The Collaboration for Cancer Outcomes Research and Evaluation is now three years old. In that short time it has developed from a concept into a major cancer health services research organisation with an outstanding track record that has national and international recognition.

CCORE has a number of significant achievements including reports for the New South Wales Cancer Council, the Papua New Guinea Department of Health and major projects for the Health Department of the Commonwealth of Australia and the International Atomic Energy Agency based in Austria. At a local level CCORE provides extensive support to the development of a Cancer Network and Hospital-based Cancer Registry in South Western Sydney. Both services break new ground in improving cancer outcome by better health service delivery.

Equally significant are the many partnerships that members of CCORE have formed with local and international researchers. A few examples are the Centre for Effective Health Care, the Ontario Radiation Oncology Research Unit, Addenbrooks Hospital Cambridge and the NSW Cancer Council.

CCORE has been highly successful in attracting funding by competitive grant and tender. Establishment funds come from the South Western Sydney Area Radiation Oncology Service of the Cancer Therapy Centre at Liverpool.

The achievements of CCORE have only been possible because of the intellectual and financial support of the South Western Sydney Area Radiation Oncology Service. With their aid it has been possible to build an effective team of researchers and a vibrant group of collaborators. The South Western Sydney Area Health Service and in particular the Epidemiology Unit have been particularly generous with time and resources.

CCORE has an active and expanding view for the next three years. A project that will be the first to establish an evidence-based benchmark for population planning of radiotherapy services will take nearly two years to complete. The associated projects will provide CCORE with a unique research platform to assess appropriateness of care and the impact on population health. It fits well with a vision to produce a set of tools for the organisation and quality improvement of population based cancer treatment services.

Michael Barton
RESEARCH DIRECTOR
The Collaboration for Cancer Outcomes Research and Evaluation (CCORE) was officially launched on 11 March 2000 by Dr Andrew Penman, CEO of the NSW Cancer Council.

CCORE aims to improve cancer outcomes through research and the implementation of best practice measures into routine clinical practice in the treatment of cancer. CCORE is affiliated to the Cancer Therapy Centre, Liverpool Hospital. The Cancer Therapy Centre is a tertiary referral centre for the treatment of cancer patients in South Western Sydney.

There are many reasons for establishing CCORE. The Greater West has higher rates of incidence and mortality for some cancers compared to the NSW average (eg cervix, lung); there is a growing population in the west providing a good research base; redistribution of service needs to the west; large ethnically diverse population; and a history of interest and experience in outcomes based clinical research.

**Management and Structure**

**RESEARCH COMMITTEE:**
- **Dr Martin Berry** Director, SWSAHS Cancer Services and CCORE, Radiation Oncologist
- **A/Prof Michael Barton** Research Director, CCORE, Radiation Oncologist
- **Dr Geoff Delaney** Radiation Oncologist
- **Dr Allan Fowler** Radiation Oncologist
- **Dr Andrew Kneebone** Radiation Oncologist
- **Dr Shalini Vinod** Radiation Oncologist (Clinical Fellow to May 2001)
- **Dr Andrew Hui** Clinical Fellow, Radiation Oncologist
- **Dr Elizabeth Hovey** Medical Oncologist (from July 2001)

**CCORE STAFF:**
- **Ms Kate Tynan** Business and Project Manager
- **Ms Sharon Miles** Data Manager
- **Dr Susannah Jacob** Project Manager
- **Mrs Michelle Howard** Administration
- **Mr Gerard Viswasam** Project Officer
- **A/Prof Bill Kricker** Visiting Professor

**AFFILIATE:**
- **Dr Bin Jalaludin** Deputy Director of Epidemiology, South Western Sydney Area Health Service

**VISITING FACULTY:**

**Professor Tom Keane**
Professor Tom Keane is the Provincial Programme Head of Radiation Therapy for the British Columbia Cancer Agency (BCCA) in Vancouver, Canada. Professor Keane has been responsible for restructuring and redesigning a process-centred approach for the provincial radiation therapy program. Dr Keane is Professor and Chairman of the Division of Radiation Oncology at the University of British Columbia. Prior to joining the BCCA in 1995, Professor Keane was Research Director in Radiation Oncology at the Ontario Cancer Institute/Princess Margaret Hospital and the University of Toronto, Canada. Professor Keane has provided CCORE with expertise in the areas of organisational structure and Area Cancer Network reform and participated in the Driving Health Reform Symposium in 1999.

**Professor Bill MacKillop**
Professor MacKillop has been Head of Radiation Oncology at the Regional Cancer Centre in Kingston, Ontario, Canada since 1991. He is Professor in the Departments of Oncology and Epidemiology at Queen’s University. Professor MacKillop currently chairs the Canadian Committee on Cancer Staging. He is also the Canadian representative to the UICC (Union Internationalle Contre le Cancer/International Union Against Cancer) TNM Prognostic Factors Committee, and to the American Joint Committee on Cancer. Professor MacKillop is an investigator on a CCORE project looking at radiotherapy utilisation.
VISITORS:
Dr Srichai Krusun
Dr Krusun is the Director of the Division of Radiation Oncology at Khon Kaen University, Thailand. He visited CCORE and the Cancer Therapy Centre as part of a program to develop medical physics in Thailand. The objectives for his visit were to develop an academic link between our centres and to seek technical support for the program in Thailand. Dr Krusun was also interested in our clinical and research facilities, structure and management with a view to applying his experiences here to the existing infrastructure in Thailand. He met with Radiation Oncologists, Physicists and Radiation Therapists about training issues as well as visits to Wollongong Hospital Cancer Care Centre and the Department of Radiation Oncology at Westmead Hospital. There were negotiations for further academic, scientific and research collaboration between Khon Kaen University and CCORE and the Cancer Therapy Centre at Liverpool Hospital.
Our People

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MB BS (Syd) FRANZCR
Certificate Health Economics (Monash)

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Director, SWHAS Cancer Services and CCORE
MB BS (Syd) FRANZCR
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BSc(Hons), BE (Hons), MBA, F.I.E. (Aust), FIDA

Mr Gerard Viswasam  
Project Officer  
BSc, MPP  
Enrolled Ph.D

No photograph available

Mrs Michelle Howard  
Secretary to Director, CORE

Dr Bin Jalaludin  
Deputy Director of Epidemiology,  
South Western Sydney Area Health Service
History

The Collaboration for Cancer Outcomes Research and Evaluation (CCORE) is an initiative of the radiation oncology specialists from South Western Sydney Area Health Service, and has completed its third year of operations.

CCORE was established to meet the need for applying evidence based practice for service delivery and to develop methods for outcome evaluation of both clinical and organisational processes. CCORE is integral to the future development of cancer services both at a local and national level. It fulfils a requirement for ongoing research and evaluation in a climate of rapidly changing technology and high patient and carer expectations for improved outcomes.

CCORE has expertise that can define and quantify research problems related to clinical and service delivery and in addition can provide management strategies to implement service innovation. It is this management experience to implement policy that sets CCORE apart from other applied research centres in health.

Objectives

The Collaboration’s aim will be achieved through the following objectives:

- Provide resources and methodological support to facilitate clinical cancer research;
- Engage in applied cancer clinical outcomes research and scholarship to the highest international standards;
- Improve the efficacy of cancer management through the development, exploration and refinement of methodologies for clinical research, including quality of life, economic and qualitative research programs;
- Develop techniques for assessing utility of cancer programs;
- Reduce mortality and morbidity and improve quality of life, from cancer related disease, through establishment, implementation and evaluation of best practice guidelines;
- Foster and disseminate a clinical research ethos in the oncology professional community;
- Explore methods by which best practice guidelines can be implemented at the local level; and
- Explore methods to optimise communication/collaboration with healthcare providers and patients to improve outcomes.

Planning

As part of ongoing planning and quality improvement, CCORE staff participate in weekly, monthly and yearly consultation and discussion.

Strategic planning is a core issue discussed at each of the annual planning sessions over the past three years. With so many varied projects, individuals and collaborations, CCORE is careful to identify both organisational and individual goals.

The Annual Planning Day is an ideal time to discuss research directions and define priorities. Education, involvement across medical specialties and our relationship with the Cancer Therapy Centre at Liverpool Hospital are always key areas of discussion.

CCORE is committed to providing high-quality cancer outcomes and evaluation research. To help us achieve this, our planning process involves consultation with outside parties. The inaugural Annual Planning Day in 1998 was facilitated by Lesley Periera, former Business Manager for the Simpson Centre for Health Service Innovation, Liverpool Hospital. Dr Peter Ellis provided input from a Medical Oncology perspective at our second Annual Planning Day in 1999. In 2000 we had the valuable advice of the Deputy Director of Epidemiology at South Western Sydney Area Health Service, Dr Bin Jalaludin.
**Education**

**CLINICAL FELLOW PROGRAM**
CCORE offers the position of Clinical Research Fellow to radiation oncology trainees who have completed the FRANZCR Part II examination. The Fellow works in the Department of Radiation Oncology at the Cancer Therapy Centre in Liverpool Hospital for two days per week and in CCORE for three days per week. The Fellow is responsible for undertaking independent clinical research and usually participates in a post-graduate degree during this time. CCORE research staff provide supervision of these projects.

