



# **Sharpening the Focus: Chronic Conditions in Cancer**

**Report from the Cancer and  
Chronic Conditions Think Tank**

December 2014



**Acknowledgement:**

The Flinders Centre for Innovation in Cancer wishes to acknowledge the generous contribution of all Think Tank attendees to the deliberations on the day and to the review and development of the Think Tank review.

**Disclaimer:**

The findings and conclusions in this report are those of the authors and do not necessarily represent the official positions of the U.S. Centers for Disease Control and Prevention, and the U.S. Department of Health and Human Services.

Dear Colleagues,

We are delighted to present you with the report from the recent Cancer and Chronic Conditions Think Tank held by the Flinders Centre for Innovation in Cancer.

While chronic conditions are rapidly becoming a major cause of disease burden and health care spending in Australia, the impact of chronic conditions in cancer remains largely unexplored. The Think Tank, held in December 2014, examined the evidence behind the interaction of chronic conditions and cancer, gaps in current knowledge and priorities for care and research in this area.

With kind regards,



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## **Executive summary**

In December 2014, the Flinders Centre for Innovation in Cancer, Flinders University hosted the Chronic Conditions in Cancer Think Tank. The objectives of the Think Tank were to examine the emerging problem of chronic conditions in cancer patients and survivors, the impact of chronic conditions on cancer survival, quality of life and the effectiveness and costs of cancer care. The Think Tank attendees identified the following priorities for research and practice in this area:

1. Defining the burden of disease and needs of cancer patients and survivors
2. Developing strategies for prevention of chronic conditions in cancer
3. Developing models for effective integrated and coordinated care that address chronic conditions and cancer
4. Developing the framework of translation of research into policy and practice
5. Building research capacity in the area of chronic conditions in cancer including cross disciplinary, national and international collaborations in this field

## Introduction and background

Chronic conditions, such as cardiovascular disease, diabetes, mental illness, obesity, arthritis and asthma, are responsible for 80% of the total burden of disease and injury in Australia, as measured by disability adjusted life years, and account for the greatest health expenditure in Australia (\$34 billion per annum or 70% of healthcare expenditure).<sup>[1]</sup> The defining features of chronic conditions include long term course leading to gradual deterioration of health, and impact on quality of life through physical and/or psychosocial limitation and disability. Current policy does not consider the *interaction* of chronic conditions with cancer and how it impacts, directly and indirectly, on cancer outcomes and care.<sup>[2]</sup> Chronic conditions impact significantly on treatment decision making at the time of diagnosis and may influence treatment outcomes including toxicity of anticancer treatment, cancer survival, recurrence and quality of life.<sup>[3-7]</sup> As a result, chronic conditions impact on cost of care and health service utilisation.<sup>[8]</sup> Furthermore, chronic conditions are more likely to develop *after* cancer as a result of cancer itself or its treatment and thus influence health care needs and outcomes for cancer survivors.<sup>[9,10]</sup> To date, little attention has been devoted to how the interaction of chronic conditions at the time of diagnosis, and after cancer, impacts on cancer care and its outcomes.

In December 2014, a group of researchers from Flinders University in South Australia representing diverse disciplines of oncology, cardiology, nutrition, endocrinology, pharmacology, geriatrics, psychiatry, social work and behavioural sciences convened the Chronic Conditions in Cancer Think Tank to explore issues around the interaction of chronic conditions in cancer. The group focused on chronic conditions rather than chronic disease or illness. This fits the World Health Organisation definition of a chronic condition as “any ongoing or recurring issue that has a significant impact on the lives of the person and or their family or other carers” and allows for the consideration of such conditions as obesity which, while not a disease, is of potential significance in the cancer setting.

