\(^{5}\) The increased public awareness of the benefits of record linkage, and the facility to include additional datasets such as the state electoral roll, specific hospital-based cancer registers and the Cancer Information System, provide the necessary tools to improve the quality of care and to minimise potential adverse effects. Consider the baseline characteristics of the patients studied. Your population may have different demographics, co-morbidities, compliance and other important prognostic factors. Compare the research participants to your population before implementing trial results and convince yourself that any differences might not

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**Applying the evidence to improve the quality of our system of cancer care: What do the words mean?**

A Abernethy, P Phillips and D Currow

The Department of Medicine and The International Institute of Health Policy Studies

Flinders University of South Australia

Bedford Park, SA

**Abstract**

Translation of the medical literature into real programs that will improve the quality of cancer care in Australia requires assessment of the validity of the research plus application of the data. In order to assess the results readers must understand the fundamental differences about the presentation of research data. What is the difference between efficacy and effectiveness? How do I assess the applicability of a study? What are the different types of synthesized presentations, such as a meta-analysis? What is decision analysis and economic analysis? How do I interpret various economic analyses? This paper answers these questions within the framework of cancer care in Australia.

**Introduction**

Research initiatives expand our understanding of what is optimal care, including biomedical, clinical, epidemiological and health services research. But, it is not easy to take research studies and turn them into real clinical practice. Translation of the medical literature requires tools. The general Evidence-based Medicine standards starts with a well defined clinical question or scenario, asks “Are the results valid?” and follows with “What are the results and how will they help me in caring for my patients?” Health care systems, cancer professionals, patient advocacy groups and patients are defining the important questions in quality cancer care, the body of information to answer these questions is growing. In this article we will use the step by step from the third EBHM step applying the evidence. This step can be extrapolated into “What are the results and how will they help me in caring for my population?”, “Should we make everyone follow these rules?”, “How should we interpret the recommendations?” and “How much cost will it cost the system?”

**Effectiveness versus efficacy**

The results can be deceiving. Some research occurs in a vacuum—the output is only applicable to the sterile world where it is generated. That world may or may not look like the health care environment where clinicians practice. For example, lung cancer trials that require full-body positron emission tomography (PET) scanning to identify candidate patients are performed in the health care environment where clinicians practice. Use effectiveness studies as the gold standard for comparing the potential outcomes and quality audits with the literature. Note, though, that good research is not easy to take research studies and turn them into real clinical practice. How confident are you that you can safely apply the results of Borras et al’s study to your clinical setting or organization? Applicability or generalisability relates to the ability to transfer research knowledge to your environment in a practical manner to suit your needs.\(^{6}\)

First, look at the participants who were recruited into the study. The inclusion and exclusion criteria are not usually aimed at applicability but rather at improving study power and maximising safety. Good researchers choose high-risk groups, avoid deaths from other causes, ensure good compliance, and minimise potential adverse effects. Consider the baseline characteristics of the population under study. Researchers have different demographics, co-morbidities, compliance and other important prognostic factors. Compare the research participants to your population before implementing trial results and convince yourself that any differences might not
The next step from the clinical decision analyses is clinical practice guidelines. Clinical practice guidelines are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances.” They are intended to distill a large body of medical knowledge into a convenient, readily usable format. Guidelines are designed to address all of the issues related to a specific clinical condition, using varying levels of evidence-based information. The developers must make judgments about the strength of information, missing information, when to include expert testimony and the consequences of various options that they advocate. Sometimes developers must make recommendations based upon poor or non-existent data.

When reading guidelines, consider whether all important options and outcomes have been included, whether an explicit process was used to develop the guideline and the author’s biases. Guidelines should be living documents, subject to constant review and updating. For example, the World Health Organization (WHO) published its cancer pain management guideline that advocated the use of the “WHO Analgesic Ladder” and revolutionised cancer pain management in the early 1990s. Statements about the use of opioid and adjuvant analgesics were based upon high level data but recommendations about where to start and how to move through the ladder were much weaker. A 1995 systematic review from priest and Brownian argued that the evaluation and updating process was insufficient; newer cancer pain management guidelines are being developed.”

The clinical questions answered become less constrained and encompass more of the necessary steps needed to formulate a clinical plan as we move through the hierarchy of synthesised literature from systematic reviews to clinical decision analyses to clinical practice guidelines. But the data become less reliable and therefore the conclusions questionable. For all three processes the assumptions need to be explicit, all assumptions outlined and background data transparent. Before implementing the recommendations, consider the applicability to your population.

Economic analyses

When applying research data to a whole health care population, ensuring quality means that funding is available to adequately implement the program and all of its components. In other words, “What is the cost and what am I going to get for it?” An evidence-based economic analysis is a corollary of the clinical decision analysis. When making decisions for groups of patients, clinicians and policy-makers must weigh clinical benefit and the health care resources consumed. Economic analyses use the same formal quantitative methods as decision analyses, but the final comparison includes the clinical effectiveness of a strategy and its economic impact. Different types of economic analyses include:

- Cost-Benefit Analysis: Converts effects into the same monetary terms as the costs and compares them.
- Cost-Effectiveness Analysis: Converts effects into health terms and describes the costs for some additional health gain (eg cost per additional cancer prevented).
- Cost-Utility Analysis: Converts effects into personal preferences (or utilities) and describes how much it costs for some additional quality gain (eg cost per additional quality-adjusted life-year, or QALY).

The hierarchy of economic analyses moves from the most rigorous – cost-benefit analysis – to the least rigorous – cost-effectiveness analysis. Economic analyses are based upon efficacy studies and are really “cost-effectiveness” analyses.

Like any study, consider the applicability. For example, if Borras et al were to do a cost-utility analysis the improved quality of life and satisfaction that their home-care patients in Spain report may be different than the experience of the average Australian living 30km outside of Adelaide. A limitation of most economic analyses is that patient groups and health organisations have individualised costs and the standardised costs used in the model may not be applicable to individual situations. The ideal economic analysis is based on a systematic, evidence-based decision analysis that also allows the user to tailor the costs input in order to compare individualised, real-world outcomes for clinical benefit and resource consumption.

Individuals not populations

Quality health care systems are still responsible for the management of individuals not just populations. Day to day clinical experience proves that it is tremendously difficult to extrapolate from the literature to the patient sitting in front of you. Look for the best trial but pay attention to what the results mean in terms of the person.

Conclusion

Translating the medical literature to improve the quality of cancer care is both art and science. The science includes the research product and the EBM tools to evaluate that product. The art is knowing how reliable the product is and whether it should be applied to patients in the local population. With both efficacy and effectiveness studies, you should scrutinise the methods and feel comfortable with the application of the results to your health care system. Synthesised data like clinical practice guidelines can be useful but also unreliable; implement them judiciously. And when you analyse economic analyses and cost estimates ensure that the data are reasonable and transferable across your local health care environment.
Cancer control involves the application of evidence-based interventions at all points along the continuum of cancer care. The National Cancer Control Initiative (NCCI) undertook a national consultation to generate a list of priority actions as part of the cancer control plan towards 2002. From this list, bodies involved or thought likely to be involved in cancer control activities were identified and notified about the purpose of the survey. Relevant individuals and organisations were then sent the questionnaire and their assistance was requested with its further distribution. The questionnaire was mailed to 734 organisations and individuals and a snowball dissemination strategy was used with questionnaires sent to additional contacts suggested by the respondents. The survey was conducted between July and December 1999 and during this time 332 activity outlines were received.

**Results**

As of December 2000, 450 activities are listed on the National Database of Cancer Control Activities, which is available on the Internet at http://www.ncci.org.au.

**Responses by state**

Completed questionnaires were received from all states and territories. Over half of the activities were received from New South Wales and Victoria (Figure 1). With respect to both cancer incidence and population per state, the Australian Capital Territory, Tasmania and South Australia contributed a higher proportion of activities to the database. In contrast, Queensland contributed the lowest proportion of activities to the database (Figure 1).

**Activity focus**

Approximately 20% of activities registered had a national focus whereas, the remaining 80% of activities on the database were targeted at either the state, territory or local regional level.

TABLE 1

<table>
<thead>
<tr>
<th>Nature of activity</th>
<th>Specific type of activity</th>
<th>Specific groups</th>
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</thead>
<tbody>
<tr>
<td>Primary prevention</td>
<td>18.2% (81)</td>
<td>Treatment 11.9% (47)</td>
</tr>
<tr>
<td>Improve quality of life</td>
<td>22.0% (218)</td>
<td>Improve consumer satisfaction 12.1% (120)</td>
</tr>
<tr>
<td>Reduce incidence</td>
<td>16.9% (164)</td>
<td>Other 7.0% (69)</td>
</tr>
<tr>
<td>Reduce premorbid factors</td>
<td>6.9% (31)</td>
<td>Rehabilitation 12.8% (57)</td>
</tr>
<tr>
<td>Ensure equity</td>
<td>5.4% (24)</td>
<td>Palliative care 11.7% (52)</td>
</tr>
<tr>
<td>Early diagnosis</td>
<td>14.5% (144)</td>
<td>Other 15.9% (71)</td>
</tr>
<tr>
<td>Prolong survival</td>
<td>14.5% (144)</td>
<td>Other 7.0% (69)</td>
</tr>
<tr>
<td>Reduce economic cost</td>
<td>12.2% (144)</td>
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one point of intervention and approximately 12% of activities indicated that the point of intervention of their cancer control activity was outside those listed in the questionnaire (Table 1).

Goals

In many cases, several goals were described for each activity. Improving the quality of life was the most frequent goal, followed by reducing cancer incidence, ensuring equity, prolonging survival, reducing economic costs, and improving consumer satisfaction. In addition, 69 respondents indicated that the goal of their cancer control activity was outside those listed on the questionnaire.

Discussion

The National Database of Cancer Control Activities hosts a variety of cancer control activities in every state and territory in Australia. Multiple cancer control activities were often registered by a single organisation. Registrations of this nature were most common, demonstrating that the most populous states have organisations which provide a range of cancer control activities.

The registrations on the database indicate that most cancer control activities are not at the state or territory level and service metropolitan, rural and remote communities from a metropolitan base. Rural and remote communities appeared to be the least well-served.

Less than one-third of activities registered on the database indicated that additional steps were taken to involve specific groups within the community. Less than 10% took additional steps to involve people from non-English speaking backgrounds or the economically disadvantaged suggesting a potential need for cancer control activities to focus on specific minority groups within society.

Most cancer control activities were related to both men and women and to ‘all forms’ of cancer. Of the 407 activities that targeted one or more specific cancer sites, 90% were related to at least one of the eight National Health Priority Area Cancers. The larger number of cancer control activities targeted to women, rather than men, is representative of the higher number of registered activities in breast cancer and cervical cancer compared to prostate and testicular cancer.

The database does not describe all the cancer control activities in Australia and the number of activities does not reflect size, expenditure or effort. However, it is noteworthy that the number of activities on the database does not directly relate to the burden of disease of specific cancers. For example, the third highest number of site-specific cancer control activities was directed towards cervical cancer, in particular, state based screening programs. Cervical cancer does not rank within the top ten sites for cancer incidence in Australian women and is this is probably reflective of the success of these screening programs nationally.

In contrast, prostate and lung cancer have respectively the third and fifth highest incidence in Australia, yet less than 8% of registered cancer control activities are targeted specifically to these cancers. Similarly, less than 13% of registered cancer control activities targeted colorectal cancer, yet colorectal cancer has the highest incidence in Australia. Therefore, the number of specific cancer control activities targeted to a cancer is neither reflective nor proportional to the incidence of these cancers within Australia.

When asked to identify the point of intervention of their cancer control activities, most respondents selected ‘primary prevention’ demonstrating that cancer control through primary prevention is considered to be an important aspect of cancer control. In addition, numerous activities registered on the database had several points of intervention and were described as having several goals highlighting the multifaceted nature of the cancer control activities.