Dr Shalini Vinod was Clinical Fellow from 1999-2001 and is in the process of completing her MD in lung cancer. Dr Vinod has now become a Staff Specialist in Radiation Oncology in Liverpool’s Cancer Therapy Centre. Our current Clinical Fellow is Dr Andrew Hui who is undertaking a Master of Medicine (Clinical Epidemiology) at the University of Sydney while undertaking research in lung cancer.

**HEALTH INFORMATION MANAGEMENT UNDERGRADUATE STUDENTS**
Two students from the School of Health Information Management at the Faculty of Health Sciences, University of Sydney have gained experience in a clinical research setting here in CCORE. Students are encouraged to develop, implement and evaluate their own “mini-project” including ethics submissions, development of data collection forms, statistical analysis and reporting.

**MEDICAL STUDENTS**
Associate Professor Michael Barton is the Cancer Block Supervisor for teaching Year 4 medical students from the University of New South Wales. Students participate in a six week oncology term and receive exposure to the disciplines of Medical Oncology, Radiation Oncology, Haematology and Palliative Care. Dr Elizabeth Hovey is also a supervisor. Further to this, Professor Barton and Dr Hovey teach these students in Evidence-Based Medicine in addition to teaching in the University Campus Lecture Program. CCORE has also provided some research experience to one medical intern who has already shown interest in pursuing a career in radiation oncology. Dr Colin Chong has been encouraged to participate in the design and implementation of a CCORE project.
1. COLO-RECTAL CANCER – PATTERNS OF CARE IN THE WESTERN AND WENTWORTH AREAS
Barton MB, Miles SE, Clercetko G.
The salvage of colo-rectal cancer following recurrence is so poor that primary treatment is critical. The aim of this study is to develop baseline patterns of care data for the treatment of colo-rectal cancer. Patterns of care have been documented by the type and duration of treatment and investigative procedures performed. Long-term follow-up has been monitored with respect to survival, recurrence and morbidity. Three hundred and seventy patients have been entered onto this study and follow-up is nearing completion.

2. SITES OF LOCAL RECURRENCE OF RECTAL CANCER AND THE IMPLICATIONS FOR RADIOTHERAPY FIELD DESIGN
Hruby G, Barton MB, Miles SE, Carroll S, Nasser E, Stevens G.
The results of adjuvant radiotherapy for rectal cancer are highly dependent on the balance between tumour control and small bowel damage. The volume of small bowel in the treatment field is the greatest determinant of small bowel damage. This study examines the sites of pelvic recurrence in patients previously untreated with radiotherapy to determine the sites and risks of recurrence within the pelvis. Two hundred and sixty patients referred to Radiation Oncology Departments at Westmead Hospital, Royal Prince Alfred Hospital and Prince of Wales Hospital were included and a paper is now being written for publication.

3. STUDY OF THE EFFECTIVENESS OF COMPUTERISED (TOUCHSCREEN) PATIENT FEEDBACK IN THE CLINICAL MANAGEMENT OF CANCER PATIENTS
Berry M, Jacob S, Kneebone A, Fowler A, Delaney G, Barton M.
In cancer service provision, attention is usually focussed on the diagnosis and treatment of the cancer and its symptoms. However, the diagnosis and treatment of anxiety, depression and the side effects associated with cancer treatment can have very significant effects on the quality of life of patients undergoing radiation therapy for cancer. This project aims to (1) identify the level of anxiety and depression associated with the diagnosis of cancer and its treatment by radiation therapy in patients with breast, prostate, bowel or head and neck cancer, (2) to identify and provide accurate information on the rates of radiation toxicity (side effects of radiation treatment) that patients experience during their radiation treatment and (3) to assess whether giving computerised feedback to oncologists about their patients’ incidence of radiation toxicity and level of anxiety and/or depression would result in improved management and hence better patient outcomes.

The system has been successfully trialed on 50 patients to assess patient satisfaction with the touchscreen computer system.

4. LUNG CANCER: A PATTERNS OF CARE STUDY IN THE SOUTH WESTERN SYDNEY AREA HEALTH SERVICE
Vinod SK, Barton MB, Delaney G, Jalaludin B, Miles SE.
Lung cancer is an important health problem in NSW particularly so in the South Western Sydney region where the incidence is significantly higher than the state average. It is associated with poor survival of 10%-12% at 5 years. A lung cancer patterns of care study is to be performed in SWSAHS for the years 1993 and 1996. The aim is to identify all lung cancer patients who were diagnosed in those two years and document their management and outcome. As well as providing an audit of results for the Area, we hope to document utilisation rates of the various treatment modalities and assess the relationship of socioeconomic factors to management and outcome. Upon completion we will recommend how processes and outcomes of lung cancer management can be improved and outline areas of priority research.
5. A BASIC TREATMENT EQUIVALENT FOR GYNAECOLOGICAL BRACHYTHERAPY – A PILOT STUDY
Vinod SK, Fowler A, MacLeod G, Delaney G, Jalaludin B.
Brachytherapy is an important part of the radiotherapeutic management of cervical, endometrial and vaginal cancer, involving the insertion of radioactive sources in the vagina and/or uterus. The aim of this study is to see if a Basic Treatment Equivalent (BTE) can be defined for gynaecological brachytherapy. The project involves measuring how the complexity of different parameters, including several patient and treatment variables in gynaecological brachytherapy, affects the duration of treatment. It will be performed at Liverpool Hospital and Royal Prince Alfred Hospital.

6. WAITING TIMES FOR RADIOTHERAPY – A SURVEY OF PATIENTS’ ATTITUDES
Barton MB, Jacob S, Delaney G, Lehman M, Cail S.
Waiting lists for radiotherapy are a global problem, as a result of increasing demand for radiotherapy coupled with a scarcity of health resources. This study aims to assess how patients respond to these waiting times, and their willingness to participate in strategies designed to reduce waiting times. A Trade-off technique is used to determine the maximal acceptable waiting time for radiotherapy before patients elect to seek treatment elsewhere. This is part of a multicentre study involving radiation oncology departments at Liverpool, Westmead, St George and Newcastle Mater hospitals in New South Wales and in Geelong Hospital in Victoria.

7. USE OF TELEMEDICINE IN MULTIDISCIPLINARY BREAST CANCER CLINICS IN SOUTH WESTERN SYDNEY
Delaney G, Jacob S, Bonar HJ, Barton MB.
Treatment of breast cancer ideally involves a multidisciplinary team approach, since treatment may include surgery, radiation, chemotherapy, hormone therapy or a combination of these. Multidisciplinary meetings between treating medical specialists are usually held in large hospitals but not in smaller hospitals which may not have enough patients or specialists to hold regular meetings. This project aimed to test the feasibility of telemedicine as an aid to multidisciplinary breast cancer clinics in the South Western Sydney area. A telemedicine link-up between Liverpool Hospital, Bankstown Hospital and Campbelltown Hospital enabled clinicians at the peripheral hospitals to participate in the multidisciplinary breast meetings held once a week at Liverpool Hospital. This study was funded by the National Breast Cancer Centre (NBCC). It was presented as a poster at the Fourth Leura International Breast Cancer Conference, where it won the People’s Choice Poster Award.

8. THE DEVELOPMENT OF A NEW MODEL TO MEASURE CHEMOTHERAPY DELIVERY THROUGHPUT IN THE OUTPATIENT SETTING
Delaney G, Jalaludin B, Gildea B, Moylan E, Barton MB.
Currently the measure of workload in chemotherapy treatment delivery is based loosely on the ability to treat a certain number of patients in a day, with patient treatment being classified as either of short (1-6 hours) or long (> 6 hours) duration. This is not necessarily a sensitive enough measure to allow for efficient service delivery. The aims of this study are to assess the impact of various treatment-related and patient-related factors on chemotherapy treatment duration; and to develop a better model to measure chemotherapy outpatient throughput. This could then lead to identification of those areas in outpatient chemotherapy delivery where changes in practice could result in efficiency gains without compromising patient outcome or satisfaction.
9. PROSTATE SPECIFIC ANTIGEN (PSA) DRIVEN OUTCOME AND TOXICITY FOLLOWING SMALL VOLUME IRRADIATION FOR CARCINOMA OF THE PROSTATE
Kneebone A, Turner S, Gebski V, Berry M.

Conventional treatment options for men who present with clinically localised prostate cancer include observation, radiation therapy, radical prostatectomy or endocrine manipulation. Whilst external beam radiotherapy is the most commonly used potentially curative treatment, its role in the management of prostate cancer is controversial, as indeed is the use of any other treatment modality. This study aims to determine the PSA driven outcome for patients receiving definitive external beam irradiation for clinically localised prostate cancer; to analyse the prognostic importance of pre-treatment PSA, T stage and Gleason grade on PSA driven outcome; and to analyse clinical outcome following PSA failure. The study is being conducted in the radiation oncology departments of Liverpool and Westmead Hospitals, on all patients with histologically confirmed prostate cancer with no evidence of distant metastases, who commenced radiation with curative intent between May 1993 and December 1997. The study is nearing completion, and will be presented at the Annual Meeting of the Royal Australian and New Zealand College of Radiologists.

10. PROJECT PROPOSAL TO ENHANCE APPROPRIATE SCREENING FOR INDIVIDUALS AT INCREASED RISK OF COLORECTAL CANCER.
Barton MB, Frommer M, Brassil A.

