

Presenter: Armstrong, Bruce (Prof.)

Title of Lecture: Cancer Control Research

COMMONWEALTH OF AUSTRALIA

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Cancer Control Research

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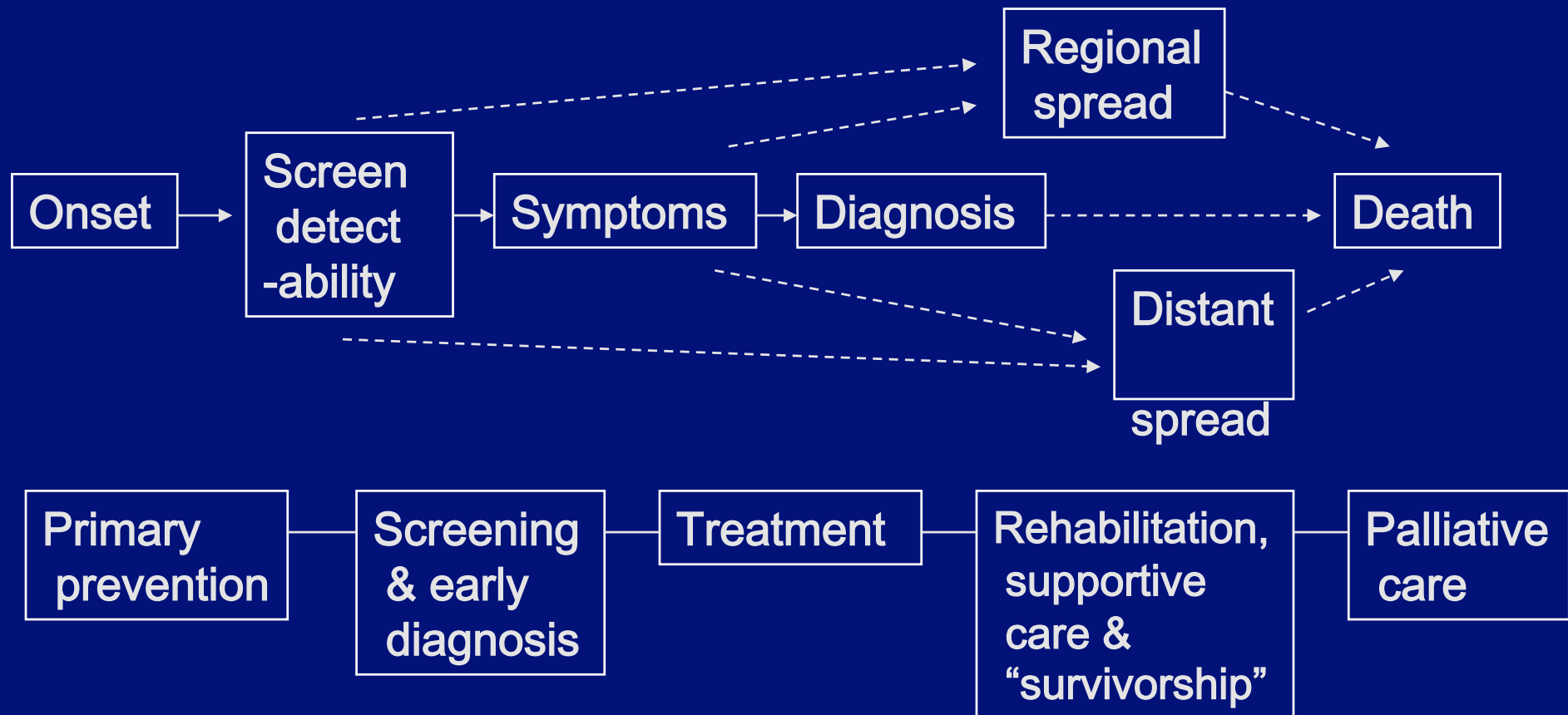


Cancer Control

Cancer control the application of research-based knowledge to reducing the burden of cancer to people and the community at all points along a continuum from prevention to screening and early diagnosis, treatment, rehabilitation and supportive care (survivorship) and palliative care.