Defining the scope of the inventory was a complex issue from the outset. Questions such as what constitutes a cancer control activity, what points along the continuum of care can be included or excluded, and what size and types of organisations should be approached to complete the questionnaire, were identified early. The instructions to the questionnaire were written accordingly. Terms used in the questionnaire were not defined and consequently there has been ample opportunity for differences of interpretation to be manifest. For example, palliative care could be interpreted as ‘end of life’ care, or any care directed towards the palliation of symptoms. In addition, it was apparent that the classification of projects was extremely subjective and this also led to differences in the interpretation of classifications. For example, activities involved in sun protective behaviour could be classified as either public education or health promotion.

The primary function of the database was to give individuals and organisations the opportunity to record activities in which they were involved. Therefore, all registrations were included on the database as no exclusion criteria were used.

The database has been least successful in relation to identifying unmet needs and areas of unnecessary duplication because meaningful cross tabulations were not possible given the high number of multiple responses for many questions.

The main function the database can serve is that of a clearing-house where anyone with an interest, including consumers, can perform a search and find information and contacts on a particular subject.

The response to the questionnaire shows support for the value of a central, accessible web-based database of cancer control activities. By promoting awareness of existing activities and areas of interest, the database provides a mechanism to facilitate collaboration among stakeholders in different parts of the country.

References


Screening for Prostate Cancer: A Consideration of Screening Factors in Comparison to Screening for Breast Cancer

S Jones

Research Fellow

Centre for Behavioural Research in

Cancer Control

Division of Health Sciences

Curtin University of Technology

Perth, WA

Abstract

Cancer is a leading cause of death in developed countries; 27 per cent of all Australian deaths are due to cancer, with 31,000 people dying annually. Prostate cancer is the most common type of cancer amongst men in Australia. Breast cancer is the most common cancer in women aged over 30 years, and causes the highest proportion of cancer deaths in women.

At present in Australia there is a debate about the public health value of screening for prostate cancer. This paper examines the value that must be weighed up in reaching a conclusion to this debate, by comparing the issues in prostate cancer screening to those of screening for breast cancer in women. Unlike breast cancer, there is no clear consensus among experts as to whether prostate cancer screening should be provided on a population basis. Many of these experts have developed recommendations which, in part, that all the information should be presented to the patient by the physician and that the patient should make the final decision. However, if the experts cannot decide, this leaves the layman in a rather difficult position in making an “informed” decision.

At present, there is insufficient evidence to conclusively determine the value of prostate cancer screening on population basis. Health promotion practitioners are often responsible for educating and advising men as to the necessity for cancer screening. We needed to be aware that, at this point in time, there is insufficient evidence to justify prostate cancer screening. Until further research has been undertaken to better understand the natural history of prostate cancer, improved diagnostic procedures have been developed, risk and protective factors have been determined, and treatment for prostate cancer has significantly improved, we should be not be advising men to undergo prostate cancer screening, with the possible exception of individuals who are at a high risk of developing the disease.

Some experts describe screening for prostate cancer, while waiting for (trial) results, as ‘rational’, ‘appropriate’, ‘economical’, and ‘ethical’, while other authorities describe screening without better evidence of effectiveness as ‘unconscionable’, ‘costly’, ‘self-serving’, and ‘unethical’.1

Primary prevention – The case for (and against) screening for cancer

There are several generally accepted prerequisites for a screening program2: These prerequisites fall into two categories – aspects of the disease and aspects of the test:

Characteristics of the disease:

n the disease should have serious consequences for the total population (ie should cause mortality or severe morbidity, and should affect members of the target population); and

n the disease should have a recognisable, detectable, pre-clinical phase (DPCP) which is reasonably prevalent amongst the target population; and

n there should be available a treatment which is more effective if commenced during the screen-detected stage rather than after the appearance of symptoms. For example, both breast cancer and cervical cancer have considerably higher survival rates if detected and treated prior to the appearance of symptoms.

Characteristics of the test:

n suitable for detecting the disease and acceptable to the population.
Whilst it is acknowledged that men can, and do, develop breast cancer, the incidence in males is extremely low; thus breast cancer is generally (and for breast cancer screening) a priority. It has long been known that, if detected and treated over 30 years, and also causes the highest proportion of breast cancer deaths. However, the risk of death from prostate cancer under the age of 70-79, and 100% at age 80 and older. However, screening cannot at this time differentiate between aggressive and indolent prostate cancers. It is not possible to determine whether many patients who have undergone radical prostatectomy would have survived just as long without treatment.

Breast cancer also has a recognisable, detectable, preclinical phase which is relatively prevalent amongst the target population. Breast cancer screening aims to detect small cancers, ideally less than 1 cm. Small cancers are less likely than larger tumours to have metastasised and are generally regarded as constituting early-stage disease. However, it is important to note that mammographic screening also detects cancer in situ (DCIS). Currently in Australia, DCIS is also detected by mammographic screening and is DCIS never causes a clinical problem if left untreated. However, it has been estimated that 20-25% of DCIS lesions will progress to invasive breast cancer even without treatment, and women who are found to have DCIS can watch it for a period of time. Invasive cancer recurrence rates are significantly reduced by treatment of DCIS with mastectomy or conservative surgery with radiotherapy.

There should be a treatment which is more effective if commenced during the screen-detected stage rather than after the appearance of symptoms.

Prostate cancer
There is considerable debate as to whether early detection of prostate cancer has any impact on survival. A large scale trial, conducted in the 1980s, was being undertaken by the National Cancer Institute (NCI) in the United States; 74,000 men will be randomly allocated to either annual screening for prostate cancer or a long-term study. The main findings of this study were that, as the extent of lead-time and length biases are currently unknown, it is difficult to differentiate between aggressive and indolent prostate cancers. It is not possible to determine whether many patients who have undergone radical prostatectomy would have survived just as long without treatment.

The greatest harm comes not from the screening test itself, but from the diagnostic and treatment procedures which follow a positive diagnosis. Some of the possible consequences of these procedures include:

- needle biopsy – the confirmatory diagnostic procedure – is relatively safe, although it results in infection, septicaemia, and complications in 2% of patients (note that this is a similar procedure to the confirmatory diagnostic needle biopsy used to (dis)confirm suspected breast cancers detected by mammography).
- radiation therapy has been estimated to have a risk of death between 0.2-0.5% gastrointestinal and genitourinary complications in 8-43% of patients, chronic complications in 2%, impotence in 40-67%, a significant risk of incontinence in 12-24%.
- hormone therapy – to reduce, or eliminate, the production of male hormones – has side-effects which can include decrease in sexual desire, impotence, hot flushes, nausea, vomiting, tenderness and swelling.
- radical prostatectomy – the surgical treatment for prostate cancer – has significant side-effects. Estimates of operative mortality range from 0.2-2.4%, from 20-45%, from 23-27%, and for incontinence, from 10-18%, from 10-18%, from 0-14%.

While it is acknowledged that men can, and do, develop breast cancer, the incidence in males is extremely low; thus breast cancer screening is of limited benefit. This would deviate from the Hippocratic principle of "first do no harm." (National Cancer Institute)
The American College of Physicians estimates that population benefits of screening are not for those in older age groups. It is also suggested that, unlike breast cancer, the greatest detect symptomatic cancers (although at an earlier stage than might otherwise be discovered), and has not been shown to reduce mortality.

As with prostate cancer, there are considerable side-effects of treatment for breast cancer. These include:

- surgery – scarring and disfigurement (although this is less so with new surgical techniques, particularly breast-conserving operations), new or further reconstructive surgery in the case of mastectomy, risk of infection, reduced sensitivity due to nerve damage, swelling of the arm (lymphoedema); and
- radiotherapy – general tiredness, some reddening or ‘sunburning’ of the skin, and the breast may change a little in size or shape or feel different in texture.

However, it is important to note that, in the case of breast cancer, these negative effects are the result of a procedure that has been conclusively demonstrated to reduce mortality and increase life expectancy.

Comparison between prostate cancer screening and breast cancer screening

It is argued by many that prostate cancer is unlike breast cancer in that screening for the latter has long been demonstrated to reduce mortality and increase survival subsequent to the onset of the disease. However, in relation to prostate cancer, it has been estimated that when quality-of-life adjustments are incorporated, “one-time screening of men aged 50-70 would increase life expectancy by 0.2 days and 0.6-1.6 days, respectively, but quality-adjusted life would be decreased by 1.8-7.7 days and 2.1-9.5 days, respectively, per patient screened”.

Further, it is posited “that using the PSA test for detecting prostate cancer in asymptomatic men is not analogous to mammography for early detection of breast cancer in asymptomatic women without the disease, because there is no need for universally applied guidelines for the management of men with an abnormal test result, parallel to those built into the mammographic screening programs”.

It is also suggested that, unlike breast cancer, the greatest benefits of screening are not for those in older age groups. The American College of Physicians’ estimates that population screening of men over the age of 65 years will result in increased life expectancy and increase survival subsequent to the onset of the disease. However, in relation to prostate cancer, it has been estimated that when quality-of-life adjustments are incorporated, “one-time screening of men aged 50-70 would increase life expectancy by 0.2 days and 0.6-1.6 days, respectively, but quality-adjusted life would be decreased by 1.8-7.7 days and 2.1-9.5 days, respectively, per patient screened”.

Prostate cancer screening

In discussing the accuracy of prostate cancer screening tests, it is important to bear in mind the following caveats: the sensitivity and specificity of screening tests for prostate cancer cannot be determined with certainty, however, because biopsies are generally not performed on all positive screening test results. The test should have high sensitivity, specificity, and positive predictive value.

Prostate-specific antigen testing. It is generally accepted that a test greater than 4.0 ng/mL is clinically suspicious and worthy of follow-up. However, there is no test that is superior to the use of age-specific PSA thresholds (see, for example, Oesterling, 1996). Anecdotal evidence suggests that, for many men, PSA may be a preferable test to DRE; i.e., it is a less physically and psychologically invasive procedure.

Breast cancer screening

Breast cancer screening is generally accepted by both the target population and the medical profession as a valuable preventative behaviour. A 1991 population survey found that 78% of Australian women aged 50-70 years have undergone breast screening, whereas 65% of women aged 50-70 years had been screened for breast cancer, with 45% of those surveyed reporting practising breast monthly. Mammographic screening rates in NSW have increased steadily since 1984, with an estimated 72% of women in their 50s and 67% in their 60s having had at least one mammogram.

The test should have high sensitivity, specificity, and positive predictive value.

So what do the experts think? Prostate cancer screening

As discussed above, there is considerable debate as to the value of population screening for prostate cancer. This debate is further complicated by the fact that prostate cancer is common, and the majority (including The Cancer Council Australia, American Cancer Society, International Union Against Cancer and World Health Organization) now recommend population screening for prostate cancer.

A population screening program would not be cost-effective. Further, given a 10% prevalence of early-stage prostate cancer, they recommend against screening of men aged over 70 on both economic and quality of life grounds.

The American College of Physicians suggests that the highest comparative benefit from screening would be obtained for men aged 50 to 69 years, although they still recommend against population screening.

Breast cancer screening

The costs of breast cancer screening are also very high; however, these costs are weighed up against the reduction in costs (both financial and emotional), and the potential benefits of breast cancer screening which has been clearly demonstrated to be often curable in its early stages. It is important to note that, on currently available evidence, the public health and economic benefits of breast cancer screening have been shown to be greater than attempted by prostate cancer screening.

The benefit of screening women aged 40-49 on a population basis is currently the subject of considerable debate.

The test should not cause morbidity or mortality.

Breast cancer screening

A mammogram is a form of x-ray which uses a very low dose of radiation. The benefit of screening far outweighs the risk of any harm from the x-ray. Possible side-effects include fear and anxiety associated with screening and assessment, false reassurance for women with false negative results; for women with incurable breast cancers, they will spend a longer time with the knowledge that they have the disease, the possibility of unnecessary diagnostic tests and associated morbidity for women with false positive results; lesions which might otherwise have gone undetected through screening and treated unnecessarily, and there may be a small radiation risk associated with the test itself. It should be noted that all of these, with the exception of the last (i.e., the undetected), apply equally to prostate cancer screening. The side-effects of breast cancer treatment are also discussed above.

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[This figure is lower than that quoted in many other studies (eg Glasziou & Irwig, 1997), but it is noted that many of these studies are based on reported compliance.]

[At the present time, however, there is an unresolved debate as to the value of screening younger women.]

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screening, with a consensus view that regular mammographic screening, with a consensus view that regular mammographic screening be provided to all women over the age of 50(3).