Australia has one of the highest rates of Colorectal Cancer (CRC) in the world with one in 20 Australians developing the disease in their lifetime. Despite improvements in treatment over recent years, there has been little improvement in survival. Pilot studies for ‘average risk’ screening trials are currently under development. However the recently released NH&MRC Guidelines for the Prevention, Early Detection and Management of CRC recommend that individuals of ‘above average’ risk of CRC be triaged into more intensive screening or surveillance programmes.

The NHMRC define above average risk as >3 times higher than background risk. They have identified six distinct groups which fall into this category. These are:
1. Individuals who have had a colorectal cancer;
2. First-degree relatives of individuals who were diagnosed with colorectal cancer before the age of 55 years;
3. First-degree relatives of individuals who (a) were diagnosed with colorectal cancer when aged 55 years or older, and (b) have one other first-degree relative with colorectal cancer;
4. Individuals who have had an adenomatous colonic polyp;
5. Individuals with inflammatory bowel disease;
6. Individuals with rare familial predispositions to colorectal cancer, such as familial adenomatous polyposis (FAP) or hereditary non-polyposis carcinoma of the colon (HNPPCC).

A model was developed to estimate the burden of illness and numbers of kindred at increased risk, both prevalent and incident. The greatest opportunity to improve outcomes is by targeting screening interventions toward the first degree relatives of Index cases defined in groups 2 and 3 above, and those with a previous personal history.

11. CONTRACT FOR THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) TO DEVELOP DISTANCE LEARNING MODULES FOR THE BASIC SCIENCE OF ONCOLOGY COURSE
Barton MB.

International Atomic Energy Agency. See ‘Special Projects’ section.

12. DISTANCE LEARNING WEBSITE-BASED CANCER PROGRAM.
Jaggannath P, Barton MB, Tattersall M.

This program is for medical students and general practitioners and contains three modules for colorectal, cervix and head and neck cancers. The International Union Against Cancer strongly endorses this project and has provided funding.

13. NEW MEDICAL GRADUATES’ KNOWLEDGE ABOUT CANCER: THE AUSTRALIAN CANCER SOCIETY CANCER EDUCATION SURVEY
Barton MB, Tattersall MH, Butow P, Crossing S, Jamrozik K, Jalaludin B, Miles S.

See ‘Special Projects’ section.
14. QUALITY ASSURANCE – PROSPECTIVE STUDY OF LIMITED CHEMOTHERAPY AND INVOLVED FIELD RADIOTHERAPY FOR PATIENTS WITH I-II HODGKIN’S DISEASE
Kneebone A, Barton MB.
This is a clinical trial being conducted by the Trans-Tasman Radiation Oncology Group and the Australia and New Zealand Lymphoma Group. The trial is administered by the Peter MacCallum Cancer Institute in Melbourne and there are 28 participating centres across Australia and New Zealand. The aim of this project is to evaluate the efficacy of a chemotherapy regimen and radiotherapy in patients with clinical stage I-II Hodgkin’s Disease. Michael Barton and Andrew Kneebone are acting as an independent audit team to review:
1. Staging and prognostic material
2. Radiotherapy treatment details
3. Chemotherapy treatment details
It is planned to review the first two patients registered from each participating centre and, if there have been no unacceptable protocol violations, one quarter of the subsequent patients from each centre. Data management is being performed by Sharon Miles.

15. A PROSPECTIVE, NON-RANDOMISED STUDY OF CHEMOTHERAPY AND RADIOTHERAPY FOR OSTEOLYMPHOMA
Christie D, Barton MB, Wirth A, Porter D, Roos D, Pratt G.
This is a clinical trial conducted by the Trans-Tasman Radiation Oncology Group, The Australian and New Zealand Lymphoma Group and the Australasian Radiation Oncology Lymphoma Group. This is a non-randomised prospective study to determine the outcome of optimal treatment and to further investigate the natural history of lymphoma. Sharon Miles is the Co-ordinating Data Manager across Australia and New Zealand.

16. LUNG CANCER: A PATTERNS OF CARE STUDY IN THE NORTHERN SYDNEY AREA HEALTH SERVICE
Hui A, Vinod S, Yuile P, Barton M, Delaney G, Jalaludin B, Miles, S.
This retrospective study explores the associations between socioeconomic factors and lung cancer management and outcome. It compares the patterns of care and outcome of lung cancer patients in two different Area Health Services in NSW. Patients with newly diagnosed lung cancer in 1996 in the Northern Sydney Area Health Service will be studied. Data on patient demographics, tumour characteristics, management details, patient outcome and survival will be collected. The results will be compared with those of the South Western Sydney Area Health Service which are being collected in another study by Vinod et al. The socioeconomic indicators of the two Area Health Services will be obtained from the Australian Bureau of Statistics data.

17. ASSESSMENT OF THE BASIC TREATMENT EQUIVALENT MODEL OF LINEAR ACCELERATOR THROUGHPUT UNDER ENGLISH CONDITIONS
Griffith S, Delaney G, Jalaludin B, Barton MB.
Currently, radiation oncology productivity is measured by treatment fields per hour per machine. However, this is a crude measure at best and makes no consideration of the variations in treatment technique and treatment complexity. Therefore departments that have a large proportion of complex cases are not able to maintain the same fields per hour as the departments with less complex casemix. Another model to assess linear accelerator output is the Basic Treatment Equivalent. While this model has been tested in Australia and New Zealand, it has not been tested overseas. This study tests the model in a radiation oncology department in Cookridge, Leeds, England.

18. A SYSTEMATIC REVIEW OF THE COMPLICATIONS OF ADJUVANT RADIOTHERAPY FOR RECTAL CANCER
Hui A, Barton MB, Gelski V.
Radiotherapy has an established role as adjuvant therapy in high-risk non-metastatic rectal cancer. Both pre-operative and post-operative radiotherapy have been shown to decrease the risk of local recurrence.
However, the toxicity related to pre-operative or post-operative radiotherapy is not well reported. This systematic review aims to examine the toxicity of adjuvant radiotherapy above that of radical surgery in rectal cancer, as well as the effect of the timing of radiotherapy (pre-operative versus post-operative), the quality of radiotherapy and the addition of chemotherapy on toxicity.

Austen L, Kneebone A, Lalak A, Berry M.
In 1996 the Urological Society of Australia surveyed members and a small number of interested parties in NSW regarding patterns of care in prostate cancer. The aim of this study was to assess changes in patterns of care since the initial survey and to document the current patterns of care in new areas of practice. All urologists, medical oncologists and radiation oncologists in clinical practice in Australia and New Zealand were approached to participate.

20. RADIOTHERAPY IN CANCER CARE: ESTIMATING THE OPTIMAL UTILISATION FROM A REVIEW OF EVIDENCE-BASED CLINICAL GUIDELINES
Delaney G, Jacob S, Barton M, Frommer M, Roder D.
The utilisation rate for radiotherapy is a vital benchmark of access that is essential for the management and planning of facilities and workforce capacity for existing and future demands for radiotherapy services. The World Health Organisation recommends that 50% of all newly diagnosed cancer patients should receive radiotherapy at some point in the management of their cancer, either in anticipation of cure or for palliation.

The utilisation rate of 50% is widely cited but is based solely on expert opinion but not on evidence. The aim of this project is to estimate the optimal requirements for radiotherapy services for the control of cancer in Australia, using evidence based guidelines.

CCORE has been contracted to conduct this project by the Commonwealth Department of Health and Aged Care, under the supervision of a steering committee determined by the National Cancer Control Initiative. We will develop a model, based on the best available evidence, that can be used to estimate the proportion of new cases of cancer that should receive radiotherapy. This model of radiotherapy utilisation can then be applied to predict the impact of future changes in cancer incidence rates, stage at presentation and indications for radiotherapy.
A/PROFESSOR MICHAEL BARTON

   Osteolymphoma (primary bone lymphoma): an Australian review of 70 cases.

2. Barton MB, Kneebone AB.
   Adjuvant Therapy for Rectal Cancer can no longer be ignored (editorial).

   Don’t block the new kids (letter).

4. Barton MB.
   Cancer Outcomes Research Tying The Loop.

   A Phase 2 Multi-Centre Study of Brief Single Methotrexate followed by Irradiation in Primary CNS Lymphoma.

6. Barton MB.

7. Barton MB, Gebski V and Jacob S.
   A quality-adjusted analysis of the cost of palliative radiotherapy for bone metastases.

8. Do V, Gebski V and Barton MB.
   The Effect of Waiting for Radiotherapy for Grade III/IV Gliomas.

9. Barton MB.
   Mantle Planning: Report on the Australasian Radiation Oncology Lymphoma Group (AROLG) Film Survey and Consensus Guidelines

    Malignant retroperitoneal paraganglioma: case report and review of treatment options.

11. delaney G, Moylan E, Giblets B, Barton M and Jalaludin B.
    Basic treatment Equivalent (BTE) – A new model of assessing radiotherapy and chemotherapy treatment throughput.
    Radiotherapy and Oncology 2001,58 (S1): 18.

12. berry MP, Barton MB, Kneebone A, Delaney G, Fowler A, Jacob SA.
    Touchscreen computer survey to assess treatment toxicity and level of anxiety/depression of radiation oncology patients.
    Radiotherapy and Oncology 2001,58 (S1): 19.