The Think Tank brought together clinicians, researchers, policy makers and health consumers from diverse areas relevant to cancer and chronic conditions including international experts in the field (appendix 1). The program consisted of a series of presentations on key topics relevant to chronic conditions and cancer followed by informal discussions and group work in order to develop consensus on key priorities and recommendations (appendix 2). The objectives of the Think Tank were to:

1. Define the challenges faced by individuals (patients and health care providers) and health care systems with respect to chronic conditions and cancer
2. Identify the key research and practice strategic priorities in this area and key data required to inform research and practice
3. Identify opportunities for national and international collaboration in this area

## Chronic conditions in cancer - prevalence and impact

As the incidence of cancer and other chronic conditions' increases with age, many patients diagnosed with cancer have other health problems at the time of cancer diagnosis. Data from Medicare beneficiaries in the United States (i.e. for patients 65 yrs or older) reported by the US Centres for Medicare and Medicaid Services indicate that more than 90% of patients with cancer have at least one other chronic condition and approximately a quarter have five or more.<sup>[11]</sup> The incidence and prevalence of chronic conditions in cancer patients is increasing based on international data with the most common chronic conditions including cardiovascular illness, obesity and metabolic illness, mental health problems and musculoskeletal conditions<sup>[12]</sup> but no comparable Australian data are available.

The co-existence of chronic conditions and cancer has important implications on cancer diagnosis, treatment choices and treatment outcomes. Co-morbidity has significant implications for treatment decision-making at the time of cancer diagnosis as other chronic conditions might present a competing cause of morbidity and mortality and reduce overall effectiveness and cost effectiveness of the anticancer treatment.<sup>[3,4]</sup> Patients receiving multiple medications for other conditions are less likely to be compliant with anti-cancer medications and may choose to receive less effective anti-cancer treatment due to a potential susceptibility for interactions and side effects.<sup>[5,6]</sup> Cancer survivors are at high risk of chronic conditions that develop **after** cancer treatment but are less likely to receive advice, care, and preventive measures<sup>[13]</sup> to mitigate against increased risk of chronic conditions after cancer.

## The challenges

Addressing the current issues of chronic conditions in cancer patients poses some unique challenges. Specifically:

**Lack of data:** There is little data on prevalence, predictors and burden of need with regard to chronic conditions in cancer. This is partly due to lack of recognition of this as a problem and lack of systematic data collection on chronic conditions. In cases where data are collected, different measures are used in different settings precluding data comparison. Patients with co-morbidities are excluded from clinical trials limiting information on the effect of chronic conditions on efficacy of anticancer treatments, cost of care and cost effectiveness of care.

**Lack of awareness:** Patients, survivors and providers of care may not be aware of the importance of co-existing chronic conditions and thus may not prioritise care of chronic conditions alongside cancer care. Fear of cancer recurrence may focus patients' and providers' attention on cancer at the exclusion of other conditions. Cancer is often not seen as a chronic condition and thus the approach to overall care tends to focus on acute phase with less regard for long term plans for care.

**Complexity of the problem:** Cancer care is very complex even in the absence of additional chronic conditions; adding additional conditions into the equation increases complexity dramatically making the task appear unmanageable for patients and providers alike. Focus on chronic conditions in cancer requires addressing more than one health care problem or condition in a setting where clinical protocols and pathways are focussed on one condition only. A unique challenge for cancer survivors is that for some, the new chronic disease is not coincidental but rather it is a consequence of cancer or its treatment.<sup>[14]</sup>

**Lack of appropriate models of care:** Cancer care is usually delivered in a highly specialised acute care setting with a great focus on cancer and its biology, often at an exclusion of other health issues of individuals affected by cancer. Care of chronic conditions is usually done in the primary care setting. Multidisciplinary models of cancer care that are used in acute settings usually only include disciplines relevant to cancer. Cancer care is much more speciality focussed with limited engagement from primary care where chronic conditions are usually managed. There is limited communication between the acute cancer care setting and long-term care undertaken in primary care.