Conclusions

At present, there is insufficient evidence to conclusively determine the value of prostate cancer screening on a population basis. There are many issues and questions which must be resolved. For example, the natural history of prostate cancer needs to be better understood, and diagnostic procedures refined, in order to differentiate between aggressive (and thus life-threatening) tumours and latent (and thus not life-threatening) tumours. Similarly, it remains to be determined conclusively if, and by how much, current treatment for prostate cancer extends life-expectancy of men with even aggressive forms of this disease. Any analysis of this issue would need to take into account the negative consequences of treatment and subsequent quality of life issues. Related to this, there is the need for specific guidelines for clinicians on PSA reference ranges and velocity (ie the changes in PSA over time), including decisive guidelines on the value and use of age-specific reference ranges.

So what should the layman do? Many of the “experts” quoted above have developed recommendations which state, in part, that all the information should be presented to the patient by the physician and that the patient should make the final decision in their own case. Whilst this may have the advantage of removing the burden of responsibility from the physician and/or the advisory body, it transfers this thorny problem to the patient. In the words of Wolfe & Wolfe: “when professional and government organisations cannot agree on the standard for screening for this prodigious disease, how can lay individuals be expected to decide whether or not to be screened? It is important to bear in mind that the predominately negative assessment of prostate cancer screening is based on current techniques (screening, diagnostic and treatment). Advances in any, or all, of these techniques in the future may well lead to a shift towards population screening. For example, the American Association for Cancer Research are working on a new approach to detection, based on the testing of urine to detect an early genetic change which occurs in 90% of prostate cancers(43).

References

4 J Rogers, Overview, Cancer Forum, 19(1), 1995, 6-12.
8 J Rogers, Overview, Cancer Forum, 19(1), 1995, 6-12.
10 BreastScreen Victoria, The case for mammography screening: Assisting women to participate in BreastScreen, 2000.
12 Ductal Carcinoma in Situ (DCIS), Cancer Monitoring No 1, November, 2000.
significant difference in incidence or mortality between highly accessible or remote populations for all cancers considered together. However, lung cancer in women, head and prostate, head and neck cancers in men, were significantly higher in the bush.

All cancer patients from the bush had about a 30 per cent excess breast cancer risk compared to all patients from urban NSW. At five years, men in the bush who had pancreatic, head and neck, prostate and rectal cancer had higher relative risks of death compared to their urban counterparts. The same was true for women with cervical cancer in the NSW bush.

Access
Professor Wilkinson noted a grossly inequitable distribution of general practitioner services and said there was a three-fold difference in access to these services between rural and urban areas.

Dr Liz Kenny, from the Queensland Radium Institute, said infrastructure requirements for patient radiation oncology services were principally city or regionally based. The minimum population base to support a two machine hospital was approximately 200,000, as determined from NSW data, it was evident that the utilisation of radiation treatment was region dependent but this was mainly influenced by availability of radiation oncology consultations rather than proximity to linear accelerators. Access was a problem whether the patient was rural or urban based and rural patients in NSW did not appear to be disadvantaged in their use of radiation oncology services.

However, for the country patient, travel and accommodation were enormous issues. Patients were often away from their homes for up to seven weeks. In some States patients could only get travel and accommodation assistance if they lived more than 200km from their treatment centre. This was a great burden for the patients. The inequity between States required urgent review.

The rural perspective
While there are numerous disadvantages being a cancer patient in the bush compared to the city, there are some relative advantages. In this segment, speakers described both and offered innovative solutions to overcome disadvantages.

Advantages
A high quality of emotional and social support exists in rural communities, according to Dr Joel White, a palliative care and oncology nurse from the Mid Western Area Health Service (NSW). She noted that people volunteered readily and spontaneous cancer support services had often been established in small towns by those who had experienced cancer themselves or had a loved one with the disease.

This had been seen, however, against the background of changing social demographics in rural communities. Kate White, from the Cancer and Palliative Care Unit at Edith Cowan University (WA), said as rural communities aged and families moved away, fewer people were left to fill the wasted brain of the poorly supported oncology nurse”.

Solutions
Ms Sandi McCarthy, nurse, of Toowoomba Hospital (Qld), suggested solutions to isolation and lack of professional support might be found in improved distance education for health professionals in those communities; specialist outreach services and telemedicine.

Later in the conference, Dr Robert North, a surgeon from Hamilton (Vic) made a case for building on the success of the telephone.

Disadvantages
Just as the smallness and closeness of rural communities makes them more supportive, so it also make privacy an issue, said Professor Wilkinson. With a reduced number of patients being seen, standing in a line of paederiactric patients were difficult to meet in the bush and that generally one of the key problems in rural Australia was access to after-hours health care.

Jane Redmond (a cancer patient and a clinical nurse consultant in women's health in Cooma, NSW) said the absence of multidisciplinary teams in the bush meant patients were entirely dependent on the GP. Their journey was determined by the GP they saw on the day, by his or her network, undisciplined and psychosocial skills, particularly in breaking bad news.

Many country GPs did not bulk bill and it was not unusual for patients to wait a week or two for an appointment and would consider the GP as their best friend and, on a bad day, everybody's frustration target as they tried to get what they needed from the GP.

A medical oncologist normally prescribes the chemotherapy and regime and the patients on subsequent visits, but the responsibility for further monitoring of these drugs is delegated to local medical practitioners and nurses who provide a part time service. In many cases, such a medical oncology outreach service is motivated by individual enthusiasm and is conducted in an ad hoc manner.

Medical oncology services
The vast majority of medical oncologists are based in metropolitan or major regional centres. In 1999, 85 per cent of medical oncologists had their practices located in a capital city, with a further 10 per cent in metropolitan cities and large rural centres and an additional five per cent in small rural areas.

Outreach clinics from major metropolitan or rural centres provided services in some other areas.

Optimal medical oncology practice requires careful assessment of patient need and the possibility of regular follow-up service. Where an outreach service is provided to a rural area, the visiting medical oncologist normally prescribes the chemotherapy regime and in many cases, the patients have access to an outreach clinic.

Professor Wilkinson noted a grossly inequitable distribution of medical oncology resources and recommended outreach clinics.

Dr Geoffrey Beadle, medical oncologist at the Royal Brisbane Hospital (Qld) and Dr Craig Underhill, a medical oncologist at Border Medical Oncology, Albury Base Hospital (NSW) compared the advantages and problems of outreach and regional cancer centres.

Describing the advantages of properly performed outreach, Dr Beadle said it could provide a more convenient service for patients and the possiblity of regular attendance, and bring skills and technology to the community.

The disadvantages included: the prescribing medical oncologist was not at the treatment interface, there was no possibility of holistic care, extra time and effort were spent in communication, an increased likelihood of errors in cytotoxic drug delivery, increased legal exposure and a lack of remuneration for the extra effort required.

A systematic approach was necessary to optimise a high quality service. He suggested that to engage and finance outreach services as an area of need for the rural community.

Dr Underhill described the benefits of moving from an outreach clinic at Albury-Wodonga to a regional cancer centre. The benefits were a substantial increase in the number of new patients, an increase in the number of radiotherapy treatments from 500 to 750, an eight-fold increase in chemotherapy day treatments, the establishment of a clinical trials unit, and the availability of dedicated oncology pharmacists and a two machine radiotherapy service. He said certain tumour types and surgical oncology procedures were not treated on site but referred to specialist units in the city. He cautioned that technology should not be viewed as a cheap solution to avoid the establishment of regional oncology centres.

Discussed the role of regional radiation oncology and outreach service provision from major centres.

Dr MacLeod said it was not yet clear which model was optimal for providing radiotherapy to the bush. The three main options were, having all patients brought to capital cities, having large regional centres with two or three linear accelerators providing service to smaller towns or having many small community machines.

Single machine units were the most expensive to build and run. By contrast, optimal utilisation of radiotherapy could be achieved in the country by regular outreach clinics from either well-resourced city hospitals or large regional centres, or single machine units.

Dr Milross suggested a centralised system of radiotherapy together with an organised satellite clinic program could provide equitable service delivery and improved survival for cancer patients. There was a need to be concerned not only with providing acceptable access but also with providing the best possible radiotherapy.

Palliative care services
Each year, small numbers of cancer patients die in rural communities. While local doctors have too many responsibilities to make palliative care their only priority, there are strong local community support networks.

Issues
Dr Will Cairns, Director of Palliative Care Services, Townsville General Hospital and President of the Australian and NZ Society of Palliation Medicine, believes people like to die in their home communities. He suggested it was difficult without specialist services that affected rural and non-rural Australians alike.

Waiting lists were commonplace in most public departments, with some patients waiting up to six weeks. In some this could compromise care.

Dr Craig MacLeod, Radiation Oncologist, Murray Valley Radiotherapy, Albury-Wodonga and Dr Christopher Milross, radiation oncologist at the University of Wales Hospital (NSW), discussed the role of regional radiation oncology and outreach service provision from major centres.
Area Service (Tamworth, NSW), noted that problem areas for palliative care in the bush included distance, smallness, isolation and rural life issues, home services, after-hours care, respite in the home, bereavement support, fixed palliative care funding and old time attitudes.

Solutions

To help rural people die in their communities, Dr Cairns said it is important that the availability of this service be needed, followed by early, open discussions with the patient and family. Planning and collaboration was needed between oncologists, palliative care specialists, rural health workers and the family.

Through early referral to palliative care services in a tertiary centre there could be an assessment of the level of support required and arrangements made for necessary equipment. Symptom control, acute medical, clinical and psychosocial issues could be addressed and liaison established with the home community. There was a need for networks of palliative care, with tertiary oncology centres having in-house palliative care service and formal relationships with their referral catchments.

Surgical oncology services

Ten percent of Australians could currently be classed as living in rural and remote, as opposed to regional and metropolitan, areas of Australia. The old problems associated with “tyranny of distance” have not changed and while many accept the need to travel for an assessment and for surgery, they would prefer to have as much as possible near home.

In this program segment issues of general, specialised and super-specialised cancer surgery were examined.

Two general surgeons describe a “hub and spoke” model where it is possible to perform general cancer surgery in a regional centre or hub providing there is good medical, radiation and nursing oncology support and providing there is outreach to remote communities. Some tumours and surgical procedures had to be referred to urban centres.

A specialist breast cancer surgeon described how it was equally possible for him to operate in a regional hub providing all the support infrastructure was in place. However, super-specialised surgery, such as gynaecological oncology, had to be performed in a major urban centre where a full and specialised multidisciplinary team was available.

Issues

In rural and remote areas, multidisciplinary care requires a high level of communication and collaboration. While the general practitioner often has a key role in supporting the patient and coordinating care, there is also a role for a designated cancer care coordinator to act as a patient advocate and confidant.

This might be a local oncology nurse, the GP or the primary surgeon.

Dr Tony Green, representing the Divisional Group of Rural Surgeons, Royal Australian College of Surgeons, described the “hub and spoke” model as a reality which has been emulated in the Western Australian and North Queensland areas.

In the hub, diagnostic tests and staging of the cancer occurred and some aspects of treatment, particularly radiation therapy were performed. The spokes were the outreach services to nearby centres, allowing patients in rural and remote areas to have a back-up advice service whenever necessary. Dr Green said the rural or remote centre could provide most initial treatment, usually surgery or chemotherapy and even adjuvant post-operative chemotherapy if there was appropriate hub support.

Dr Bob North, a general surgeon at Dubbo Base Hospital (NSW) since 1964, gave two case examples that showed the value of expertise. On several occasions, he and his team worked closely with their metropolitan counterparts to provide complex care for a patient.

In another case a patient had a large, left parametrical recurrence of a pelvic malignancy. The patient was referred from Dubbo to Sydney and operated on by a gynaecological oncologist. The tumour was removed and the patient was advised to undergo pelvic node dissection. Two weeks later, Dr North received a call from the operating surgeon informing him that the dissection had been completed. The patient was well and discharged the same day.

He said the collaboration was valued and he conveyed how the surgeons involved had appreciated their ability to provide this level of service.

Reports back up advice service whenever necessary. Dr Green said the model had the potential to promote education and upskilling of the primary care physician (GP) or the treating surgeon. Such a relationship was being established in the Northern Territory through Teleoncology.