13. Barton MB.
    The value of follow-up after cancer treatment.

14. Vinod SK, MacLeod CA, Fowler A, Delaney G, Barton MB and Jalaludin B.
    A basic treatment equivalent for gynaecological brachytherapy: a pilot study.
    Radiotherapy and Oncology 2001,58 (S1): 63.

    Palliative radiotherapy of bone metastases – an evaluation of outcome measures.

CHAPTERS IN BOOKS

1. Barton MB.

2. Barton MB, O'Brien P.
**DR MARTIN BERRY**

1. Hui A, Berry MP, Delaney G.
   Clinical Audit of a new radiation oncology department in the first 20 months of establishment.
   Australasian Radiology 1999; 43:82-86
2. Stevens GN, Berry MP, Firth I.
   Faculty of Radiation Oncology - a survey of work practices.
   Don’t block the new kids (letter).
   Sexual dysfunction after radical radiation therapy for prostate cancer : A prospective evaluation.
5. Veness MJ, Delaney G, Berry MP.
   Lung cancer in patients aged 50 years and younger : clinical characteristics, treatment details and outcome.
6. Al-Bahrani BJ, Berry MP, Singh Y, Taylor D.
   Low pressure cardiac tamponade.
   The effect of oral sucralfate on the acute proctitis associated with prostate radiotherapy: a double-blind randomised study.
   Int Journal Radiation Oncology Bio Phys (Submitted)

**DR GEOFF DELANEY**

   High Dose Chemotherapy in Adjuvant Breast Cancer Therapy: Concerns over design and toxicity.
2. Vincent D, Beckham W, Delaney G.
   An assessment of the number of CT slices necessary for breast radiotherapy.
3. Hui A, Berry M, Delaney G.
   Clinical Audit of a new radiation oncology department in the first 20 months of establishment.
   Don’t block the new kids (letter).
5. Boyages J, Delaney GP, Taylor R.
   Predictors of local recurrence after treatment of Ductal Carcinoma in situ: a meta-analysis.
6. Keall P; Monti di Sopra F, Beckham W Delaney G.
   Orthovoltage x-rays versus electrons for superficial lesion radiotherapy.
7. Keall P; Monti di Sopra F, Beckham W, Delaney G.
   Comparison of kilovoltage x-ray and electron beam dose distributions for radiotherapy of the sternum.
8. Veness M, Delaney G.
9. Veness M, Delaney G, Berry M.
Lung cancer in patients aged 50 years and younger: clinical characteristics, treatment details and outcome.

10. Delaney GP, Rus M, Gembiski V, Lunn AD, Lunn M.
An assessment of the Basic Treatment Equivalent Model of radiotherapy treatment throughput in Australia and New Zealand.

11. Delaney GP, Rus M, Gembiski V, Lunn AD, Lunn M.
Development of a Basic Treatment Equivalent model (BTE) to reflect radiotherapy treatment throughput in Australia and New Zealand.

Breast cancer patients’ attitudes about rationing postlumpectomy radiation therapy: applicability of trade-off methods to policy-making (commentary).

13. Delaney G.
Cardiac mortality and tangential breast radiotherapy (commentary).

Three-dimensional dose distribution of tangential breast irradiation: results of a multicentre phantom dosimetry study.

15. Lin P, Delaney G, Chu J.
Fluorine-18 FDG dual-head gamma camera coincidence imaging of radiation pneumonitis.

Peripheral metastasis from Primary Central Nervous System Lymphoma – a case report and review of the literature.

Breast radiotherapy: A survey of current treatment techniques.

The effect of oral Sucralfate on the acute proctitis associated with prostate radiotherapy: a double blind randomised study.

19. Jacob S, Delaney G, Bonar T, Barton M.
An assessment of videoconferencing in multidisciplinary breast meetings.

20. Delaney G, Moylan E, Gildea B, Barton M, Jalaludin B.
Basic Treatment Equivalent (BTE) – A new model of assessing radiotherapy and chemotherapy throughput.
Radiother. and Oncol. 58 (Suppl. 1), S66. 2001.

Touchscreen computer survey to assess treatment toxicity and level of anxiety/depression of radiation oncology patients.
Radiother and Oncol. 58 (Suppl. 1), S66. 2001.

22. Vinod SK, MacLeod C, Fowler A, Delaney G, Barton MB, Jalaludin B.
A basic treatment equivalent for gynaecological brachytherapy: a pilot study.
Radiother. and Oncol. 58 (Suppl. 1), S216. 2001.

23. Delaney GP, Jalaludin B, Moylan E, Barton MB.
The development of a model of outpatient chemotherapy delivery – Chemotherapy basic treatment equivalent.
European Journal of Cancer

24. Ellis P, Delaney G, Moylan E, Della-Fiorentina S.
Assessing outcome of cancer care: A retrospective review of the management of small cell lung cancer at the Cancer Therapy Centre, Liverpool Hospital.
The development of a Basic Treatment Equivalent (BTE) Model to accurately measure gynaecological brachytherapy treatment time.
Radiotherapy and Oncology (to be submitted).

26. Delaney G, Jalaludin B, Maylan E, Barton M.
The development of a model of outpatient chemotherapy treatment delivery – Chemotherapy Basic Treatment Equivalent.

27. Delaney G, Griffiths S, Gebski V, Jalaludin B.
An assessment of the Australasian BTE model of linear accelerator treatment throughput at Cookridge Hospital, Leeds.

To BTE or not BTE - that is the question.
Clinical Oncology 2001 (in press).

DR ALLAN FOWLER
1. Macleod C, Fowler A, O’Brien P.
Selection of surgery or radiotherapy as the appropriate single modality of treatment for Stage IB and 2A carcinoma of the cervix (letter).

High dose rate brachytherapy alone post hysterectomy for endometrial cancer.

3. Macleod C, Fowler A.
High dose rate brachytherapy in the management of cervical and vaginal intraepithelial neoplasia (letter).

Argument for the surgical staging of apparent early endometrial cancer. 1999.
Submitted to Aust NZ Journal of Obstetrics and Gynaecology.

Adjuvant high dose rate brachytherapy with or without external beam radiotherapy post hysterectomy for endometrial cancer.

Australasian high dose rate brachytherapy protocols for gynaecological malignancy.
DR ELIZABETH HOVEY
1. Hovey E, Shelton G, Petrylak D.
   Phase I study of intravenous Estramustine and Docetaxel in Hormone Refractory Prostate Cancer.

2. Hovey E, Magaard K, Schnabel F, Mooney L.
   DNA Damage in Women at High Risk of Breast Cancer.

DR SUSANNAH JACOB
1. Barton MB, Gebski V and Jacob S.
   A quality adjusted analysis of the cost of palliative radiotherapy for bone metastases
   European Journal of Cancer, August 2000 36 (S3):11

2. Jacob S, Delaney G, Bonar T, Barton MB.
   An trial of videoconferencing of multidisciplinary breast cancer clinical meetings in South-Western Sydney
   Report for the National Breast Cancer Centre, 2001

   Palliative radiotherapy of bone metastases — an evaluation of outcome measures

   Touchscreen computer survey to assess treatment toxicity and level of anxiety/depression of radiation oncology patients
   Radiotherapy and Oncology 2001,58 (S1):19

DR ANDREW KNEEBONE
1. Barton M, Kneebone A.
   Editorial – Adjuvant Therapy for Rectal Cancer: Not if but how?

2. Kneebone A, Mameghan H; Berry M; Kearsley J; Turner S; Bolin T; Fisher R; Graham P; Delaney G.
   A phase III randomised trial to assess the effect of oral sulcralfate on the acute proctitis associated with prostate radiotherapy.

   Early toxicity from preoperative radiotherapy with continuous infusion 5-fluorouracil for resectable adenocarcinoma of rectum. A phase II trial for the Trans-Tasman Radiation Oncology Group.

4. Chong C. Kneebone A, Sheridan M.
   Malignancy presenting as back pain.
   Clinical case review Australian Family Physician. In press.

MS KATE TYNAN
1. Tynan K, Barton MB, Kricker W.
   Cancer Care: from cottage industry to strategic care.
**DR SHALINI VINOD**

1. *Vinod SK, Pendlebury SC.*
   Carcinoma of the male breast: A review of adjuvant radiotherapy.

2. *Vinod SK, MacLeod CA, Barnes DJ, Fletcher J.*
   Malignant Fibrous Histiocytoma of the Trachea — A case report and review of the literature.
   Respirology 1999, 4: 271-274.

3. *Vinod SK, and Pendlebury SC.*
   Review of internal mammary chain irradiation in breast cancer.
   The Breast. 1999;8:245-250.

   Surgery and post-operative radiotherapy for early stage cervical cancer.

5. *Vinod SK.*
   Adjuvant radiotherapy in early stage cervical cancer.

6. *Vinod SK, Delaney GP, Jalaludin BB, MacLeod CA, Fowler AR, Barton MB.*
   A Basic Treatment Equivalent for High-Dose-Rate Gynaecological Brachytherapy — A Pilot Study.
   Radiotherapy and Oncology (submitted).
1999  Barton MB.  
The Development of an Ideal Oncology Curriculum for Medical Students.  
COSA, Melbourne, Australia.