The continuum of cancer and cancer care

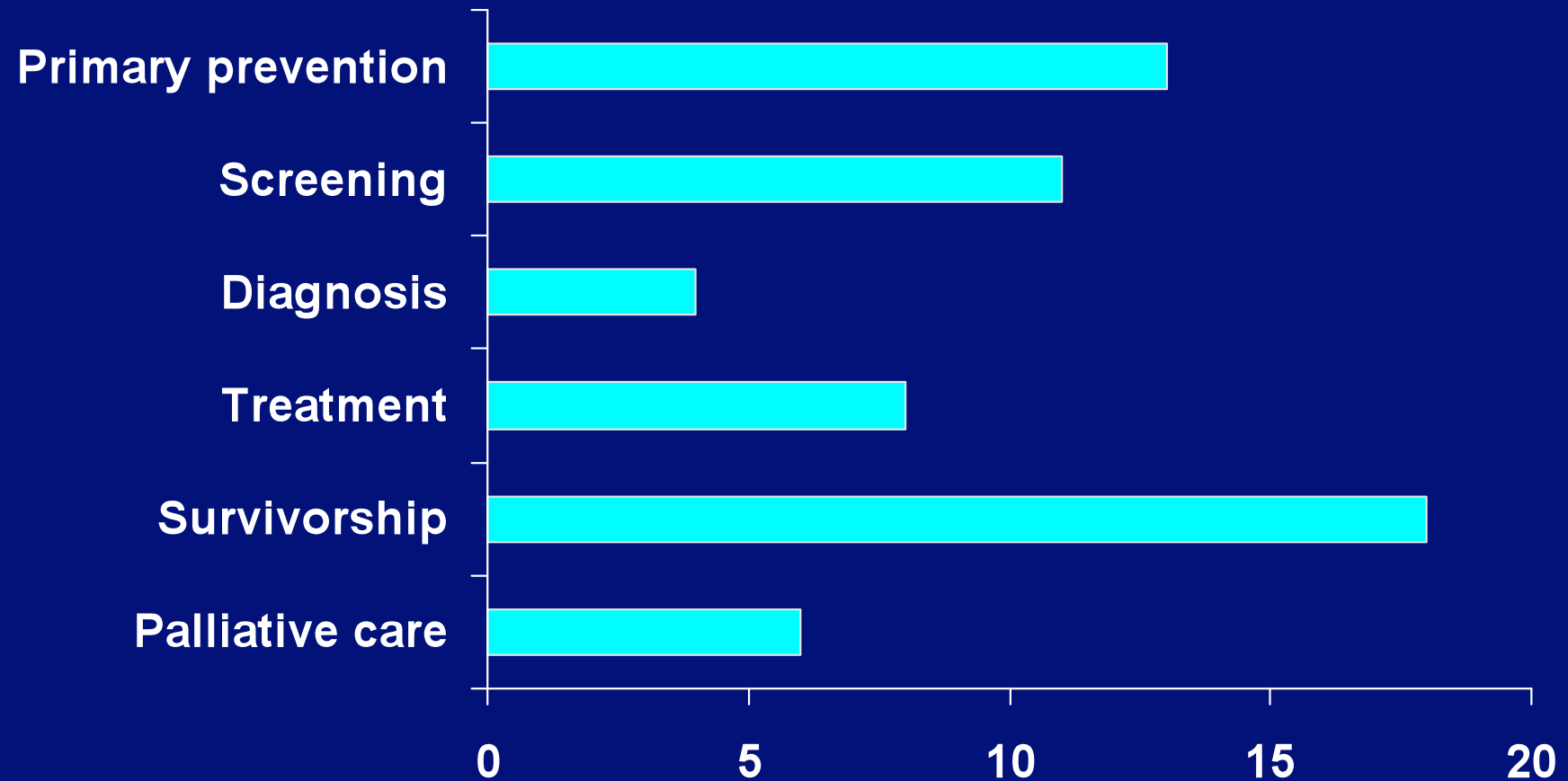


Data collection