Telemedicine in rural and remote oncology

Presentation by Professor Ian Olver Clinical Director, Royal Adelaide Hospital Cancer Centre (SA)

The management of cancer has become increasing complex with the concentration of cases occurring in the metropolitan area.

There was significant difficulty recruiting specialists resulting in the need to house on a single unit radiation in multiple small communities be created, but rather the development of expertise to manage a greater proportion of cases.

The future will see teleoncology and telepathology and POTS teleoncology links between patients at home and their clinicians in hospital.

Issues

Professor Olver noted that while small desktop computers for personal computers and Internet conferencing could be used, and with the extension of web-based cancer consultation, he personally has had difficulty with their reliability and quality. He has found that people are actually not using Internet conferencing extensively in the medical field even if they find it preferable.

From the telemedicine perspective in rural health two outstanding legislative issues are barriers to its widespread use.

n Reimbursement for telemedicine and multidisciplinary care
One of the major themes at the 13th Lorne Cancer Conference on 8-11 February 2001 was the ongoing search for the genes that predispose women to breast cancer. In other words, “after BRCA1/2”. Presentations by Bruce Ponder (Cambridge Institute of Medical Research), Georgia Chenevix-Trench and Kum Kum Khanna (Queensland Institute of Medical Research) addressed this issue. John Hooper (University of Melbourne) and Mark Skolnick (Myriad Genetics, Salt Lake City) addressed the future challenges for breast cancer screening.

Another report concerned the new finding that the paracrine hormone VEGF, secreted by tumours, recruits not only the vasculature but also lymphatic vessels. This suggests lymphangiogenesis. Most tumours start producing vascular endothelial growth factor, VEGF, to bind to receptors on endothelial cells and coalesce them to grow toward the tumour and vascularise it. Since the tumour thus gets supplied both with a lifeline and transport, a major thrust of cancer research has been to find ways to block this process known as angiogenesis. But says Kari Alitalo, from the University of Helsinki, “nobody put the lymphatics into the picture”. Though the lymphatic system has long been known to spread cancer, the flimsy, lymphatic vessels were not themselves thought to be able to penetrate into a tumour. Rather they were thought to enter the scene late in the piece to help mop up the fluid leaked by the ingrowing blood vessels.

However, recently a VEGF receptor, VEGFR3, was found to be expressed in lymphatic endothelial cells. Evidence that this receptor played an important role here came from the finding that a rare case of familial primary lymphoedema was shown to map to 3q 35, the locus of the VEGFR 3 gene. And mice treated with antibodies against the VEGFR3, also showed signs of oedema. Since tumour cells produce the ligands VEGF and VEGFR-G, that bind to this receptor, it is possible that whether these actually recruit the lymphatic endothelium to the tumour as well as blood vessels.

Kari Alitalo showed that introduction of VEGF-C into mouse models of pancreatic beta-cell tumours or breast carcinoma, stimulated the growth of lymphatic vessels around the tumours and metastasis. Adding a soluble form of the receptor, VEGFR-3, reversed these effects, presumably by preventing VEGF-C binding to its membrane bound receptor. Steve Stacker from Melbourne’s Ludwig Institute found that when introduced into a slow-growing mouse tumour model, VEGF-C also showed signs of oedema. The formation of lymphatics within the tumour as judged by the ingrowing blood vessels. Since the tumour thus gets supplied both with a lifeline and transport, a major thrust of cancer research has been to find ways to block this process known as angiogenesis. But says Kari Alitalo, from the University of Helsinki, “nobody put the lymphatics into the picture”. Though the lymphatic system has long been known to spread cancer, the flimsy, lymphatic vessels were not themselves thought to be able to penetrate into a tumour. Rather they were thought to enter the scene late in the piece to help mop up the fluid leaked by the ingrowing blood vessels.

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The Tobacco Project was awarded a Public Health Award for Innovation in Public Health Development from the Department of Human Services in 1999.

n Cancer Education Research Program (CERP), NSW

The use of Nicotine Replacement Therapy (NRT) among the NSW community

Nicotine Replacement Therapy (NRT) in the form of nicotine patches, gum or inhalers has been demonstrated as an effective strategy for promoting smoking cessation. As part of a larger community survey, Dr Chris Paul and colleagues examined the prevalence and patterns of NRT use among the NSW community, and the level of NRT advice NRT users received from doctors and pharmacists. The NRT component of the computer assisted telephone interview (CATI) survey was administered to NSW residents aged 18 years and older who were randomly selected from the NSW community. Of the 2459 eligible participants, 1509 (61%) completed the survey.

The results indicated that 33% of current smokers and 27% of former smokers reported using an NRT product in their most recent quit attempt of which 40% reported using a patch only, 22% used gum only, 15% used both the patch and gum and 2% used a nicotine inhaler only. Forty-four percent of NRT users recommended the product and 41% of NRT users reported that they had not received any instructions about using the product from a doctor or a pharmacist. Overall, the results suggest that further strategies are needed to promote NRT as an effective smoking cessation strategy.

Centre for Health Promotion and Cancer Prevention Research (CHP CPR), Queensland

Needs assessment of families from rural and remote areas of Queensland when an adult cancer patient travels to a metropolitan centre for radiation treatment – A project funded by Rotary Australia

Cancer patients and their families living in rural and remote areas of Queensland face particular difficulties and challenges in coping with a cancer diagnosis. The results of a needs assessment study of cancer patients and their families, resulting from an adult cancer patient travelling to a metropolitan centre for radiation treatment. This study has examined the impact this has on family functioning when the patient is required to stay away from home for considerable periods of time. Twenty-eight consecutively enrolled patients and 18 family carers completed a structured needs assessment questionnaire as well as an indepth interview.

The study identified a number of unmet needs of cancer patients and their families and there were some important differences between them. A new diagnosis of cancer patients was associated with increased family stress and anxiety. The major stressor was identified as the physical demands of the cancer and treatment. This was followed by the patient’s side effects and in some cases, the need for more information about the illness and emotional support needs, and the family’s own emotional needs were significant issues for caregivers. Based on The Caregiver Reaction Assessment Scale (CRAAS), nearly 40% of caregivers reported some disruption to their schedule, half had financial difficulties, and the majority (89%) felt supported by their family. All felt that caregiving impeded considerable self-esteem.

The results of the qualitative interviews clearly highlight the discomfort that children experience under the present system, particularly in relation to the demands of family life and the need to maintain some level of continuity and security for children in the context of a serious illness and the demands of treatment.

Research in the pipeline

n CBR

Sports Clubs Study

Over the past decade SunSmart and ViCHealth have worked with the Victorian State Sporting Associations of various sports to promote healthy environments in the sport setting. For SunSmart this means promoting the use of sun protective equipment and practices through encouraging policy development. The strategy relies on communication of our health messages to individual club committees via their peak bodies, the state sporting associations.

A study of sports clubs was initiated by SunSmart and the Centre for Behavioural Research in Cancer in partnership with ViCHealth in January 2001. Suzanne Dobbinson is conducting the study which is primarily designed to explore whether specific club structures hinder or promote the establishment of health related tobacco control policy; and to provide baseline data on sun protection, smoke-free and other health-related policy development at the club level. Data collection is through a CATI telephone interviews conducted of club secretaries from lifesaving, diving, canoeing, board riding, women’s cricket, men’s cricket, tennis and the AFL.

n CERP

Research has shown that access to accurate information about treatment is an important predictor of smoking post-treatment. Overall, the results suggest that further strategies are needed to promote NRT as an effective smoking cessation strategy.

Centre for Behavioural Research in Cancer (CBRCC), WA

The CBRCC has commenced work in earnest on our three new Healthway-funded research projects (described in the previous Cancer Forum). Geoffrey Jalleh is managing the sun protection research projects and, Nadine Heaney is managing the moral disengagement project. Director, Rob Donovan is valiantly managing the managers and meddling in all of these projects.

n Evaluation of the Cancer Foundation of Western Australia’s “One Step Closer” media campaign

The main communication objective of the media campaign which Geoffrey is evaluating is to promote and reinforce the importance of sun protective behaviour amongst young Western Australian adults aged 18 to 35 years.

n Perceptions of cancer among the Australian population

This project was funded by the Cancer Foundation of Western Australia. Sandra has been working on the questionnaire development and data entry for the Prostate Cancer Australia (NSW) for some valuable advice, as they have recently completed a similar undertaking.
The moral disgust project is exploring the effectiveness of associating the emotion of disgust with smoking as a way to deter 14-16 year olds from taking up smoking. At this early phase of the project, Nadine is interviewing child psychologists and other professionals working with children to obtain their advice on the message strategy.

Rob and Nadine are in the throes of writing a textbook on social marketing. Rob and Geoffrey are also writing a book chapter reporting details of the tracking survey undertaken by the National Tobacco Campaign Research and Evaluation Committee, as part of a comprehensive evaluation of the National Tobacco Campaign.

Sandra is finalising a review of breast cancer screening messages in Australia, looking at both materials produced by health authorities (such as BreastScreen and the various cancer organisations) and items in the popular press.

CBRC

CBRC was well represented at the First National Tobacco Control Conference in Adelaide in June. David Hill, the keynote speaker, delivered an address on "Tobacco control: how far we have come, where we are now, with a hint of where we go next". Melanie Wakefield gave a plenary session on "Anti-smoking advertising and teenage smoking". Lisa Trotter presented "Smoking Cessation in Pregnancy: evidence based practice for health professionals" and Tessa Letcher discussed "Doctors’ advice to their patients about smoking".

CERP

In November 2000, Associate Professor Jane Hall, Professor John Lowe and Dr Andrew Penman undertook an Administrative Review of CERP. The review team recommended that CERP continues to be funded for five years to 2006 and that Associate Professor Atif Girgis be appointed as full-time Director. The Cancer Council Board has endorsed these recommendations.

Congratulations are extended to former PhD student Nicole Rankin who has been accepted for the degree of Doctor of Philosophy in the Faculty of Medicine and Health Sciences, University of Newcastle for her dissertation “Accessing and participating in psychosocial care: Australian women with breast cancer”. Dr Rankin is now working as part of the psychosocial team at the Scenario National Breast Cancer Centre.

CHPCPR

David O’Riordan, a PhD student with the Centre since 1997 was awarded his PhD on 1 March. David left the Centre in February to take up a post-doctoral position with Boston University’s School of Medicine.

The final phase of a 12-month organisational restructure at The University of Queensland impacting on the Centre for Health Promotion and Cancer Prevention Research was completed in April. The Centre now comes under the umbrella of the School of Population Health and has moved from the second floor to the third floor of the Public Health Building at Herston.

CHPCPR welcomes Monika Janda, a visiting academic from Austria who will be at the Centre for the next eight months. Monika is from the University of Vienna, Department of Radio- oncology, where she is employed as a clinical psychologist. Her main research interest is in the quality of life of cancer patients.

With thanks to Allison Boyes (CERP), Cathy Swart (CHPCPR) and Sandra Jones (CBRC) for contributions to this report.

Sir

Cancer Prevention & Risk Information for the Community

Several of the articles in Cancer Forum March 2001 refer to community understanding of cancer prevention and risk factors. The tone is on the lines of why doesn’t the community get the message, or why aren’t we better educating the community?

As a reasonably well informed consumer and experienced cancer consumer advocate, I would like to offer a suggestion which could answer both these questions.

The community, often through the medium of the media, gets a pretty blurry idea of cancer prevention and risk factors.

Yes, we understand about smoking and lung cancer, and indeed about exposure to the sun and melanoma. Then it becomes less exact. Eat more fruit and vegetables and maintain a healthy lifestyle. Well yes…we all know we would all have less illness or disease of any sort if we all followed that wise old maxim. Even the recently published National Cancer Prevention Policy 2001-03 speaks only in generalities – where are the appendices to back up the statements?

We do hope this doesn’t mean that the information is not actually known.

We sit it as time that health consumers are provided with the information they require to assist their health decisions. No-one seems able to clearly tell us what difference what risk will make, and for which cancers. Without some idea of the degree of risk, how can we reasonably follow prevention guidelines?