2000  Hui A, Abi-Hanna D, Rae R, Delaney G.  
The use of endoscopic mucosal clips in radiotherapy planning for oesophageal carcinoma.  
51st Annual Scientific Meeting of the Royal Australasian and New Zealand College of Radiologists, Auckland, New Zealand.

2000  Delaney G, Jacob S, Bonar FJ, Barton MB.  
Use of videoconferencing in multidisciplinary breast cancer clinical meetings in South Western Sydney.  
Fourth Leura International Breast Cancer Conference, Leura, Australia. (awarded the People’s Choice Award at the conference).

2000  Barton MB, Gebski V, Jacob S.  
A Quality-adjusted analysis of the cost of palliative radiotherapy for treatment of bone metastases.  
EORTC Second European Conference on the Economics of Cancer, Brussels, Belgium.

Palliative radiotherapy of bone metastases – an evaluation of outcome measures.  
International Health Outcomes Conference, Canberra, Australia.

2000  Wratten C, Vinod SK on behalf of the Junior Forum.  
Workforce Issues in Radiation Oncology: The Trainees Perspective.  
Radiation 2000 Summit, Sydney, Australia.

2000  Barton MB.  
Health Outcomes Conference, Canberra, Australia.

2001  Kricker W, Berry MP, Tynan K, Viswasam G, Barton MB.  
An Implementation Framework for an Area Cancer Control Network – What is Good?  
Health Outcomes Conference, Canberra, Australia.

2001  Bolin T, Kneebone A, Larson T.  
Atlanta, United States of America.

2001  Hovey E, Magaard K, Schnabel F, Mooney L.  
Presentations and Invited Lectures

ASSOCIATE PROFESSOR MICHAEL BARTON

1999  Gliomas – Waiting Times and Stereotactic Radiosurgery
      Grand Rounds - Canberra Hospital ACT

1999  Radiotherapy and Cancer Management
      Mid-North Coast GP Forum

1999  Cancer Outcomes Research
      Cumberland Campus Sydney University

1999  Rectal Cancer Guidelines Colo-Rectal Tumour Group
      South Western Sydney Area Health Service

1999  Applied Science of Oncology
      International Atomic Energy Agency Regional Conference Sydney

1999  Radiation Oncology in Australia
      International Atomic Energy Agency Regional Conference Sydney

1999  Waiting for Cancer Therapy
      Driving Health Reform South Western Sydney Area Health Service

1999  Cancer Outcomes Research
      NSW COG Sydney

1999  Cancer Outcomes Research
      Simpson Centre Colloquium
      South Western Sydney Area Health Service

1999  Trainee feedback
      Train-the-trainer seminar. NSW Cancer Council

      RANZCR 50th Annual Scientific Meeting Radiation Oncology – Scientific Program

1999  NHMRC Colo-Rectal Cancer Guidelines
      RANZCR 50th Annual Scientific Meeting Radiation Oncology – Scientific Program

1999  International Atomic Energy Agency Basic Sciences on Oncology Course
      RANZCR 50th Annual Scientific Meeting Radiation Oncology – Scientific Program

1999  The Development of an Ideal Cancer Curriculum
      Medical Students Cancer Education Workshop Chennai, India

1999  Cancer Outcomes Research
      School of Medical Radiation Sciences Colloquium
      The University of Sydney

1999  What cancers respond to radiotherapy treatment and complications
      Radiation Therapy and Modern Cancer Treatment
      Mid North Coast Division of General Practice.

1999  Guidelines Development Process and Adjuvant Therapy for Rectal Cancer
      Guidelines for the Prevention, Early Detection and Management of Colorectal Cancer/South Western Sydney Colorectal Tumour Group

1999  Grand Rounds
      Royal Canberra Hospital, Canberra ACT

1999  Clinical Radiobiology. Treatment time effects
      New South Wales Cancer Council, Sydney, Australia

1999  50% and all that
      NSW Cancer Council Radiotherapy 2000 Summit.
      Darling Harbour, Sydney.

2000  IAEA Guest Lecturer
      Annual General Meeting, Philippine Radiation Oncology Society, Manila, Philippines.

2000  Global Health Economics Forum
      ISRRT/AIR Radiography Conference, Sydney.

2000  Public Forum on the Guidelines for the prevention, early detection and management of colorectal cancer
      NSW Cancer Council.

2000  Radiotherapy in the Pacific region
      Annual Conference Newcastle of the Engineering and the Physical Sciences in Medicine.

2000  Screening of individuals at above average risk of colorectal cancer
      Health Outcomes for the Nation: Best Bets and Best Buys Canberra
2000  **Collaborative research workshop**  
Australian College of Physicists, Scientists and Engineers in Medicine, NSW Branch Meeting.

2000  **Pre-operative radiotherapy for rectal cancer – a wolf in sheep’s clothing**  
Radiation Induced GI Injury workshop  
Port Douglas, Queensland.

2000  **Supervisors of trainees workshop**  
Medical Oncology Group and Faculty of Radiation Oncology Conference.

2001  **The value of follow-up after cancer treatment**  
6th International Congress of Radiation Oncology, Melbourne.

2001  **Ideal Oncology Curriculum**  
The European Association for Cancer Education Antwerp, Belgium.

**DR MARTIN BERRY**

1999  **Paediatric Oncology – An Evolutionary Perspective**  
RANZCR teaching seminar, Melbourne, March 1999.

1999  **Guest panellist**  
SWSAHS Women’s Health Forum.

2000  **Radiotherapy for Kidney Cancer**  
NCOG, August 2000.

2001  **Touchscreen computer survey to assess treatment toxicity and level of anxiety/depression of radiation oncology patients**  

2001  **The role of Radiation Therapy for Paediatric Brain Tumours**  
Educational Seminar, Coogee, Sydney.

2001  **The role of Radiation Therapy for Neuroblastoma**  
Educational Seminar, Coogee, Sydney.

2001  **Advances in Radiation Therapy for Paediatric Malignancies**  
ANZCCSG Annual General Meeting.

2001  **Questions and Key issues for Urological Malignancies**  
A Best Practice Workshop in Urological Oncology;  
St George Campus Research and Education Centre, Sydney.

**DR GEOFF DELANEY**

1998  **The role of radiotherapy in the management of breast malignancy**  
NSW Radiation Therapy Group.

1998  **The current status of the Basic Treatment Equivalent**  
NSW Radiation Therapy Group.

1998  **The role of radiotherapy in the management of breast cancer**  
Liverpool Hospital medical grand rounds.

1998  **The Basic Treatment Equivalent (BTE) model as a measure of linear accelerator patient throughput — results of the Australasian survey**  
Presented at the 1998 RACR Radiation Oncology meeting, Brisbane.

1998  **The role of radiotherapy in breast conservative management**  
Breast Cancer Management Training Course, invited lecture Wesley Centre, Sydney.

1998  **The management of chest wall recurrence following mastectomy**  
South-Western Area Multidisciplinary Breast Group.

1999  **Measuring process using the Basic Treatment Equivalent as a model**  
Liverpool Hospital Driving Health Reform Conference.

1999  **Presentation of the National Breast Cancer Radiotherapy Survey**  
Invited lecture at the 1999 RANZCR Radiation Oncology meeting, Sydney.

1999  **The utility of the Basic Treatment Equivalent model as a measure of radiotherapy throughput measurement**  
Invited lecture at Vancouver Cancer Centre, Canada.

2000  **The basics of radiotherapy**  
Campbelltown Hospital RMO clinical meeting.
2000  An overview of the role of radiotherapy in the management of bone metastases
Novotel, Homebush, NSW Co-operative Oncology Group.

2000  Controversies in radiotherapy technique in breast cancer – ask the expert session
Invited chair - Leura International Breast Cancer Conference.

2000  Strategic Investments into New Technology in Radiation Oncology
Invited speaker for the NSW Cancer Council Radiotherapy Summit, Darling Harbour.

2001  Implementation of an Area Clinical Cancer Registry – How to Eat an Elephant
Health Outcomes Conference, Canberra.

2001  The role of CT planning for breast radiotherapy
Invited lecture for the Australian and New Zealand Breast Cancer Trials Group, Hamilton Island, Queensland.

2001  Dosimetry for target and non-target tissues for breast radiation
Invited lecture for the Australian and New Zealand Breast Cancer Trials Group, Hamilton Island, Queensland.

**DR ALLAN FOWLER**

2000  Use of intracavitary balloon brachytherapy boost for carcinoma of the nasopharynx.
10th Australasian Brachytherapy Conference and Workshop.
Hunter Valley, Australia.

2001  Clinical Practice Guidelines for cervical cancer.
Sydney Gynaecology Oncology Group Sydney, Australia.

**DR SUSANNAH JACOB**

2001  The cost of radiotherapy for bone metastases: A quality adjusted analysis
South Western Sydney Area Health Service/Hope Health Care Annual Palliative Care Conference, Sydney Australia.

**ASSOCIATE PROFESSOR BILL KRICKER**

2001  Implementation of an Area Clinical Cancer Registry – How to Eat an Elephant.
Health Outcomes Conference, Canberra, Australia.

**DR ANDREW KNEEBONE**

1998  Sucralfate and radiation induced bowel injury – the definitive overview.
Radiation Induced Gastro-Intestinal Toxicity Workshop.
Port Douglas, Queensland.