**The greatest burden is likely in populations that are already underserved:** As both cancer and chronic conditions are associated with, and lead to, greater social and economic disadvantage, populations likely to be most vulnerable to the effects of the interaction between cancer and chronic conditions are those already known to have inferior outcomes for both including socioeconomically disadvantaged, those of Aboriginal and Torres Straight Island heritage and of culturally and linguistically diverse background.<sup>[15-17]</sup>

## The opportunities

While the challenges outlined are not trivial, none of them are insurmountable. More importantly, addressing them offers significant opportunities to address gaps in care that are important to patients and survivors and that may improve effectiveness and cost effectiveness of care delivered to cancer patients and survivors.

### **Delivering comprehensive, holistic care that meets consumer expectations.**

Addressing the complex interaction between chronic conditions and cancer offers an opportunity to better understand and meet the needs of patients and survivors and to develop systems of care delivery that are well coordinated and integrated across multiple settings. Consumers attending the Think Tank reflected on the importance of care coordination and integration to assist patients and survivors in navigating the often complex health care system and to reduce duplications (for example of same information collected repeatedly by multiple providers) and lack of integration between services. They stressed the great vulnerability of individuals affected by cancer and chronic conditions and the importance of addressing all their needs, not just those that are cancer related.<sup>[18]</sup>

**Identifying novel therapeutic strategies.** Gaining an insight into the mechanism behind the higher prevalence of chronic conditions after cancer opens a relatively unexplored field. This not only offers a promise of unique therapeutic targets to prevent chronic disease after cancer but also offers knowledge that may be important to the treatment and prevention of the cancer itself. People with cancer are more likely to suffer from chronic conditions than those without cancer and people with chronic conditions are at higher risk of developing cancer than those without<sup>[9,19]</sup> indicating a complex interaction between the two, likely relating to common etiological pathways.

The exact mechanism of this interaction remains unclear although poor nutrition/lifestyle and loss of genome integrity are inter-related and contribute to risk of cancer and other chronic diseases.<sup>[20]</sup> Cancer survivors are at increased risk of premature ageing likely as a result of cancer treatment but may be due to cancer itself<sup>[21]</sup> and thus their chronological age may not be an accurate indicator of the biological age. Greater understanding of the mechanisms behind these phenomena offers opportunities for exploration of novel targets for intervention to prevent or treat ageing and chronic conditions in cancer survivors but also offers greater insights into understanding mechanisms of chronic conditions in the general population.

**Alignment with policy.** The need for close integration of care of cancer and coinciding chronic conditions is well aligned with the present national policy direction emphasising the importance of chronic disease management as an approach to health care in Australia as outlined in the National Chronic Disease Strategy for Australia. As the National Chronic Disease Strategy is now nearly ten years old, its future updates should consider addressing the unique aspects of the chronic conditions in those affected by cancer.

**Alignment with other health disciplines.** There are opportunities to learn from other fields of medicine which face similar challenges. The phenomenon of premature ageing is now recognised in HIV/AIDS and there is emerging research on developing models of care for patients affected by HIV to address HIV and associated chronic conditions.<sup>[22]</sup> Lessons can be gained from the field of geriatrics that has expertise in multi-morbidity management in older populations and this information can be extended to younger cohorts with cancer.

## **Recommendations - priorities for research and practice**

The Think Tank attendees identified the following priorities and recommendations for research and practice in this area:

### **1. Defining the burden of disease and needs of cancer patients and survivors**

- a. Ensuring high quality data on chronic conditions in cancer using existing data sets as well as identifying areas in need of improved data collection, measurement, and linkages
- b. Ensuring cancer patients and survivors' experience is examined
- c. Developing systems of data collection to inform current and future practice including system of measures that are comparable across different care settings nationally and internationally
- d. Identifying populations with greatest burden of disease and their predictors
- e. Identifying and addressing the financial impact of chronic conditions on patients, survivors and their families

### **2. Developing strategies for prevention of chronic conditions in cancer**

- a. Identifying mechanisms underlying the development of chronic conditions after cancer that could be used as targets for prevention strategies (pharmacological, lifestyle, psychological or other)
- b. Identifying predictors of risk for chronic conditions after cancer
- c. Adapting existing preventive strategies into a cancer setting
- d. Evaluating new preventative strategies for chronic conditions in cancer