Some cancer organisations say 50% of cancers are preventable, others that diet and lifestyle are responsible for 30-40% of cancers. Lots of paperback books are written by authors who “know” their view is right, and these are passed on through magazines and newspapers as “scientific fact”. But what we need is an evidence based source to give us the plain facts, on which to base well informed decision-making.

Now most of us who have experienced cancer, would like access to some real risk factor information – absolute please, not relative – so that we can make adjustments if necessary to the few modifiable factors which could be risks in our lives and those of our friends, families and colleagues. Comparative risk factors could come in two groups – for those who have never had cancer, and for those who have.

The whole community would appreciate a bit more authoritative and accessible information!

There have been some welcome noises about asking cancer consumers to suggest topics for research projects that they would value. This may not be classic bench-top stuff, and is probably more a regular literature sweep, but such a study and its broad release would be extraordinarily useful to patients, clinicians and the community at large. (Let’s see it as information, not the patronising term “education”, as though we haven’t any?)

In the absence of evidence based risk information, strange and quite misleading rumours and theories flourish as we all know. Without numerical weighting even real risks can balloon or diminish beyond recognition in the public mind.

If cancer organisations would publish risk factor information in an updateable format (eg factsheets and websites) the cancer control community would be doing a great service to the rest of us. This sounds like a coordinating job for The Cancer Council Australia.

We like the new look format for Cancer Forum, as well as its breadth of coverage.

Yours faithfully

SALLY CROSSING

Cancer Forum - Volume 25 Number 2 - July 2001
New President
Medical oncologist Professor Ray Lowenthal was elected President of The Cancer Council of Australia at the annual meeting in May.

Professor Lowenthal is Director of the Department of Clinical Haematology & Medical Oncology at the Royal Hobart Hospital and a Clinical Professor at the University of Tasmania. His research interests are mainly in leukaemia, lymphoma and bone marrow transplantation. He is also an enthusiastic participant in national and international clinical trials and a strong believer that Australia needs to increase the opportunities for patients and clinicians throughout the country to be involved in cancer clinical trials.

A member of Council since 1996 and Vice President for the past three years, Prof Lowenthal was Chairman of the Cancer Council of Tasmania from 1996 to 2000. He also has served as President of the Tasmanian Branch of the Australian Medical Association and a member of the AMA’s Federal Council, and has been a member of the federal councils of the Royal Australasian College of Physicians, the Medical Oncology Group of Australia, the Haematology Society of Australia, and various clinical trials groups.

Prof Lowenthal succeeds Chief Justice Paul de Jersey AC, who had served the maximum three one-year terms as President.

Vice President
Mrs Judith Roberts AM has been elected to the position of Vice-President.

Mrs Roberts has represented South Australia on the Council for more than four years. She remains Chairman of the Anti-Cancer Foundation of South Australia – a position she has held since 1996.

Mrs Roberts has worked in the community for over 30 years at local, state, national and international levels, including most notably, 10 years as a councillor on the National Health and Medical Research Council. She is a trained nurse by profession, but has participated in a wide range of Government and non-Government organisations as a volunteer worker. She has advised State and Federal Governments in the policy areas of health, education, welfare and women’s affairs.

Queen’s Birthday Honours
Clive Deverall, former chief executive officer of the Cancer Foundation of Western Australia, for more than 20 years, has been made a member of the Order of Australia (AM). Professor David Hill, Director of the Anti-Cancer Council of Victoria’s Centre for Behavioural Research in Cancer, was awarded an AM for his “service to the promotion of community health, particularly in the development of cancer awareness and prevention programmes”.

Christina Brock, who established CanYR – a support group for young adult cancer patients and their families – also received an AM.

Morning Tea success
Australia’s Biggest Morning Tea (ABMT) is The Cancer Council Australia’s second-largest fundraising event. The event provides an opportunity for communities to build awareness of cancer, while raising funds to defeat this disease.

Throughout May, more than 30,000 host organisations worldwide held morning teas and had a cuppa for cancer research with their friends or co-workers. At the time of publication, ABMT had already raised more than $3.5 million and we are confident of reaching this year’s national target of $4 million.

This year marks the seventh year of Lipton’s sponsorship of this event and the beginning of Westons Biscuits association. The support provided by Lipton and Westons Biscuits means money raised by the community goes directly to support vital cancer research programs.

Asia Pacific Hospice Palliative Care Network
Palliative care services across the Asia Pacific region will now receive a greater focus with the formation of the Asia Pacific Hospice Palliative Care Network (APHN), a formal network of 14 countries, including Australia, committed to improving the level and quality of palliative care services.

APHN members will ensure skills and knowledge are shared across national boundaries and champion the development of much-needed hospice and palliative care services in all member countries, with the specific aim of ensuring all countries attain a minimum standard of services.

Ellen Nightingale, Australian representative of the APHN and president of Palliative Care Australia, said while Australia has well-developed hospice and palliative care services, many countries need to do more to ensure access to good pain control and supportive care for all people at the end of their lives.

“The formation of the Asia Pacific Hospice Palliative Care Network is a major step to achieving improved levels and quality of palliative care services across the region,” Ms Nightingale said.

“The need for palliative care has never been greater – each year, approximately 24,000 terminally ill patients in Australia seek care.”

UICC Research Fellowships
Applications for UICC Research Fellowships for Beginning Investigators have been invited.

The requirement for host organisations to be located in the USA has been lifted. Eligible candidates, who have a minimum of two or a maximum of 10 years postdoctoral experience, are therefore able to freely choose their host organisation from anywhere outside their own.

The application closing date for the Spring 2002 selection is 1 December 2001.

For further details on the fellowships, visit http://fellowships.uicc.org/fellowship.shtml

Aromatase Inhibition and Breast Cancer
W Miller and R Santen (Eds)
Published by Marcel Dekker Inc. New York (2000)
ISBN: 0-8247-0412-6. 297 pages plus index
RRP: US$150.00

This book is the product of a large number of contributors, including many of the leading lights in the pre-clinical and clinical investigation of endocrine therapy, predominantly for breast cancer. The historical and biochemical aspects of aromatase inhibition are covered well, and relevant clinical trial data are presented thoroughly up to the end of 1999.

The book begins with an excellent overview by Mitch Dowsett, well known for his endocrine research at The Royal Marsden Hospital in London. There follow sections on metastatic breast cancer, early breast cancer, prevention and future directions. The book concludes with a section on potential non-breast cancer indications for the use of aromatase inhibitors. Panel discussions appear at the end of each section.

A book like this inevitably suffers from a certain amount of repetition. Each contributor begins with a brief scene-setting introduction in which, if done well, will sound much like everyone else’s introduction. We are not expecting a novel however, and a bit of skimming solves this problem. All in all an important and relevant subject is dealt with comprehensively. I did not detect any inaccuracies nor any significant omissions, and the text is for the most part well written.

So why am I unhappy? There are two reasons, the first a generic complaint applicable to all publications like this. I mean, no criticism of the contributors, but I cannot for the life of me think who would want to read this book. Those who know a lot about the subject will not learn anything, and those new to the area would be enlightened more quickly (and substantially more cheaply) by doing a quick Medline search and finding a review article.

Additionally, it is impossible for a medical book to be up-to-date at the time of publication. What most readers need to know now is how well aromatase inhibitors compare with tamoxifen in the treatment of metastatic disease. The answer to this is not in the book but it is in the public domain, since these trials have now been published. My second concern is a somewhat darker one. The cover of this publication, its title and the back page blurb all present what appears to be a book produced by two editors. The importance of these two editors decided to produce a book because of the importance and relevance of the subject. However, on closer inspection, the book is clearly a summary of a meeting, with presenters asked to provide manuscripts. This is not mentioned anywhere otherwise, nor is any information given as to how such a meeting might have been arranged and who might have sponsored it.

I can, however, have a very good guess. The cover illustration is a photograph very like the one used to advertise one of the aromatase inhibitors. The legend on the inside cover is a photograph very like the one used to advertise one of the aromatase inhibitors. The legend on the inside cover

None of this is as obvious as it sounds, and it took me a while to ferret out these facts. This is disingenuous and probably lots of other “doctors” would agree. The reader is entitled to know the environment in which the information was presented. He who pays the piper…”

A large book that provides a comprehensive coverage of bone and soft tissue tumours. It represents the author’s (considerable) experience in one orthopaedic department. This is also the failing of the textbook. There is a heavy emphasis on simple surgical management, and while this is the cornerstone of soft tissue and bone tumor treatment, artful integration of radiotherapy, chemotherapy and rehabilitation must be discussed in a specialised textbook.

This textbook does not take the reader far beyond the basics of tumour excision; non-surgical management are shamefully dismissed. The chapters have a distinct “home spun” feel exacerbated by a lack of direct referencing in the text. Chapters are annotated with references listed in order of year of publication; the origin of information encoded in the body of the text remains the secret of the author. This is a major flaw of the publication which severely limits both the reader’s confidence in the text and its utility as a threshold to further investigation.

The early chapters give a broad outline of terminology, classification systems, surgical management, etc. There are some useful portions, eg the table of bone tumour types and their tissue origin (pages 14-16). These outlining chapters, however, show glaring problems which include the absence of the UICC TNM system of classification as well as a variety of problems in the definition of terminology. One example is the definition of low versus high grade tumours on the basis of their rate of growth and whether there is a well-defined tumour limit. This definition is disappointingly imprecise and the failure to at least mention the example which subsequently follows: “A calculated risk of local recurrence can be taken when there is practically no danger of metastases, and 2 when the local recurrence can still be adequately and conservatively treated”. These statements need discussion including supportive references and a dissertation on adjuvant treatment – none is forthcoming.

The management of many of the tumour sub-types discussed in the book is in evolution and there is no allusion to the direction...
of such changes in management. There is no mention of the International Rhabdomyosarcoma or the Intergroup Ewing’s sarcoma studies; just seeing the word adriamycin or anthracycline anywhere in the book would have consolated.

The positive aspects are good black and white photos and a fairly comprehensive subject coverage. Some noted topic omissions include ameloblastomas, penile fibromatoses (Peyronies) and Keloids. A specialist in this field would expect more from a dedicated textbook such as this.

Lying flat, the book is 6cm tall and I could recommend the book for a short assistant surgeon as a aid to certain ergonomic aspects of musculoskeletal surgery.

M Penniment
Dept of Radiation Oncology
Royal Adelaide Hospital
Adelaide, SA

Cancer Medicine, 5th Edition

J Holland et al (Eds)
Published by Decker (2000)
RRP: $350.00

This is the 5th edition of the world known multi author cancer textbook. With over 2500 pages it is a gigantic undertaking to read the entire book. I have dipped into a significant percentage of it. It has, as in previous editions, broad scope; it addresses cancer biology, prevention, principles of imaging, radiation oncology and chemotherapy, as well as principles of endocrine therapy and biotherapeutics, and the newly developing area of gene therapy.

This book addresses all areas of cancer care in careful detail. The depth of the coverage, the up-to-date references, and the extensive nature of those references, live up to the standard which has come to be expected of this encyclopedic textbook.

I am impressed with the attention to providing a breadth of resource with inclusion of sections on psycho-oncology, societal aspects of oncology including ethical and legal aspects of care as well as the impact of government on cancer treatment and an excellent chapter on questionable cancer remedies.

This is a very useful reference book for the range of rare cancers (chapters 10–15, respectively). While I prefer this book to be somewhat useful because it contains reviews of divergent topics pertaining to cancer metastasis in one text, two major problems seriously detract from it. First, there appears to have been some very sloppy editing as the book is strewn with typographical errors and repetitive information. There is little cross-referencing between chapters except perhaps where the editors have contributed to a particular chapter. The first chapter in particular, written by the editors, suffers badly from lapses in grammar and many typographical errors, as well as a cross-reference to the wrong chapter.

More importantly, this book suffers from the omission of a dedicated chapter on proteases, particularly of the urokinase plasminogen activation system to urokinase as this collagenase, proteolytic role of this system in cell adhesion and migration, there is scant discussion of this heavily-researched pericellular proteolytic system in the entire book. This may reflect the research interests of the contributors (i.e none with an interest in urokinase) chosen by the editors.