1998  Locally advanced breast cancer hypotheticals
Annual Scientific Meeting for COSA.

1999  A double blind randomised trial to assess the effect of oral sulcralfate on the acute proctitis associated with prostate radiotherapy
RANZCR Annual General Meeting, Sydney, Australia.
Awarded the Medical Applications Prize for the best original research from a fellow of the Faculty of Radiation Oncology.

2000  Advances in the radiotherapeutic management of prostate cancer. National Conference of the Medical Oncology Group and the Faculty of Radiation Oncology Sydney Australia. Same talk also given at the June meeting of the NSW Genito-Urinary Oncology Group.

2000  The natural history of radiation bowel complications and overview as to the role of Sucralfate
Radiation Induced Gastro-Intestinal Toxicity Workshop, Port Douglas, Queensland, Australia.

1998-2001  Role of radiotherapy for rectal cancer
Annual Colorectal Seminar for Nurses and Allied Health, Liverpool Hospital, Sydney, Australia.

**DR ELIZABETH HOVEY**

National Fellows Conference, Orlando, Florida, USA (short-listed for best presentation).
2001  Role of radiotherapy for the palliation of pain
       Pain Seminar, Liverpool Hospital, Sydney Australia.

2001  Prostate Cancer Education Day
       Education workshop on prostate cancer for the general
       public organised by the Prostate Cancer Foundation and
       the South Western Sydney Prostate Cancer Support Group.
       Liverpool Hospital, Sydney Australia.

2001  Screening For Prostate Cancer. What’s The Current
       Status?
       Bankstown Division of General Practitioners, Sydney
       Australia.

2001  NHMRC Guidelines On Management Of Colorectal
       Cancer.
       Conducted a series of workshops for General Practitioners
       aimed at disseminating awareness of colorectal cancer
       guidelines organised by NSW Genetics Education Unit.

MS SHARON MILES

2000  Quality Assurance – ANZLG/TROG prospective study
       of limited chemotherapy and involved field
       radiotherapy for patients with clinical stage I to II
       Hodgkin’s Disease
       Australasian Leukaemia and Lymphoma Group Sydney.

DR SHALINI VINOD

1999  Junior Forum Survey.
       RANZCR Annual Scientific Meeting 2000, Sydney, Australia.

2000  Part-time consultancy and training
       Faculty Forum, RANZCR Annual Scientific Meeting.

2001  A Basic Treatment Equivalent for Gynaecological
       Brachytherapy
       International Congress of Radiation Oncology.

Reports and Submissions

1998  Rectal Cancer Problem Based Learning Module
       Kneebone A, Clarke S, Lee P, Loder P, Simons R.

1998  High dose rate brachytherapy alone in the treatment
       of cervical carcinoma. Presented at 8th Annual
       Australasian Brachytherapy Conference and Workshop
       Fowler A, Macleod C.

1999  Options paper Liverpool vs. Macarthur - The location
       of the next linear accelerator
       Berry MP, Viswasam G.

2000  Ideal Oncology Curriculum for Medical Schools
       Oncology Education Committee, Australian Cancer Society.

2000  Screening for individuals at above-average risk for
       colorectal cancer
       Barton M, Frommer M, Brassil A, Jalaludin B, Tynan K
       and Kirk J.
       NSW Cancer Council.

2000  A discussion paper on subspecialisation in radiation
       oncology : a report to the Faculty of Radiation Oncology
       Stevens G, Berry MP.

2001  A trial of videoconferencing of multidisciplinary breast
       cancer clinical meetings in South Western Sydney
       Jacob S, Delaney G, Barton MB.
       Report to NHMRC National Breast Cancer Centre.

2001  The Hidden Burden – Cancer in Papua New Guinea
       Cancer Services Report for AusAID.

2001  A Basic Treatment Equivalent for Gynaecological
       Brachytherapy – A Pilot Study.
       Vinod S, Macleod C, Fowler A, Delaney G, Barton M,
       Jalaludin B.
       To be presented at ICRO 2001, Melbourne.
Associate Professor Michael Barton received the inaugural award for Professional Excellence in the field of Professional Education from the NSW Cancer Council.

The award was presented at a special ceremony at Parliament House on 5 May 2000 and recognises “long-term contribution, significant achievement and innovation in professional health educator multidisciplinary activities”.

During a long and distinguished career in Radiation Oncology and professional education, Professor Barton has made an enormous contribution to improving oncology education and training.

The judges noted his dedication and commitment to achieving best practice in the field and were impressed with his innovative approach, strong emphasis on collaboration, and commitment to multidisciplinary education.

PEOPLE’S CHOICE POSTER
AWARD AT FOURTH LEURA INTERNATIONAL BREAST CANCER CONFERENCE
Geoff Delaney and Susannah Jacob
November 2000 for the poster presentation, “Use of videoconferencing in multidisciplinary breast cancer clinical meetings in South Western Sydney”.

Dr Michael Barton and Roy Medich show off Liverpool Hospital’s linear accelerator.

Awards
PAPUA NEW GUINEA

CCORE supplied a team of experts in oncology and Health Service Management to perform a feasibility study of the provision of oncology services in Papua New Guinea in March 2001.

The team consisted of:
- Associate Professor Michael Barton, Radiation Oncologist
- Associate Professor Tomas Kron, Medical Physicist
- Professor Martin Tattersall, Medical Oncologist
- Ms Jo Smylie, Radiation Therapist
- Associate Professor William Kricker, Expert in Health Service Management

The multi-disciplinary team examined all aspects of the operation of cancer services and provided recommendations on training required, support services required and costing. The team found evidence for an unrecognised and alarmingly high incidence of cancer. Among the recommendations was the development of a Cancer Control Plan to be overseen by a National Cancer Control Board. The team’s report has been accepted by the Government of Papua New Guinea and priorities for implementation are being examined.

AREA CANCER CONTROL NETWORK

The Optimising Cancer Management Report to the NSW Health Department recommended a Cancer Service Model to integrate cancer services as Networks within Area Health Services. The Report describes models of care that account for population interests across all aspects of cancer control, through prevention, screening, treatment and palliation.

South Western Sydney Area Health Service along with the four other metropolitan Area Health Services have appointed Cancer Network Directors. There is great diversity in the management structures, quality of facilities, public private service mix and demographics between Areas. The current situation is a legacy that reflects the development of cancer services on a sector basis within Areas and the historical pre-eminence of particular teaching hospitals.

Dr Martin Berry was appointed as the Director of Area Cancer Control Network in November 2000 and CCORE is supplying the project management to support him in this role.

Associate Professor Bill Kricker who has extensive experience in health management and Information Technology, has been an invaluable resource for implementing this extremely complex and challenging task.

While recognising diversity in structure and management, there are some common elements that are required to effectively implement and manage a Cancer Control Network. For each of the services in a Network there needs to be a concept of what is a “good” service. This will be a multi-dimensional paradigm that will inevitably evolve over time.

The challenge to working as change agents in health is where and how to start. Associate Professor Bill Kricker has developed a framework that describes the steps for building up information to effectively manage an Area Cancer Control Network. The process of unbundling funding arrangements and ascertaining cancer-related activity across the public and private continuum of care is complex.

From left: Jo Smylie, Margaret Samei (CEO ANGAU Memorial Hospital, Lae), Bill Kricker (rear), Martin Tattersall, Tomas Kron.
The advantage of completing this task is to put decision making on a factual basis as opposed to empirical reasoning. The process goes 'hand in glove' with the implementation of area clinical cancer registries that will capture treatment outcomes.

By identifying the elements and understanding the resource, service and outcomes nexus, evidence-based information can be the driver to achieve what is 'good'.

**AREA CLINICAL CANCER REGISTRY**

The Optimising Cancer Management Committee report to the NSW Health Department recommended a Cancer Service Model with the aim of integrating cancer services at an Area level. A requirement for an information system in the form of an Area Clinical Cancer Registry (ACCR) was identified to validate and support this model.

A cancer clinical data model, data dictionary and minimum data set have been developed under the auspices of the NSW Department of Health to support the concept of ACCR's. In NSW there is currently no registry system that collects local outcome data on patients who have had cancer treatment and the lack of this data is a major impediment to improving safety and quality.

The development of an ACCR is consistent with other current and planned information technology initiatives within the NSW health system. The ACCR proposes links with the Health Information Exchange as a mechanism for data exchange between area registries and the NSW Central Cancer Registry. A particular advantage of ACCR's is the capture of clinical data on radiotherapy and chemotherapy treatments that are often delivered on an outpatient basis.

South Western Sydney Area Health Service is committed to implementing the Cancer Service Model in keeping with the Department of Health policy and stage one has been funded locally by the Information Services Department. Associate Professor Bill Kriker, Dr Martin Berry, Dr Geoff Delaney and CCORE have developed a staged implementation plan to bridge the gap between policy, planning and practice. No less than ten State and four Area-based Information Technology and Information Management initiatives were identified for consideration in the planning process for an ACCR. The exercise of constructing a framework exposed the difficulties of implementing policy into complex systems, in particular stakeholder interpretation of the concept and language, implementation inexperience and time constraints.