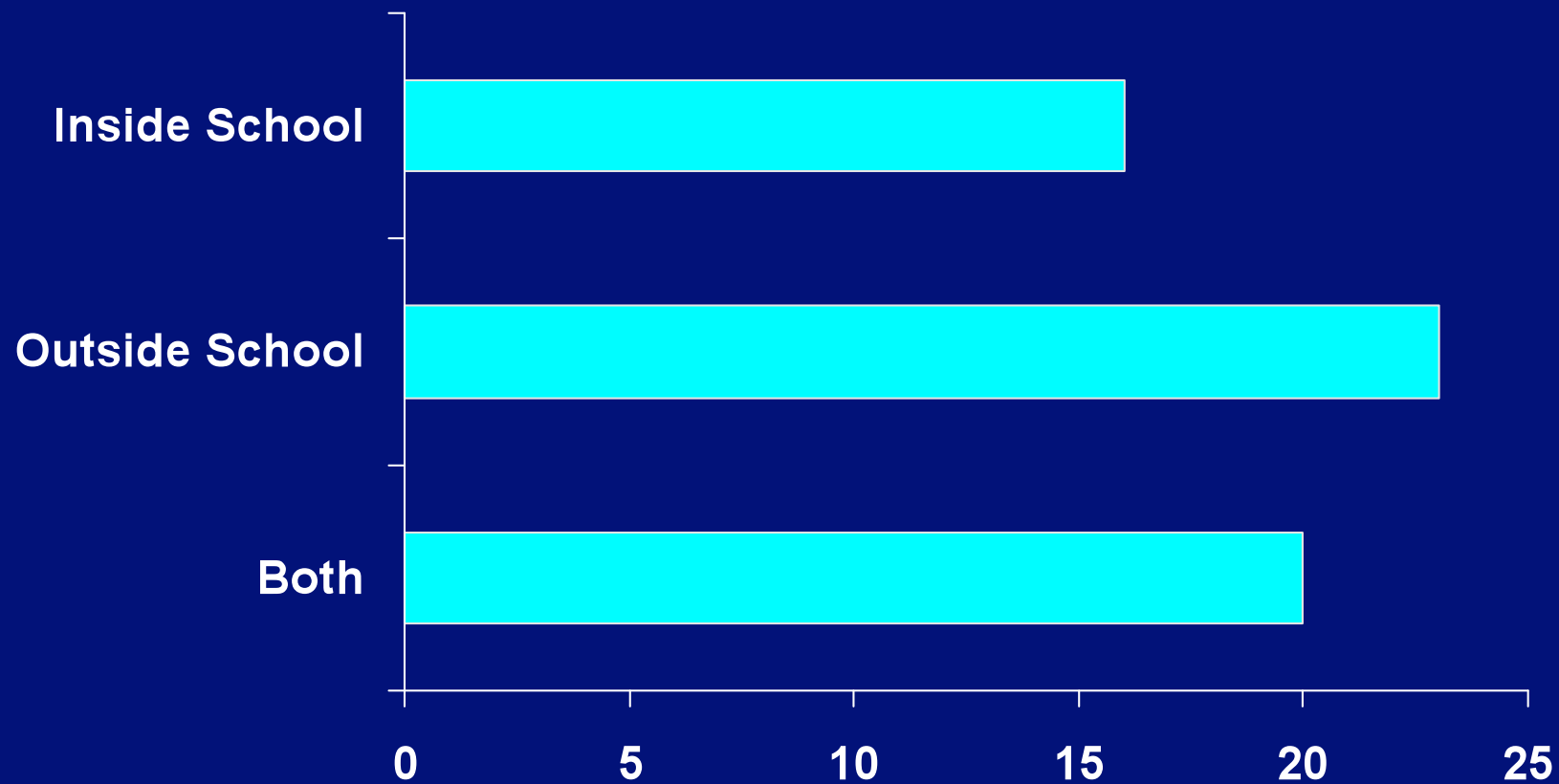
- Questionnaire to School Academics
- 20 responses