In the abstract to the chapter on prostate cancer by Mason, the author incorrectly refers to urinokinase as a collagenase, reflecting very little understanding of this system indeed. The urokinase system is completely overlooked by Khonji et al in their otherwise thorough chapter on the clinical aspects of metastatic breast cancer. This is despite the overwhelming evidence for the involvement of such sites may reflect the utility of the sophisticated planning and treatment delivery equipment now available in many centres will not be fully realised.

Unfortunately, none of the current standard textbooks grapples with this issue, but until training and certification of radiation oncologists on the 3D conformal techniques in Section 8, the actual application of cross-sectional target volume definition is not translated into everyday practice in the disease-site chapters.

Contributed Modality
Therapy of Central Nervous System Tumours

J Bladin
University of Melbourne, Vic

Combined Modality
Therapy of Central Nervous System Tumours

J Bladin
University of Melbourne, Vic

Unfortunately, none of the current standard textbooks grapples with this issue, but until training and certification of radiation oncologists on the 3D conformal techniques in Section 8, the actual application of cross-sectional target volume definition is not translated into everyday practice in the disease-site chapters.

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for those wishing to retrieve the source data. A minor
with splenectomy and interferon therapy are useful.
redundancy is inevitable, but this does not detract from the
aspects of hairy cell leukaemia, 14 chapters, each describing
Advances in Blood Disorders, this is a compendium of brief and
“Hairy Cell Leukemia” is a welcome and timely book about
of the important causes of false positives in FNAB cytology.
This book also suffers as much excellent material has been
It is difficult to know the intended target for this book. Whilst
photomicrographs are desirable and that this book is of limited
A Roberts
department of the Royal Melbourne Hospital
Parkville, Vic
Health Effects of Interactions between Tobacco Use and Exposure to Other Agents
K Rothwell (Ed)
Published by WHO/Genova (1999)
ISBN 92 4 157211 6, 149 pages including index.
RPF: S59/36
This volume is No 211 in the Environmental Health Criteria Series of WHD. As the title states, it reviews the epidemiological evidence of interactions between tobacco use and exposure to other agents. It is one of the most compelling horror stories I have read.
The slim volume documents adverse links between smoking and a range of organic and inorganic chemicals, physical agents, and biological agents. The main take home message from this timely report is that tobacco smoke probably adds markedly to the harms associated with a broad range of exposures, including to ones like alcohol where high level human exposures are common. If you are exposed to just any chemical, any chemical of chemicals that increases health risk, you probably multiply the risk, often by a factor of 10 or more, if you also smoke. For example, the evidence suggest that the effects of tobacco and asbestos are multiplicative in their effects on lung cancer death – a risk factor of about 5 for asbestos, nearly 11 for cigarette smoking, and over 50 for both. These are truly extraordinary risk estimates. Tobacco use is much more frequent than asbestos exposure, yet it has twice the risk for lung cancer, and it has these enormous multiplicative effects. This information furthers the case for tackling smoking as our number one environmental health problem.
The implications of the research documented in this volume go well beyond what we normally think of as environmental health. Of most general societal impact is that tobacco use is established as having adverse interactive effects with alcohol use.
We now live in a society where one of the few types of enclosed public place where people are allowed to smoke is bars and other places dedicated to alcohol consumption. Yet the evidence we have points to the fact that combing alcohol and tobacco increases a range of health risks, often multiplying risks. The information in this volume makes untenable any attempt to justify the continued public support for the joint use of tobacco and alcohol. To allow and even appear to encourage conjoint use of these two drugs makes a mockery of much of the rest of society’s attempt to reduce the risks of exposure to chemicals. Why control lower order risks when risk number one is being effectively ignored? I can only
assume policy makers are not aware of the information in this volume.
As a researcher working to develop strategies to assist people not to smoke, if I am ashamed to admit I had not really given much thought to the implications of interactive effects until I read this book. For me, the compelling evidence on the direct adverse treatment options for this rare disease. It is a handy addition to any Clinical Haematologist’s library, and will remain current for most of the next decade.
A Roberts
department of Haematology & Medical Oncology
Royal Melbourne Hospital
Parkville, Vic
Hematologic Malignancies: Methods and Techniques
G Fugard (Ed)
Published by Humana Press (2001)
This is a recent addition to the extensive “Methods in Molecular Medicine” series, and provides an introduction from the editor states “The aim . . . is to review those methods most useful for the diagnosis and subsequent management of hematologic malignancies. The scope of coverage is intentionally broad . . . My primary emphasis is on the use of flow cytometry for the dissemination of such laboratory methods, which are rapidly evolving entities. This is reinforced by the dearth of references more recent than 1999.
The book comprises 16 chapters grouped in to the five major methodological themes of cytogenticics: PCR, flow cytometry, cytochemistry and immunohistochemistry, and apoptosis and cytokine receptors. The selected authors all have extensive direct experience in their allocated fields, and include Brisco (Clone-specific PCR), Zola (Cytokine receptors) and Sykes (immunoglobulin and T-cell receptor) from Adelaide. Each chapter attempts to provide a summary of the clinical impact of the methods under discussion, but these are too brief and lacking in detail to be of use to experienced clinicians, technicians or laboratory haematologists, but may serve as an introduction for less experienced technicans or trainees. This is exemplified by the section on the clinical relevance of cytokines, which struggles to cover AML, MDS, ALL, NHL and CLL.
The depth and specificity of chapters varies significantly. The most frequently currently used PCR assays for specific gene rearrangements (bcr-l and bcl-2) are not separately dealt with in this book, and the bcr/abl chapter is devoted to the NMP-ALK rPCR method for detecting the 17:22 of anaplastic large cell lymphoma. A major deficiency is the absence of coverage of DNA microarray methods.
In my view the text falls short of achieving its ambitious goal. However, this assessment is made without having directly applied the methods included. The price is reasonable, and largely for this reason, the volume would have some
attractiveness to those diagnostic/research labs where these methods are being introduced and standardised.
J Seymour
Division of Haematology/Medical Oncology
Peter MacCallum Cancer Institute
Melbourne, Vic
Manual of Clinical Oncology
D Casciato et al (Eds)
Published by Lippincott Williams and Wilkins (2000)
The latest edition of the Manual of Clinical Oncology (4th in the series) follows the path of evolution from my well-thumbed copy of its predecessor. The most revolutionary shift has been the disappearance of the familiar spiral with the change in publishing house.

Cancer Forum • Volume 25 Number 2 • July 2001

Cancer Forum • Volume 25 Number 2 • July 2001
book reviews

Matrix Metalloproteinase Inhibitors in Cancer Therapy
N Clendinnen and K Appett (Eds)
Published by Human Press (2001)
RRP: US$135.00

This book provides a timely review and historical perspective on the development of inhibitors to the extracellular matrix degrading enzymes, the matrix metalloproteinases (MMPs). These enzymes, present on malignant cancer cells, have the ability to invade and spread to other parts of the body, a major cause of morbidity and death in patients with cancer.

Initial compelling observations both in vitro and in vivo showed that invasive and metastatic ability of tumour cells could be dramatically altered by either directly manipulating MMP levels, or by altering the levels of the endogenous inhibitors of these enzymes, the tissue inhibitors of metalloproteinases (TIMPs).

The initial frenzy of activity held high hopes of dramatic effects resulting from MMP activity-based targeting of tumours. Despite promising results in animal models, the clinical trials have been somewhat disappointing – although there have been some positive, spectacular results in a few individual patients. It is now clear that the biology of MMPs is more complex than originally envisioned and what is needed is a better understanding and detailed knowledge of the molecular mechanisms involved.

MMPs play an important role in cell-matrix and cell-cell interaction, on invasion, angiogenesis, differentiation, migration, tissue repair and cell death in normal cells. While MMP expression is associated with a wide variety of tumours, there is a predominant association of MMP activity with thestroma surrounding tumour cells. Clearly interventions that target these enzymes must consider the importance of MMPs to normal physiological functions.

This book, which is part of a series in Cancer Drug Discovery and Development, follows the development of MMPs and inhibitors of MMP activity from the laboratory bench to the bedside, with chapters written by leaders in the field. The first chapter defines the MMP family and outlines the basic molecular structure of MMPs including the numerous classes of these enzymes that are described. Over 20 members of the MMP family have been identified, which may be classified into the following groups: collagenases, gelatinases, stromelysins, MT-MMPs and other MMPs.

Chapter 2 provides a detailed description of the substrate specificities of MMPs showing that many MMPs have relatively broad substrate specificity with respect to various ECM components and non-extracellular matrix proteins. Chapter 3 provides detailed structural information on the TIMPs and outlines studies demonstrating the multifunctional effects of these endogenous inhibitors on cell growth and death. The varied effects of TIMPs in vitro, knockout and transgenic studies provide the first clues that simple inhibition of MMPs can lead to undesired side effects.

Chapter 4 provides a lucid and thorough review of the models of tumour invasion and metastasis and the effects of modulating MMP activities. The breadth of the chapter extends from in vitro experiments of cultured cells through to whole animal xenograft models. Chapters 5-9 detail the story of MMP targeted drug design that began around 1993 presented by scientists from the major pharmaceutical companies including Agouron Pharmaceuticals, British Biotech, Bayer Corporation, Chiroscience and Roche Diagnostics. They recount the low bioavailability problems associated with the first developed hydroxamic acid class of MMP inhibitors. Subsequent compounds showed improved efficacy but were associated with unacceptable musculoskeletal side effects.

Chapter 6 describes the development of more selective inhibitors for specific MMPs and their use in combination chemotherapy to target tumour progression in Phase III clinical trials. Chapters 7, 8 and 9 describe more recent classical medicinal chemistry approaches to develop nonpeptidic MMP inhibitors and mercaptamide inhibitors as alternative starting templates for MMP inhibitor drug design. Finally, in the last chapter, Michael Niesman highlights the potential efficacy of MMP inhibitors for other conditions, with potential applications in arthritis, periodontal disease, ophthalmology, neurological and cardiovascular diseases.

Overall the book is excellent from a historical perspective of how a burgeoning field in anti-cancer drug development has progressed over the past 10 years. It represents a clear and unbiased account of various strategies and rationales, and includes the failures and successes. It represents an important resource as an example of molecular-based drug design in anti-cancer therapy.

The Pineal Gland and Cancer
C Bartosh et al (Eds)
Published by Springer-Verlag (2001)
RRP: US$169.00

Why is it that I seem to receive these types of books for reviews? I thought a book on the pineal gland and cancer might be relevant to my interest in neuro-oncology. However, this book is essentially an apologia for melatonin and chronobiology of cancer.

The introduction smacks of defensiveness and rallies against orthodox opinion. The remainder of the book reviews the biology of the pineal gland, the role of melatonin in the neuro-endocrine system, its role in cancer, the effect of tumour growth on the production and secretion of pineal melatonin and the effects of melatonin on tumour growth. There is considerable discussion regarding the proposed mechanisms of action of melatonin, the "oncotherapy potential" of melatonin and then a long discussion regarding electromagnetic fields in cancer raising the possible role of melatonin in this circumstance.

This book will interest those who are fascinated by melatonin but essentially remains incomprehensible for other readers of the book. Personally I find the method of referencing using names within the body of the sentence completely distracting and unreadable. This is compounded by most sections having hundreds of references. The book has been poorly edited. For example, one can make any sense of this chapter heading "The pineal gland and chronobiologic history, mind and spirit as feedback in time structure for prehabilitation"? I don't know so...

M Rosenthal
Dept of Medical Oncology, Clinical Haematology & Palliative Care
Royal Melbourne Hospital
Melbourne, Vic

In a book that is supposed to be on cancer and it's effects, one would not expect to find a whole chapter on "Electromagnetic Fields in Cancer Raising the Possible Role of Melatonin in This Circumstance". In the best of cases, one might expect it to be one page at most. Yet this book has a 14 page long chapter on the subject. Is it possible that the author really believes melatonin can cure cancer, or is he just trying to raise awareness of the subject? I think the latter is more likely because the rest of the book is not really focused on this subject, but rather it is an overview of melatonin and its various effects on the body and in some cases, even effects on tumours.