Ultimately the benefit of the ACCR will be timely, local outcomes data leading to improved quality of service delivery.

One of the initiatives of the Cancer Information Management and Technology sub-committee of the Cancer Advisory Committee is to explore the issues and consider implementing an Area Cancer Registry.

**DISTANCE LEARNING IN THE BASIC SCIENCES OF ONCOLOGY**

There is a worldwide shortage of radiation oncologists. We estimate that in South East Asia alone 800 radiation oncologists are needed to meet the current population demand. The International Atomic Energy Agency (IAEA) has previously supported trainees for fellowships in Europe and Australia.

There are many disadvantages including costs, dislocation of trainees and the fact that many trainees may choose to work overseas and not return to their own country. The aim of this project is to develop a distance learning course in the basic sciences of oncology (BSO) for radiation oncology trainees that supplements existing texts and training schemes in the Asian Pacific Regional Cooperative Agreement. The existing BSO course run in Sydney covers physics, radiobiology, functional anatomy, chemotherapy, palliative care, molecular biology, critical appraisal and communication skills. It was conceived to prepare radiation oncology trainees for their first specialist exam. The course was broadened to include medical oncology trainees and some non-medical oncology professionals such as physicists and radiation therapists. There have been over 140 students in the past 8 years. This course will be converted and modified into a distance learning course to be delivered on CD-ROM. Associate Professor Michael Barton has been responsible for coordinating the expert authors of the learning modules as well as being an author himself. In Kuala Lumpur, Malaysia in December 1999, a meeting of representatives from Africa and three from Latin America met to form an Advisory Board. IAEA have now funded the development of materials and the CD should be ready for piloting by December 2001. The pilots will be conducted in Egypt, Argentina, the Philippines, Pakistan and Malaysia. If successful the program will be translated into Chinese, Russian and Spanish.
IDEAL ONCOLOGY CURRICULUM

The Australian Cancer Society Statement of 1988 stated: “In all Australian medical schools a compulsory course in oncology should be established, this topic should be examinable, and the presence of an appropriate course should be a requirement for an accreditation review”.

The Oncology Education Committee of the National Cancer Advisory Committee, in extensive consultation with academic staff of all medical schools in Australia and New Zealand, has revised the 1988 Australian Cancer Society: Statement on undergraduate cancer education to identify core skills and competencies in oncology that graduating medical students should possess.

A survey of cancer education for Australian medical students in 1986 resulted in the Australian Cancer Society developing guidelines for an “ideal” cancer curriculum, circulated to all Australian medical schools in 1989. The International Union Against Cancer (UICC), a non-governmental independent association of more than 290 member organisations in more than 90 countries, published a monograph on cancer education for medical students in 1994. The monograph describes global concerns about the status of medical student education about cancer, and provides a series of model curricula. A survey of cancer curricula in Australia and New Zealand medical schools was undertaken in 1997. The survey instrument was based on the 1989 curriculum recommendations of the Australian Cancer Society. This survey was repeated in 2001, the analysis of which is currently under way.

This most recent survey was designed to allow direct comparability with the 1989 survey with the addition of questions related to the Australian Cancer Society Ideal Oncology Curriculum for Medical Schools. The curriculum developed by the Oncology Education Committee provides a template for improved medical student cancer education in Australia and New Zealand.

SCREENING FOR INDIVIDUALS AT ABOVE-AVERAGE RISK FOR COLORECTAL CANCER

CCORE was commissioned by the New South Wales Cancer Council to report on options for the screening of individuals at above-average risk of colorectal cancer in Australia.

In accordance with recently published Australian guidelines for the prevention and treatment of colorectal cancer (National Health and Medical Research Council, 1999), we define above-average risk as “a risk level at least three times the age-specific average risk”. Following from this definition, we recommend targeting the following groups for screening:

- Individuals who have had a colorectal cancer
- First-degree relatives of individuals who were diagnosed with colorectal cancer before the age of 55 years
- First-degree relatives of individuals who (a) were diagnosed with colorectal cancer when aged 55 years or older, and (b) have one other first-degree relative with colorectal cancer.

The overall intent of the proposed program is to develop, establish, maintain, evaluate and enhance screening, thereby reducing morbidity and mortality from colorectal cancer in people with above-average risk of the disease.

USE OF ELECTRONIC POLLING AS A TOOL TO IMPLEMENT BEST PRACTICE

Berry MP, Kneebone A, Cozzi P, deSouza P, Jackson M, Jackson P, Molloy P.

This project aims to identify how electronic polling can be best utilised as an educational and motivational tool for clinicians. An educational workshop was held June 22-24, 2001 with the aim of presenting information in an evidence-based format. Participants included radiation oncologists, medical oncologists, surgeons and scientists, both trainees and qualified specialists, from Australia and New Zealand. At the outset participants were polled using electronic handsets and a number of descriptors were collected together with an assessment of their knowledge on a number of key clinical issues. The polling technique allowed an anonymous response and results were instantaneously available using computer generated figures (pie charts and bar graphs) so that individuals could assess how their answers compared with the whole group.

Presenters were then asked to lecture over the next 2 days using an evidence-based format. On conclusion of the workshop the same questions were raised and responses collated electronically. Analysis of these responses is now being carried out to identify changes in knowledge and opinion and factors that may have affected these changes.
NEW MEDICAL GRADUATES’ KNOWLEDGE ABOUT CANCER: THE AUSTRALIAN CANCER SOCIETY CANCER EDUCATION SURVEY

Barton MB, Tattersall MH, Butow P, Crossing S, Jamrozik K, Jalaludin B, Miles S.

Cancer is a leading cause of death in Australia yet past research shows that the subject is not well taught and that medical graduates have substantial gaps in knowledge and serious concerns about their own skills in areas such as performing a Pap smear or discussing death with a dying patient.

Over the last decade new medical courses have begun in several Australian universities. We wished to assess whether there had been any improvements in the education of medical students about cancer. The aims of this survey were (1) to assess the knowledge and perceptions of new medical graduates about cancer and teaching on cancer and, (2) to compare with the results of the previous survey in 1990.

We surveyed recently graduated interns in a random sample of Australian and New Zealand hospitals. The survey instrument was designed to allow direct comparability with the survey of 1990 and included questions about knowledge and perceptions of their own competency at key tasks and the quality of their teaching.

New questions were added on screening, guidelines and types of teaching and were guided by the Australian Cancer Society Ideal Oncology Curriculum for Medical Schools.

In January 2001, 379 interns completed the survey, mostly during their hospital orientation week. The response fraction was 64%. When compared with the responses from 1990 more interns rated their competence as ‘little’ or ‘nil’ for performing a Pap smear (22% in 1990 versus 32% in 2001) and in recognising a melanoma (11% versus 25% in 2001). However recent graduates were more comfortable discussing death with a dying patient (70% reporting little/nil competence in 1990 versus 43% in 2001). Two-thirds thought, incorrectly, that the greatest risk of developing cervical cancer was when a woman was in the 30 to 40 year age group. This is unchanged from 1990. More interns had examined a malignant breast lump (17% versus 87% in 2001), rectal cancer (14% versus 47% in 2001) and melanoma (20% versus 76%).

There had been greater exposure to specialist oncology centres with only 20% saying they had never attended radiotherapy clinics (versus 42% in 1990) and 12% never attended palliative care (versus 50% in 1990). However, 24% felt they had poor competence at breaking bad news and 40% did not know there was valid evidence for colorectal screening. By contrast 60% thought screening for melanoma was effective and 50% reported, erroneously, that there was a lung cancer screening service in their state.

Nearly two-thirds were unaware of the National Guidelines on Psychosocial Care of Cancer Patients. Nearly one third rated their teaching on the management of incurable cancer and symptoms of dying patients as ‘poor’ or ‘very poor’. The results in all areas varied significantly between universities.

There have been considerable improvements in interns’ knowledge but worryingly large proportions rated their competence as poor or had gaps in areas of key knowledge. The variation between universities is of considerable concern.
DRIVING HEALTH REFORM
10-11 June 1999, Liverpool

CCORE, in conjunction with the Simpson Centre for Health Service Innovation hosted the third Driving Health Reform conference in June 1999. The theme of the conference was “Putting it into Practice”. Strategies and methods to convert theory into practice were presented including practical examples of how this has been done in specific clinical contexts.

The five major areas covered in the program were:
1. Evidence Based Medicine
2. Issues of compassion and consumer involvement in acute hospitals, particularly in relation of dying patients
3. Whistle blowing
4. Delivery of cancer services
5. The relationship between acute hospitals, general practitioners and the wider community.

RADIATION THERAPY 2000 AND BEYOND SUMMIT
8-10 November 2000, Sydney

Associate Professor Michael Barton chaired the Radiation Therapy Working Group who organised this conference in conjunction with the New South Wales Cancer Council.

Over the past twenty years many reports on radiation therapy services have been developed but this treatment is still not widely utilised. Key issues discussed at the Summit included access inequality, access to services in rural areas and quality of care. The Summit has proposed an increase in funding of radiation therapy services, better access to radiation therapy services for patients in rural areas, an increase in the radiation therapist workforce and an investment in new radiation technologies.

The Summit was considered to be very successful and achieved its aim of influencing key stakeholders and advocating the need for positive development in access to and provision of radiation therapy services in New South Wales. The audience comprised of 162 State and Federal Government policy and decision-makers, radiation oncologists, radiation therapist and other health professionals and consumers. Every State and Territory in Australia was represented.