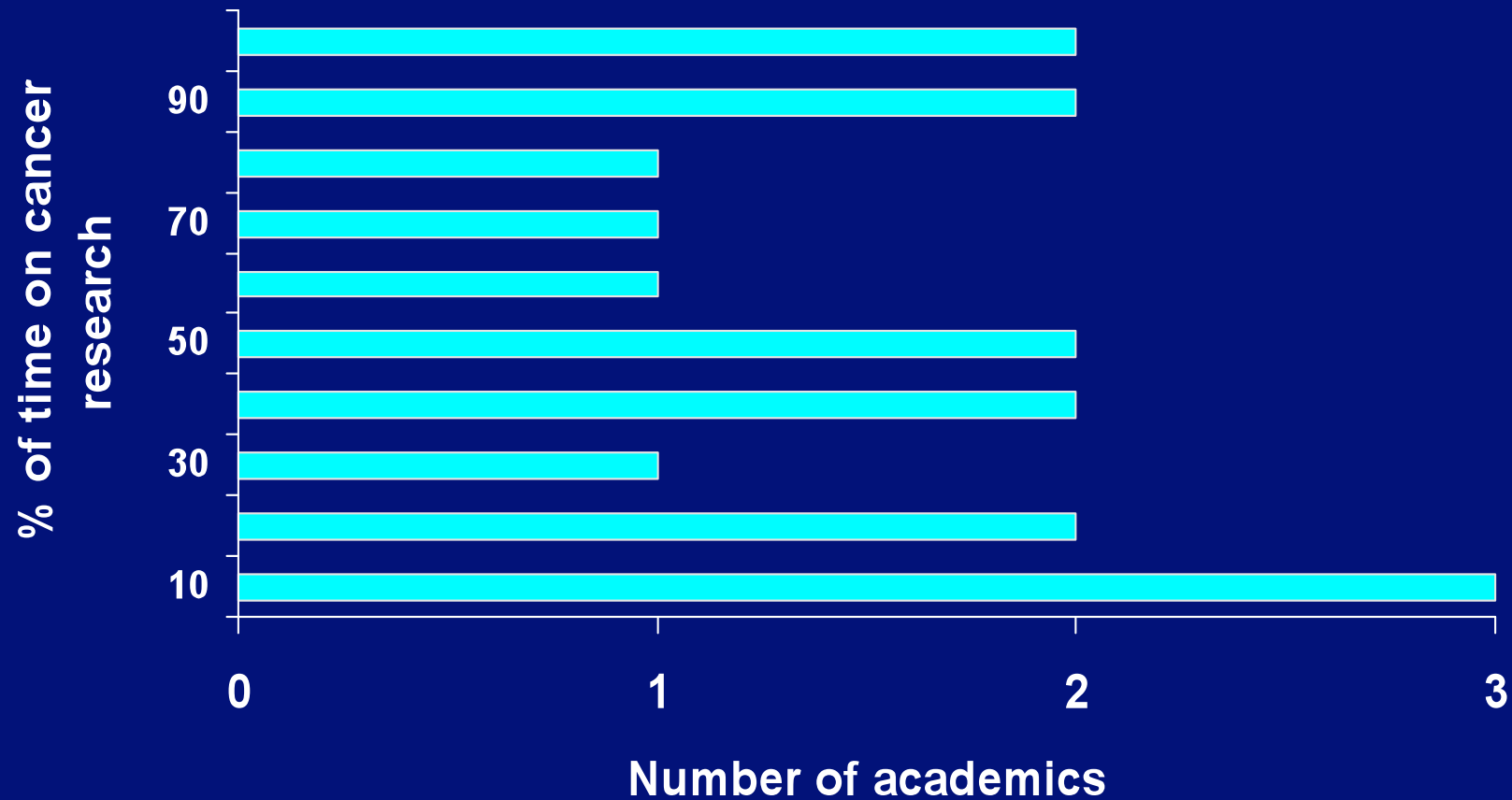
Fields of research



Location of research



Time spent on cancer research



Primary prevention



Primary prevention environment – observation

- Assessment of global burden of disease arising from occupational carcinogens
- Cancer cluster investigation in two sites
- Relationship of mobile phone use to brain tumours
- Water disinfection by-products and colorectal cancer
- Causes and prevention of leukaemia and brain tumour in childhood
- *Assessment of prevalence of exposure to occupational carcinogens*
- *Probably more cancer cluster investigations*
- *Sources of asbestos now causing mesothelioma*



Primary prevention behaviour – observation

- Physical activity and sedentary behaviour surveillance and measurement research
- A natural history of smoking in a cohort of disadvantaged young people aged 14 to 24.
- Role of cannabis in maintaining tobacco dependence in young men on the North Coast
- Role of sun exposure and vitamin D in preventing some cancers
- Role of sun exposure, HPV and tobacco and alcohol use in causing cutaneous BCC and SCC



Primary prevention behaviour – intervention

- Use of Web 2.0 internet sites to undermine tobacco advertising bans and to mobilise tobacco control advocates.
- Development of a smoking cessation program for pregnant Aboriginal women
- Decision support for primary and secondary prevention choices in general practice (My Health check)
- Decision support for cervical cancer risk reduction in young women
- Evaluation of Quitline and other mass media cancer prevention campaigns
- Role of micronutrients in preventing DNA damage
- Study of what characterises influential public health policy research in Australia
- *RCT on physical activity promotion in physiotherapy practice*
- *Further intervention research with population groups with high prevalence of smoking*
- *Evaluation of effects of current and plain cigarette package design on smokers' cigarette.*