In conclusion, this book is a well-written account of the biological mechanisms underlying the effects of melatonin on the body. However, the title and the overall content of the book do not reflect these findings. Given the recent advances in the understanding of the role of melatonin in various diseases, this book may be of interest to those who are already familiar with the subject. However, for the majority of readers, this book may not provide the information they are looking for.
Prostate Cancer

W Leland et al (Eds)
Published by Humana Press (2001)

This is a fascinating book on prostate cancer examining in particular the biology and genetics of the disease. It has been written as a tribute to Donald Coffey, a highly regarded researcher in the field.

The book encompasses a wide range of issues ranging from cancer genetics, cancer biology through to modern prostate cancer therapeutics. Each chapter is an expansive discussion on aspects of prostate cancer. Chapters include tumour suppressor genes, hereditary prostate cancer, prostate gene expression, xenograph models and so on. The cancer biology examines various aspects of current issues in cancer as they relate to prostate cancer itself. Thus there is detailed and up-to-date analyses of the role for adhesion molecules, tyrosine kinases and signalling and other molecular pathways that underlie prostate cancer. Discussion also includes targeting of antiapoptotic genes and angiogenesis.

The final section relates to therapeutics including chemo prevention, surgical and radiation techniques, chemotherapy and vaccines, antiangiogenic agents and gene therapy.

In general the text is clearly written with excellent tables and diagrams. There is a uniform quality of writing although some of the specific chapters seem to detail much about the author’s personal work rather than giving it a broader context.

Consisting of an almost exclusively American authorship, this book provides a timely and comprehensive overview of the complex field of tumour suppressor genes. There are many useful sections, including lengthy lists of genes that have been described as having tumour suppressor activity, as well as useful diagrams indicating the molecular pathways into which these gene products fit. As expected, many of the chapters go into substantial molecular detail, much of which is more than a clinician’s attention span could bear. However, I found the sections describing the clinical correlations of these defects to be interesting, particularly when applied to clinical and familial cancer syndromes.

Some of the chapters appeared rather out of place. One fascinating chapter describes recent advances in technology that are leading to new therapeutic approaches in cancer. Many of these rely on a better understanding of the molecular abnormalities underpinning the malignant process, however much of the discussion was rather peripheral to the main focus of the book. However, I found this to be one of the most interesting sections of the book as well as the most up-to-date in terms of references.

Several of the chapters could have benefited from editing, since most of the major tumour suppressor genes such as p53 and Rb are described in exhaustive detail in several chapters. A single chapter for each would have been preferable, rather than expecting each of the contributors to cover all topics. Still, if they had not done so, they would not have been able to achieve the impressive average of 200 references per chapter.

Overall, this book would be a useful reference but it does not lend itself to casual reading. Clinicians without a particular research interest in this area would do better to read review papers that give less detail and more overview of this rapidly growing field.

M Rosenthal
Dept of Medical Oncology, Clinical Haematology & Palliative Care
Royal Melbourne Hospital
Melbourne, Vic

Tumor Suppressor Genes in Human Cancer

D Fisher (Ed)
Published by Humana (2001)
ISBN: 0-89603-807-6. 373 pages plus index. RRP: US$125.00

This is a fascinating book on prostate cancer examining in particular the biology and genetics of the disease. It has been written as a tribute to Donald Coffey, a highly regarded researcher in the field.

The book encompasses a wide range of issues ranging from cancer genetics, cancer biology through to modern prostate cancer therapeutics. Each chapter is an expansive discussion on aspects of prostate cancer. Chapters include tumour suppressor genes, hereditary prostate cancer, prostate gene expression, xenograph models and so on. The cancer biology examines various aspects of current issues in cancer as they relate to prostate cancer itself. Thus there is detailed and up-to-date analyses of the role for adhesion molecules, tyrosine kinases and signalling and other molecular pathways that underlie prostate cancer. Discussion also includes targeting of antiapoptotic genes and angiogenesis.

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M Rosenthal
Dept of Medical Oncology, Clinical Haematology & Palliative Care
Royal Melbourne Hospital
Melbourne, Vic
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<tr>
<th>Date</th>
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<tr>
<td>July</td>
<td>16-17 AICCS 51st Annual Research Conference on Diet, Nutrition and Cancer</td>
<td>Washington DC, USA</td>
<td>American Institute for Cancer Research, Washington, DC, USA</td>
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<td></td>
<td>18-21 8th World Congress on Cancer of the Skin</td>
<td>Zurich, Switzerland</td>
<td>M Luthi, Dept of Dermatology, University Hospital of Zurich, Zurich, Switzerland</td>
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<td>16-19 10th National Symposium on Smoking and Health “Assistance in Smoking Cessation”</td>
<td>Urumchi Xingjiang, China</td>
<td>Chinese Association on Smoking &amp; Health Anhuiwai, Beijing, China</td>
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<td>August</td>
<td>10-14 International Conference Seoul 2001: American Association for Cancer Research</td>
<td>Seoul South Korea</td>
<td>Cancer Research Institute, Seoul National Medical University, Seoul South Korea</td>
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<td>14-15 “Cancer in Elderly” 6th International Conference on Geriatric Oncology and 2nd Meeting of the International Society of Geriatric Oncology</td>
<td>Lyon, France</td>
<td>Imexed - Alpharetta, Georgia, USA</td>
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<td>21-23 ASCO-Pan Asia Cancer Conference (A-PACC)</td>
<td>New Delhi, India</td>
<td>Dr Rakesh Chopra Indraprastha Apollo Hospital Sarita Vihar, New Delhi, India</td>
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<td></td>
<td>22-25 5th International Symposium on Hodgkin’s Lymphoma</td>
<td>Cologne, Germany</td>
<td>Darwin Medical Communications Ltd Abingdon, Oxon, United Kingdom</td>
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<td>26-28 8th Hong Kong International Cancer Congress</td>
<td>Hong Kong, China</td>
<td>8th HKICC Secretariat, Dept of Surgery University of Hong Kong Medical Centre Queen Mary Hospital, Pokfulam, Hong Kong, China</td>
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<td>October</td>
<td>9-12 Pacific Rim Laryngoscope Conference and Voice Institute</td>
<td>Honolulu, USA</td>
<td>Organising Secretariat Bertrand FAVRE Package Organisation 140 Cours Charlemagne 69002 – Lyon, France</td>
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<td>9-13 9th International Cochrane Colloquium</td>
<td>Lyon, France</td>
<td>Organising Secretariat Bertrand FAVRE Package Organisation 140 Cours Charlemagne 69002 – Lyon, France</td>
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<td>18-21 American Association for Cancer Education Annual Meeting</td>
<td>Los Angeles California USA</td>
<td>AACR, Ohio, Cleveland, USA</td>
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<td>19-23 3rd European Breast Cancer Conference</td>
<td>Barcelona, Spain</td>
<td>K Vantongelen, FECS Conference Unit Brussels, Belgium</td>
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<td>21-25 ECCO 11 - The European Cancer Conference</td>
<td>Lisbon, Portugal</td>
<td>ECCO 11 -FECS Conference Unit Brussels, Belgium</td>
</tr>
<tr>
<td></td>
<td>26-29 6th Asia Pacific Conference on Tobacco or Health – “You Fight Back”</td>
<td>Hong Kong, China</td>
<td>6th APCCT/Hong Kong Academy of Medicine Aberdeen, Hong Kong</td>
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**September**

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<tr>
<th>Date</th>
<th>Name of Meeting</th>
<th>Place</th>
<th>Secretariat</th>
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<tbody>
<tr>
<td></td>
<td>International Conference Seoul 2001: American Association for Cancer Research</td>
<td>Seoul South Korea</td>
<td>Cancer Research Institute, Seoul National Medical University, Seoul South Korea</td>
</tr>
<tr>
<td></td>
<td>&quot;Cancer in Elderly&quot; 6th International Conference on Geriatric Oncology and 2nd Meeting of the International Society of Geriatric Oncology</td>
<td>Lyon, France</td>
<td>Imexed - Alpharetta, Georgia, USA</td>
</tr>
<tr>
<td></td>
<td>ASCO-Pan Asia Cancer Conference (A-PACC)</td>
<td>New Delhi, India</td>
<td>Dr Rakesh Chopra Indraprastha Apollo Hospital Sarita Vihar, New Delhi, India</td>
</tr>
<tr>
<td></td>
<td>5th International Symposium on Hodgkin’s Lymphoma</td>
<td>Cologne, Germany</td>
<td>Darwin Medical Communications Ltd Abingdon, Oxon, United Kingdom</td>
</tr>
<tr>
<td></td>
<td>8th Hong Kong International Cancer Congress</td>
<td>Hong Kong, China</td>
<td>8th HKICC Secretariat, Dept of Surgery University of Hong Kong Medical Centre Queen Mary Hospital, Pokfulam, Hong Kong, China</td>
</tr>
<tr>
<td></td>
<td>Pacific Rim Laryngoscope Conference and Voice Institute</td>
<td>Honolulu, USA</td>
<td>Organising Secretariat Bertrand FAVRE Package Organisation 140 Cours Charlemagne 69002 – Lyon, France</td>
</tr>
<tr>
<td></td>
<td>9th International Cochrane Colloquium</td>
<td>Lyon, France</td>
<td>Organising Secretariat Bertrand FAVRE Package Organisation 140 Cours Charlemagne 69002 – Lyon, France</td>
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<tr>
<td></td>
<td>American Association for Cancer Education Annual Meeting</td>
<td>Los Angeles California USA</td>
<td>AACR, Ohio, Cleveland, USA</td>
</tr>
<tr>
<td></td>
<td>3rd European Breast Cancer Conference</td>
<td>Barcelona, Spain</td>
<td>K Vantongelen, FECS Conference Unit Brussels, Belgium</td>
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<td>ECCO 11 - The European Cancer Conference</td>
<td>Lisbon, Portugal</td>
<td>ECCO 11 -FECS Conference Unit Brussels, Belgium</td>
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<tr>
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**October**

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**November**

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<tr>
<td></td>
<td>30th Chemotherapy Foundation Symposium: Innovative Cancer Therapy for Tomorrow</td>
<td>New York USA</td>
<td>J Silverman, Medical Oncology Dept Mount Sinai Medical Centre New York, New York</td>
</tr>
<tr>
<td></td>
<td>Oncology Nursing Society 2nd Annual Institute of Learning</td>
<td>St Louis Missouri USA</td>
<td>Oncology Nursing Society Pittsburgh, Pennsylvania, USA</td>
</tr>
<tr>
<td></td>
<td>3rd International Conference on Cancer-Induced Bone Diseases</td>
<td>Awaji Island, Hyogo Japan</td>
<td>T Matsumoto, MD, First Dept of Internal Medicine, University of Tokushima School of Medicine, Tokushima, Japan</td>
</tr>
<tr>
<td></td>
<td>16th Asia-Pacific Cancer Conference “Cancer in the New Millennium”</td>
<td>Manila, Philippines</td>
<td>16th APCC, Philippine Society Manila, Philippines</td>
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<td></td>
<td>Data Management in Cancer Clinical Trials</td>
<td>Brussels, Belgium</td>
<td>D Zimmerman, EORTC Education Office Brussels, Belgium</td>
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**December**

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<tr>
<td></td>
<td>43rd Annual Meeting of the American Society of Hematology (ASH)</td>
<td>Orlando Florida USA</td>
<td>ASH, Washington DC, USA</td>
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<td></td>
<td>24th Annual San Antonio Breast Cancer Symposium</td>
<td>San Antonio Texas USA</td>
<td>L Durinigton San Antonio Cancer Therapy and Research Center San Antonio, Texas, USA</td>
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**2002**

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<tr>
<td></td>
<td>55th Annual Cancer Symposium of the Society of Oncology</td>
<td>Denver Colorado USA</td>
<td>D Kubis, Society of Surgical Oncology Arlington Heights, Illinois, USA</td>
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<tr>
<td></td>
<td>4th International Conference on the Adjuvant Therapy of Malignant Melanoma</td>
<td>London UK</td>
<td>CCC Limited, London, United Kingdom</td>
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<td>3rd European Breast Cancer Conference</td>
<td>Barcelona, Spain</td>
<td>K Vantongelen, FECS Conference Unit Brussels, Belgium</td>
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<tr>
<td></td>
<td>9th Annual Meeting of the American Association for Cancer Research</td>
<td>San Francisco California USA</td>
<td>American Association for Cancer Research Philadelphia, Pennsylvania, USA</td>
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**2003**