The end result of this Summit will be the production of a CD ROM that will house the Conference Proceedings, pre-reading material, visual presentations and a Cancer Council prepared Advocacy Paper.

14TH ANNUAL SCIENTIFIC MEETING OF THE EUROPEAN ASSOCIATION FOR CANCER EDUCATION
2-5 May 2001, Antwerp, Belgium

Associate Professor Michael Barton was a Scientific Committee member of the European Association for Cancer Education. The meeting was organised in collaboration with the WHO-Collaborating Centre for Cancer education, the International Union Against Cancer/Union International Contre le Cancer and the Oncology Centre Antwerp.

The aim of the Association is to bring together health professionals working in the field of cancer education to discuss educational strategies.
Committee Representations

ASSOCIATE PROFESSOR MICHAEL BARTON
1994 – 2001  Board Member, Faculty of Radiation Oncology, Royal Australian and New Zealand College of Radiologists.
1995 – Present  Chairman, Australian Cancer Society, Oncology Education Committee.
1999 – Present  Member Governing Committee of the NSW Cancer Control Network, NSW Cancer Council.
2000  Member, National Strategic Plan for Radiation Oncology Services.

DR MARTIN BERRY
1993 – Present  Convenor, RANZCR Paediatric Radiation Oncology Group.
1993 – Present  Convenor, Genito-Urinary Oncology Group (GUOG) and Organising Committee, GUOG National Conference.
1993 – Present  Convenor, ANZCCG Committee of Paediatric Radiation Oncologists.

DR GEOFF DELANEY
1996 – Present  Member of the Medical Council, United Medical Protection.
1997 – Present  NSW Department of Health Breast Advisory Committee.

DR ALLAN FOWLER
2001  CTC Quality Assurance Committee Radiation Therapy Quality Improvement Committee
Area Cancer Control Network.

DR ELIZABETH HOVEY
1990  Intern Representative-RMO Club, Royal Prince Alfred Hospital.
1994-1995  RMO-Liaison Officer for Post-Graduate Medical Education Committee, Royal Prince Alfred Hospital.
1997-1998  Executive member, RMO Committee for PSA (NSW Public Service Association Branch).

DR ANDREW HUI
2001  Member (Junior Forum Representative) Radiation Oncology Faculty Board, RANZCR.
2001  Member, Website Advisory Board, RANZCR.

DR ANDREW KNEEBONE
2001  Member, Colorectal Cancer Care Survey Advisory Committee NSW Cancer Council.
2001  Member, Australian Prostate Cancer Consumer Guidelines Working Group.
2001  Member, Australasian Radiation Oncology Lymphoma Group.
<table>
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<tr>
<th>Year</th>
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<td>Ausaid</td>
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Partnerships and Collaborations

Partnerships and collaborations with other health professionals and organisations are essential to providing high quality expertise in clinical research. We thank the following individuals and organisations for their involvement.

Professor Bruce Armstrong  NSW Cancer Council Australian Cancer Society
Mr Tim Becker  Mustard Communications
Ms Ann Brassil  Director, Breastscreen NSW
Ms Burcu Cakir  Department of Radiation Oncology, Westmead Hospital
Ms Stacey Cail  Radiation Oncology, St George Hospital
Dr Susan Carroll  Department of Radiation Oncology, Prince of Wales Hospital
Dr John Cartmill  Department of Surgery, Nepean Hospital
Dr Allison Colley  Geneticist, South Western Sydney Area Health Service
Dr Richard Foster  Sydney Adventist Hospital
Mr Val Gebski  Statistician, NHMRC Clinical Trials Centre, University of Sydney
Mrs Barbara Gildea  Medical Oncology, Cancer Therapy Centre, Liverpool Health Service
Ms Sue Griffiths  Cookridge Hospital, Leeds, United Kingdom
Associate Professor Chris Hamilton  Department of Radiation Oncology, Mater Misericordiae Hospital, Newcastle, NSW
Professor Michael Hensley  University of Newcastle
Dr George Hruhy  Department of Radiation Oncology, Royal Prince Alfred Hospital
Dr Ric Idemma  Centre for Health Services Management and Information Research, University of NSW
Information Services Department  South Western Sydney Area Health Service
International Atomic Energy Agency
Dr Judy Kirk  Specialist in Cancer Genetics, Westmead Hospital
Dr Margot Lehman  Andrew Love Cancer Centre, Geelong Hospital, Victoria
Dr Peter Loder  Colo-Rectal Surgeon, Hornsby
Ms Junie McCourt  Department of Radiation Oncology, Westmead Hospital
Professor William MacKillop  Ontario, Canada
Dr Craig MacLeod  Murray Valley Radiation Oncology Centre (formerly Department of Radiation Oncology, Royal Prince Alfred Hospital)
Dr Eugene Moylan  Director Medical Oncology, Cancer Therapy Centre, Liverpool Health Service
Dr Elias Nasser  Cancer Care Centre, Illawarra Health Service
New South Wales Cancer Council
Dr George Papadatos  William Buckland Radiotherapy Centre (formerly of Radiation Oncology, St George Hospital)
Radiation Oncology Departments in Australia and New Zealand
Dr Sally Redman  Director, National Breast Cancer Centre
Dr David Roder  Consultant Epidemiologist, Anti-Cancer Foundation of South Australia
Dr Graham Stevens  Oncology, Dunedin Hospital, New Zealand (formerly of Department of Radiation Oncology, Royal Prince Alfred Hospital)
Professor Martin Tattersall  Department of Medical Oncology, Royal Prince Alfred Hospital
Dr Julia Thompson  Coordinator Hereditary Bowel Cancer Registers, NSW Cancer Council
Dr Sandra Turner  Department of Radiation Oncology, Westmead Hospital
Dr Mark Winters  Centre for Health Services Management and Information Research, University of NSW
Dr Andrew Wirth  Peter MacCallum Cancer Institute
Associate Professor Philip Yuile  The Royal North Shore and Mater Misericordiae Hospitals, Sydney
CCORE was officially launched on 11 March 2000 by Dr Andrew Penman, CEO of the NSW Cancer Council. Other speakers included Mr Ian Southwell, CEO of SWSAHS, Dr Martin Berry, Director of the Cancer Therapy Centre and A/Prof Michael Barton, Research Director of CCORE.

Dr Andrew Penman..."What is outstanding about the commitment in CCORE...is that it is based within a health care organisation with a commitment to identifying, measuring and improving the structures and processes of care within the organisation and its environment that account for systematic variation in outcomes. It also includes the potential to intervene in the population in a way that improves outcomes."

New Premises

CCORE moved into new premises within Liverpool Hospital in November 2000.

Pictured from top to bottom are CCORE’s new Foyer, Conference Room and Work Stations.
Future Directions

- Assist in the development and implementation of an Area Clinical Cancer Registry
- Project management for the Area Cancer Control Network
- Distance learning projects for both specialised training and for general practitioners and students
- Health outcomes evaluation across tumour sites of interest
<table>
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<tr>
<th>Abbreviation</th>
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<tr>
<td>ACCR</td>
<td>Area Clinical Cancer Registry</td>
</tr>
<tr>
<td>ACT</td>
<td>Australian Capital Territory</td>
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<tr>
<td>AIR</td>
<td>Australian Institute of Radiology</td>
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<td>ANZLG</td>
<td>Australia and New Zealand Lymphoma Group</td>
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<td>ANZCCSG</td>
<td>Australia and New Zealand Children’s Cancer Study Group</td>
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<td>AusAID</td>
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<td>BCCA</td>
<td>British Columbia Cancer Agency</td>
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<td>BSO</td>
<td>Basic Sciences of Oncology</td>
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<td>BTE</td>
<td>Basic Treatment Equivalent</td>
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<td>CCORE</td>
<td>Collaboration for Cancer Outcomes Research and Evaluation</td>
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<td>Chief Executive Officer</td>
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<td>COSA</td>
<td>Clinical Oncological Society of Australia</td>
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<td>CRC</td>
<td>Colo-Rectal Cancer</td>
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<td>EORTC</td>
<td>European Organisation for Research and Treatment of Cancer</td>
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<tr>
<td>FAP</td>
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<td>GI</td>
<td>Gastrointestinal</td>
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<td>GP</td>
<td>General Practitioner</td>
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<td>HNPCCC</td>
<td>Hereditary Non-Polyposis Carcinoma of the Colon</td>
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<td>International Atomic Energy Agency</td>
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<td>ISRRT</td>
<td>International Society of Radiographers and Radiological Technologists</td>
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<td>NCOG</td>
<td>New South Wales Clinical Oncology Group</td>
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<td>NH&amp;MRC</td>
<td>National Health and Medical Research Council</td>
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<td>PSA</td>
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<td>RANZCR</td>
<td>Royal Australia and New Zealand College of Radiologists</td>
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<td>RMO</td>
<td>Resident Medical Officer</td>
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<td>SWSAHS</td>
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<td>TNM</td>
<td>Tumour — Nodes — Metastases. A method of staging cancer</td>
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<td>UIICC</td>
<td>Union Internationale Contre le Cancer/International Union Against Cancer</td>
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