Primary prevention infection – observation

- Development of a validated measure of knowledge of and attitudes toward HPV vaccination
- *Vertical transmission of Hepatitis C amongst injecting drug users' – Hepatoma is a risk of untreated Hep C.*



Primary prevention infection – intervention

- Improving community-based diagnosis and treatment of chronic Hepatitis B in at-risk communities in NSW
- Survey of barriers and facilitators in HPV vaccine program implementation in general practice
- Qualitative study of barriers and facilitators of HPV vaccination in schools
- Process evaluation of HPV vaccine program implementation for females aged 18 to 26
- *HPV educational intervention and its evaluation in schools.*
- *Developing a community-based intervention to reduce the burden of viral hepatitis and liver cancer in Indigenous communities*



Primary prevention

Capacity, infrastructure, other

- The Australian Health News Research Collaboration
- Low and middle income countries tobacco control research mentoring project
- How do lay people understand the risk of developing cancer?



Screening and early diagnosis



Screening – observation

- Estimation of the extent of over-diagnosis of breast cancer from mammography screening in Australia
- Weighing benefits and harms of cancer screening
- Equity of bowel cancer screening: an epidemiological and qualitative study
- Model of outcomes of PSA screening for Australian men
- BEACH program: Cancer screening in general practice
- SES and country of birth variation in cervical screening in NSW
- Cervical screening in women with drug and alcohol problems
- *Family history and GP triage for colorectal cancer screening*



Screening – intervention

- Improving health literacy about cervical and breast cancer in rural women in Tamil Nadu
- Development and evaluation of a PSA decision aid for men at high risk for prostate cancer
- Development and RCT of a bowel cancer screening decision aid for adults with low education and literacy
- Use of evidence and other factors by decision-makers in bowel cancer screening policy in Australia, NZ and the UK
- RCT of different management strategies for women with mild cervical cytological abnormalities
- *Phase IV trial of the implementation of 'My health check' in general practice – how do preventive health behaviours and patient preferences change over time?*
- *Low-tech laptop applications for cervical and breast cancer health literacy in Tamil Nadu*



Diagnosis

- BEACH program: Cancer diagnosis in general practice



Treatment



Treatment – type – observation

- Epidemiology, prevention and management of liver cancer in NSW
- *Routine MRI in newly diagnosed breast cancer: Psychosocial impact;*
- *Development of prognostic models for predicting survival in lung and head and neck cancers*



Treatment – type – intervention

- International randomized trial of adjuvant sorafenib after curative surgery for renal cancer
- Evaluation of the benefit of sentinel node biopsy to avoid axillary dissection for patients with early breast cancer
- Evaluation of the effect of commencement of an aromatase inhibitor for women who have completed 5 years of endocrine treatment
- Novel treatments for treatment of relapsed ovarian cancer
- Novel targeted therapies for colorectal cancer
- The role of internal mammary nodes in the treatment of early breast cancer
- Vitamin D as an adjuvant to surgical treatment in high risk melanoma
- Development and evaluation of a consumer friendly cancer clinical trials website, Australian Cancer Trials Online
- *Routine MRI in newly diagnosed breast cancer: Development of a Decision Aid to support informed choice for women*
- *Evaluation of the benefits of chemoradiation for the treatment of oesophago-gastric tumours*
- *Improving appropriate use of adjuvant therapy in the elderly*



Treatment – delivery – observation

- Development of robust measures of quality of colorectal cancer care
- Patterns of care for colorectal, prostate and lung cancers and cutaneous melanoma, comparison with guidelines and effects on cancer outcome
- Patterns of cancer care in Indigenous Australians *Intervention*
- BEACH program: Cancer management in general practice, referrals etc
- *Patterns of care for mesothelioma*



Treatment – delivery – intervention

- Evaluation of consumer questions to prompt doctors to discuss and apply evidence to their care
- *Improving HCC health services delivery and outcomes: a health services research approach*



Rehabilitation, supportive care & cancer survivorship



Follow-up

- Monitoring melanoma
- Comprehensive consequences of melanoma follow-up and management: patient and clinician perspectives
- *Surveillance after a diagnosis of cancer*