<table>
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<tbody>
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<td></td>
<td>54th Annual Cancer Symposium of the Society of Oncology</td>
<td>Denver Colorado USA</td>
<td>D Kubis, Society of Surgical Oncology Arlington Heights, Illinois, USA</td>
</tr>
<tr>
<td></td>
<td>4th International Conference on the Adjuvant Therapy of Malignant Melanoma</td>
<td>London UK</td>
<td>CCC Limited, London, United Kingdom</td>
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<tr>
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<td>3rd European Breast Cancer Conference</td>
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<tr>
<td></td>
<td>9th Annual Meeting of the American Association for Cancer Research</td>
<td>San Francisco California USA</td>
<td>American Association for Cancer Research Philadelphia, Pennsylvania, USA</td>
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<td>Place</td>
<td>Secretariat</td>
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<tr>
<td>March</td>
<td>12-13 3rd European Oncology Nursing Society Spring Convention</td>
<td>Venice, Italy</td>
<td>K Vantongelen, FECS Conference Unit, Brussels, Belgium</td>
</tr>
<tr>
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<td>Fax: +32 2 775 02 46 Email: <a href="mailto:EONS@feesc.be">EONS@feesc.be</a>, <a href="http://www.feesc.be/conferences">www.feesc.be/conferences</a></td>
</tr>
<tr>
<td></td>
<td>17-20 11th Congress of the European Society of Surgical Oncology (ESSO)</td>
<td>Lille, France</td>
<td>ESSO 2002 – FECS Conference Unit, Brussels, Belgium</td>
</tr>
<tr>
<td></td>
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<td>Fax: +32 2 775 02 00 Email: <a href="mailto:ESSO2002@feesc.be">ESSO2002@feesc.be</a>, <a href="http://www.feesc.be/conferences/ess02002/">www.feesc.be/conferences/ess02002/</a></td>
</tr>
<tr>
<td></td>
<td>18-21 Oncology Nursing Society 27th Annual Congress</td>
<td>Washington DC, USA</td>
<td>Oncology Nursing Society Pittsburgh, Pennsylvania, USA</td>
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<tr>
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<td>Fax: +1 412 921 6356 Email: <a href="mailto:member@ons.org">member@ons.org</a>, <a href="http://www.ons.org">www.ons.org</a></td>
</tr>
<tr>
<td>May</td>
<td>18-21 Annual Meeting of the American Society of Clinical Oncology (ASCO)</td>
<td>Orlando, Florida USA</td>
<td>American Society of Clinical Oncology Alexandria, Virginia, USA</td>
</tr>
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<td>Fax: +1 703 299 1044 Email: <a href="mailto:info@asco.org">info@asco.org</a>, <a href="http://www.asco.org">www.asco.org</a></td>
</tr>
<tr>
<td>June</td>
<td>8-11 EACR- XVII: European Association for Cancer Research</td>
<td>Granada, Spain</td>
<td>L Hendrickx, FECS Conference Unit, Brussels, Belgium</td>
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<tr>
<td></td>
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<td>Fax: +32 2 775 0200 Email: <a href="mailto:info@feesc.be">info@feesc.be</a>, <a href="http://www.feesc.be/conferences/eacr17">www.feesc.be/conferences/eacr17</a></td>
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<tr>
<td></td>
<td>30 June- 5 July 18th IUCC International Cancer Congress</td>
<td>Oslo, Norway</td>
<td>Cancer Congress AB Stockholm, Sweden</td>
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<td>Fax: +46 8 661 91 25 Email: <a href="mailto:canceroslo2002@congresse.o.no">canceroslo2002@congresse.o.no</a>, <a href="http://www.oslo2002.org/">www.oslo2002.org/</a></td>
</tr>
<tr>
<td>August</td>
<td>18 Aug – 1 Sept 12th International Conference on Cancer Nursing 2002</td>
<td>London Arena Docklands, London UK</td>
<td>Liz Paim or Claire Manning</td>
</tr>
<tr>
<td></td>
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<td>Ph: +44 0 20 7874 0294 Fax: +44 0 20 7874 0298 Email: <a href="mailto:healthcareconference@emap.com">healthcareconference@emap.com</a>, <a href="http://www.isncc.org">www.isncc.org</a></td>
</tr>
<tr>
<td>September</td>
<td>1-4 9th Central European Lung Cancer Conference</td>
<td>Vienna, Austria</td>
<td>Mondial Congress Vienna, Austria</td>
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<td>Fax: +43 1 586 91 85 Email: <a href="mailto:congress@mondial.at">congress@mondial.at</a></td>
</tr>
<tr>
<td></td>
<td>17-21 21st Annual Meeting of the European Society for Therapeutic Radiology and Oncology (ESTRO)</td>
<td>Prague, Czech Republic</td>
<td>ESTRO Office, Brussels, Belgium</td>
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<tr>
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<td>Fax: +32 2 779 54 94 Email: <a href="mailto:info@estro.be">info@estro.be</a>, <a href="http://www.estro.be">www.estro.be</a></td>
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<tr>
<td></td>
<td>18-21 SIOP 2002: The 34TH Meeting of the International Society of Paediatric Oncology: Brain Tumours</td>
<td>Porto, Portugal</td>
<td>Congress Secretariat Congress Holland BV, Amsterdam, The Netherlands</td>
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<tr>
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<td>Fax: +31 20 50 40 225 Email: <a href="mailto:siop2002@congresse.o.no">siop2002@congresse.o.no</a></td>
</tr>
<tr>
<td></td>
<td>29 Sep – 4 Oct World Assembly on Tobacco Counters Health 2002 (WATCH 2002)</td>
<td>New Delhi, India</td>
<td>International Congress on Oral Cancer New Delhi, India</td>
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<td></td>
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<td>Fax: +91 11 694 447 Email: <a href="mailto:cancroak@mfd.xn.nel.net">cancroak@mfd.xn.nel.net</a>, <a href="http://www.watch-2000.org/">www.watch-2000.org/</a></td>
</tr>
<tr>
<td>October</td>
<td>6-9 44th Annual Meeting of the American Society for Therapeutic Radiology and Oncology (ASTRO)</td>
<td>New Orleans, Louisiana, USA</td>
<td>G Smith, ASTRO Fairfax, Virginia, USA</td>
</tr>
<tr>
<td></td>
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<td>Fax: +1 703 502 7852 Email: <a href="mailto:gsmith@astro.org">gsmith@astro.org</a>, <a href="http://www.astro.org">www.astro.org</a></td>
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<tr>
<td>Date</td>
<td>Name of Meeting</td>
<td>Place</td>
<td>Secretariat</td>
</tr>
<tr>
<td>18-22</td>
<td>27th European Society for Medical Oncology (ESMO) Congress</td>
<td>Nice, France</td>
<td>ESMO Congress Secretariat Lugano, Switzerland</td>
</tr>
<tr>
<td></td>
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<td>Fax: +41 91 950 27 07 Email: <a href="mailto:16apcc@pcsi.com.ph">16apcc@pcsi.com.ph</a></td>
</tr>
<tr>
<td>November</td>
<td>1-3 Oncology Nursing Society 3rd Annual Institute of Learning</td>
<td>Seattle, Washington</td>
<td>Oncology Nursing Society Pittsburgh, Pennsylvania, USA</td>
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<tr>
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<td>Fax: +1 412 921 6565 Email: <a href="mailto:member@ons.org">member@ons.org</a>, <a href="http://www.ons.org">www.ons.org</a></td>
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<tr>
<td>10-16</td>
<td>9th Hong Kong International Cancer Conference</td>
<td>Hong Kong, China</td>
<td>9th HKICC Secretariat Dept of Surgery</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>University of Hong Kong Medical Centre Queen Mary Hospital, Pokfulam Hong Kong, China</td>
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<td>Fax: +852 2818 1186 Email: <a href="mailto:medicalconf@hku.hk">medicalconf@hku.hk</a>, <a href="http://www.hku.hk/">www.hku.hk/</a></td>
</tr>
<tr>
<td>19-22</td>
<td>2002 Meeting of the European Organisation for Research and Treatment of Cancer (SORTC), the American Association for Cancer Research (AACR) and the National Cancer Institute (NCI): Molecular Targets and Cancer Therapeutics</td>
<td>Frankfurt, Germany</td>
<td>L Hendrickx, FECS Conference Unit Brussels, Belgium</td>
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<tr>
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<td>Fax: +32 2 775 02 00 Email: <a href="mailto:info@feesc.be">info@feesc.be</a>, <a href="http://www.feesc.be">www.feesc.be</a></td>
</tr>
<tr>
<td>6-10</td>
<td>44th Annual Meeting of the American Society of Haematology (ASH)</td>
<td>Pennsylvania, USA</td>
<td>American Society of Haematology Washington, DC, USA</td>
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<td>Fax: +1 202 857 1164 Email: <a href="mailto:ASH@haematology.org">ASH@haematology.org</a>, <a href="http://www.haematology.org/meeting/">www.haematology.org/meeting/</a></td>
</tr>
<tr>
<td>8-11</td>
<td>18th World Congress of Digestive Surgery</td>
<td>Hong Kong, China</td>
<td>Congress Secretariat 18th World Congress of Digestive Surgery</td>
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<td>C/ Department of Surgery University of Hong Kong Medical Centre Queen Mary Hospital Hong Kong</td>
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<td>Ph: +852 2818 0323/025 2855 4335 Fax: +852 2818 1186 Email: <a href="mailto:rkd@hkucc.hku.hk">rkd@hkucc.hku.hk</a>, <a href="mailto:isdshk@hku.hk">isdshk@hku.hk</a></td>
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<tr>
<td>11-14</td>
<td>20th San Antonio Breast Cancer Symposium</td>
<td>San Antonio, Texas, USA</td>
<td>L Dunham, San Antonio Cancer Therapy and Research Center San Antonio, Texas, USA</td>
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<td>Fax: +1 210 949 5000 Email: <a href="mailto:10dunham@saic.org">10dunham@saic.org</a>, <a href="http://www.sabcs.saci.org">www.sabcs.saci.org</a></td>
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THE CANCER COUNCIL AUSTRALIA

The Cancer Council Australia is the peak national cancer control organisation. Its members are the leading state and territory cancer councils, working together to undertake and fund cancer research, prevent and control cancer and provide information and support for people affected by cancer.

MEMBERS
The Cancer Council ACT
The Cancer Council New South Wales
The Cancer Council Northern Territory
The Cancer Council Tasmania
Anti-Cancer Council of Victoria
Anti-Cancer Foundation of South Australia
Cancer Foundation of Western Australia
Queensland Cancer Fund

AFFILIATED ORGANISATIONS
Australasian Association of Cancer Registries
Clinical Oncological Society of Australia Inc
Palliative Care Australia
Prostate Cancer Foundation of Australia

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Professor J Zalcberg MB BS, PhD, FRACP

THE CLINICAL ONCOLOGICAL SOCIETY OF AUSTRALIA INC

The Clinical Oncological Society of Australia (COSA) is a multi-disciplinary society for health professionals working in cancer research or the treatment, rehabilitation or palliation of cancer patients.

It conducts an annual scientific meeting, seminars and educational activities related to current cancer issues. COSA is affiliated with The Cancer Council Australia.

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Dr D Goldstein MB BS, MRCP (UK), FRACP
Ms P Yates BA, DipAppSc, MSocSc

MEMBERSHIP
Further information about COSA and membership applications are available from
GPO Box 4708, Sydney, NSW 2001.
Membership fees for 2001
Ordinary Members: $110
Associate Members: $60
(includes GST)

INTEREST GROUPS
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Cancer Research
Data Managers
Epidemiological
Gastrointestinal Oncology
Gynaecological Oncology
Head and Neck Oncology
Lung Oncology
Medical Oncology
Melanoma and Skin
Oncology Nursing
(Cancer Nurses Society of Australia)
Paediatric Oncology
(ANZ Childhood Cancer Study Group)
Palliative Care
Pharmacy
Psycho-Oncology
Radiation Oncology
Social Workers
Surgical Oncology