Survivorship - observation

- Investigation of the morbidity, survival, quality of life outcomes and cost effectiveness of pelvic exenteration surgery for people with locally-advanced, non-metastatic primary or recurrent cancer in the pelvis
- Incidence and risk factors for lymphoedema secondary to surgery for breast cancer: a prospective cohort study
- A qualitative study of the experience of multiple myeloma
- Quality of life after a diagnosis of prostate cancer
- *National survey to identify disparities in cancer care coordination*
- *Assessment of patterns of surgical care and outcomes for cancer patients using linked data*
- *What do cancer patients and survivors value most in considering complementary and alternative medicine?*



Survivorship - intervention

- Development and validation of novel measures of cancer care coordination; development and testing in RCTs of a centralised, telephone-delivered intervention (the CONNECT intervention) for patients following discharge from hospital after cancer surgery
- Development and testing in an RCT of an adaptation of the CONNECT intervention for carers of patients with poor-prognosis cancers.
- Randomised controlled trial of a multifaceted intervention to improve psychological outcomes for cancer survivors
- RCT of early exercise program for women following breast cancer surgery
- CHALLENGE: A physical activity RCT for colon cancer patients
- RCT on the impact of physical activity on fatigue and quality of life in lung cancer patients
- Prevention of osteoporosis as a consequence of hormone treatment in postmenopausal women treated for breast cancer



Palliative care



Palliative care

- Observation
 - Estimating and communicating prognosis in advanced cancer
- Intervention
 - Randomised controlled trial of a multifaceted intervention to improve end-of-life care for people with advanced cancer.
 - Randomized trial of adding nitroglycerin to chemotherapy for advanced non-small cell lung cancer
 - Accelerated BEP chemotherapy for advanced testicular cancer
 - Alternating sunitinib and everolimus for advanced renal cancer
 - Irreversible EGFR inhibitor versus best supportive care for advanced non-small cell lung cancer
 - Phase 2 trial of a vascular disrupting agent for advanced mesothelioma
 - Evaluation of the value of exercise in patients with end-stage pancreatic carcinomas



Developments and opportunities

- Academic Leader in Cancer Epidemiology
- Cancer Care Research Program
- Cancer Research Network
- CHeReL
- 45 and Up Study



Academic Leader in Cancer Epidemiology

- Professor of Cancer Epidemiology
- \$550,000 per year for five years
- Objectives
 - Further support the NSW Cancer Research Priorities.
 - Increase the critical mass in cancer epidemiology research and researchers in NSW and promote scientific depth, research and teaching of the discipline.
 - Develop a strong academic environment in the Division of Cancer Registries and Information at the Cancer Institute NSW and within the partnering university.
 - Optimise the research and information available to the Cancer Institute NSW from its data bases, registries and linkage activities.
 - Develop new reports, papers and data to assist in the improvement of cancer control in NSW for wide dissemination.



Cancer Care Research Program

- Co-location of CeMPED, Cancer Nursing Research Unit & SOuRCe in *Lifehouse RPA*
- Objectives
 - Increasing the ease and certainty with which patients with a diagnosis of cancer receive best practice cancer treatment and care;
 - Facilitating patients' participation in informed decision-making about their care;
 - Improving patients' and carers' experiences of and satisfaction with all aspects of cancer care;
 - Optimising patients' recovery following cancer treatment and return to highest possible quality of life;
 - More effectively engaging community and primary health care services in cancer patients' care; and
 - Achieving greater equity and cost-effectiveness in the delivery of cancer treatment and care services.



University of Sydney Cancer Research Network

- Opportunities to meet and interact with cancer researchers from all disciplines
- Support for special interest group activities
- Development of critical research infrastructure
- Fund-raising for cancer research



Core Data Sets (NSW)

Admitted Patients Data Collection
July 2000 – June 2008
17,382,617 records

RBDM Birth Registrations
1994–2007
1,233,808 records

RBDM Death Registrations
1994 - 2008
685,202 records

ABS Mortality Data
1985–2006
974,526 records

ABS Perinatal Mortality Data
1994–2007
9,445 records

Midwives Data Collection (babies)
1994–2007
1,234,777 records

Midwives Data Collection (mothers)
1994–2007
1,234,777 records

Central Cancer Registry
1994–2006
423,212 records

The 45 and Up Study
2008
103,056 records

Emergency Department Data Collection
2005–2006
3,498,646 records



CHeReL MASTER LINKAGE KEY

26.8 million records
6.9 million people

Average links per person: 3.7

People with more than one record:
4,394,200



Core Data Sets (ACT)

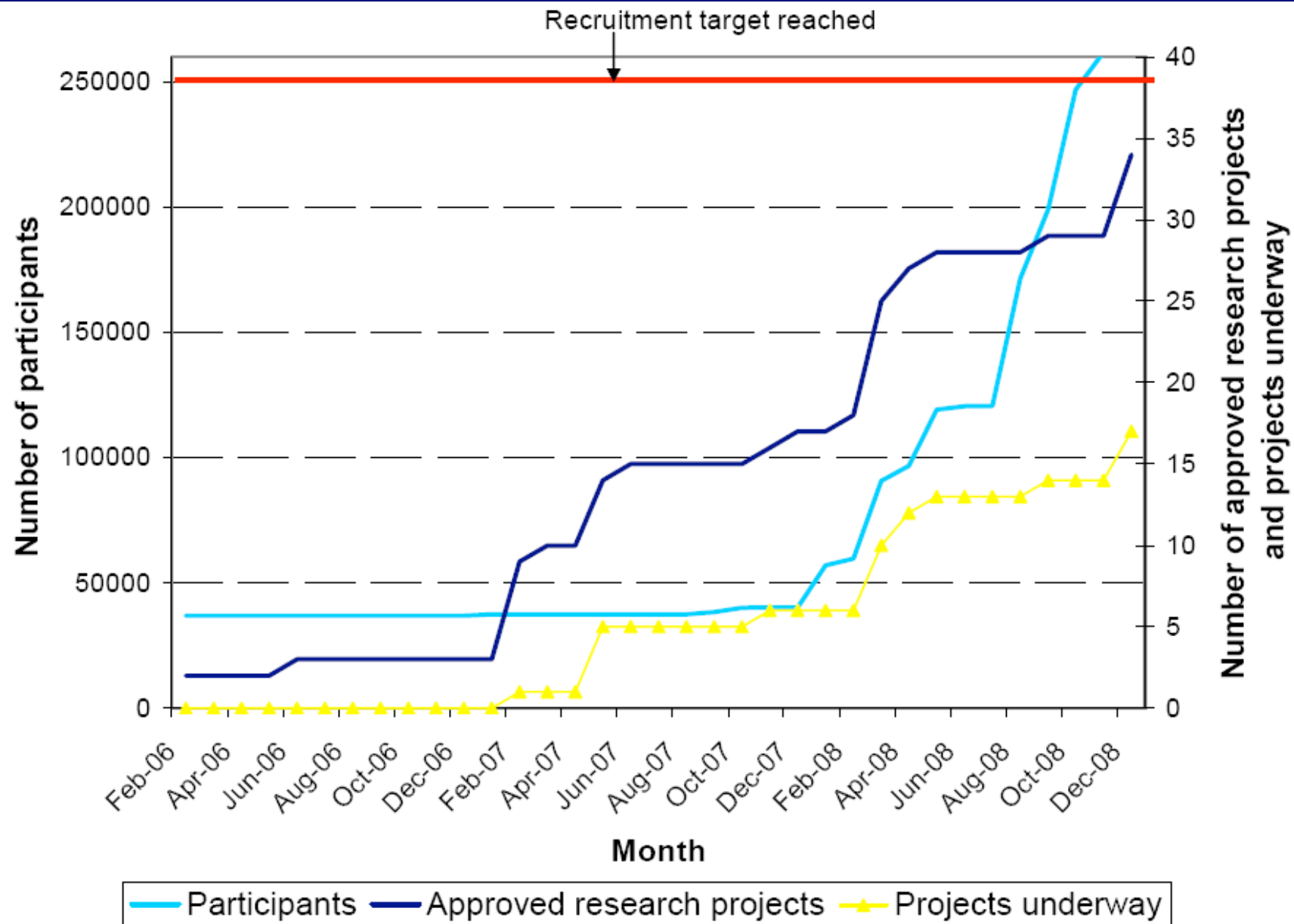
ACT Cancer Registry
1994–2006
14,821 records

Centre for Health Record Linkage

(CHeReL)

www.cherel.org.au/

45 and Up Study



45 and Up Study

- Baseline questionnaire data
- Links – CHeReL +
- Biological specimens
- Ad hoc studies
- Access
- Information - <http://www.45andup.org.au/#>



Strategic questions

- How can we make best use of the resource we have and opportunities now available to us?
- What can we do that will make our cancer control research more innovative and give it a bigger impact?