### **3. Developing models for effective integrated and coordinated care that address chronic conditions *and* cancer**

- a. Adapting existing models of chronic conditions management into a cancer
- b. Developing systems that facilitate integration, coordination, continuity of care and information sharing across time and across different care settings
- c. Developing strategies to assist with decision making where cancer and chronic conditions may present complex and sometimes conflicting priorities
- d. Improving health literacy of patients, survivors and health care providers
- e. Building self-management capacity of cancer survivors

### **4. Developing the framework of translation of research into policy and practice**

- a. Developing national policies for improving care of people living with cancer and chronic conditions
- b. Supporting strategic research, evaluation and routine data collection on chronic conditions in cancer

- c. Development, dissemination, and evaluation of evidence-based guidelines on management of chronic conditions in cancer
- d. Identification of mechanisms that support effective translation, adaptation, implementation, and evaluation of interventions addressing chronic conditions in cancer
- e. Providing appropriate education and training for health care workforce

**5. Building research capacity in the area of chronic conditions in cancer including cross disciplinary, national and international collaborations in this field.**

**Potential impact**

Addressing these areas of priority have the potential to improve life expectancy and quality of life of cancer patients with chronic conditions. They also have a potential to improve efficiency of care delivered and reduce cost of care. Finally, they offer an opportunity to reduce inequalities in disadvantaged populations where outcomes for both cancer and chronic conditions are suboptimal.



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## Appendix 1. Attendee list

| <b>Name</b>                 | <b>Affiliation</b>  |
|-----------------------------|---|
| Dr Stephanie Agius          | Flinders University   |
| Professor Malcolm Battersby | Flinders University   |
| Dr Narelle Berry            | Flinders University   |
| Professor Robyn Clark       | Flinders University   |
| Professor Michael Fenech    | CSIRO Food and Nutrition Flagship                                 |
| Dr Richard Goodman          | Centers for Disease Control and Prevention, USA                   |
| Dr Rebecca Keough           | Flinders Centre for Innovation Cancer, Flinders University        |
| Professor Rosemary Knight   | University of New South Wales                                     |
| Professor Bogda Koczwara    | Flinders Centre for Innovation in Cancer; Flinders Medical Centre |
| Ms Julie Marker             | Cancer Voices SA  |
| Professor Mary McBride      | British Columbia Cancer Agency; University of British Columbia    |
| Professor Doug McEvoy       | Repatriation General Hospital; Flinders University                |
| Professor Ross McKinnon     | Flinders Centre for Innovation in Cancer, Flinders University     |
| A/Prof Sharon Lawn          | Flinders University   |
| Professor David Roder       | University of South Australia                                     |
| A/Prof Diana Sarfati        | University of Otago, New Zealand                                  |
| Ms Stephanie Newell         | Health Consumer Advocate  |
| Dr Judith Lee Smith         | Centers for Disease Control and Prevention, USA                   |
| Ms Danielle Spence          | Breast Cancer Network Australia                                   |
| Mr Tom Symonds              | Flinders University   |
| Dr Philip Thomas            | CSIRO, Food and Nutrition Flagship                                |
| Dr Agnes Vitry              | University of South Australia; Cancer Voices SA                   |
| Professor Steve Wesselingh  | South Australian Health and Medical Research Institute            |

## Appendix 2. Think Tank Program

### Day 1 – Challenges and Solutions

#### Program Goals (day 1):

*With respect to the cancer and chronic illness disease interface;*

1. Clearly define the challenges faced by individuals (patients and health care providers) and health care systems.
2. Identify the key strategic priorities.
3. Is it possible to translate current models of care applied in other disciplines (e.g. paediatric oncology, HIV, geriatrics etc) to management of patients with cancer and chronic illness. Any additional considerations?

|                 |   |
|-----------------|---|
| 9.30 – 10.30am  | <p>Why is cancer and the chronic illness interface important?</p> <p>Chair: <b>Professor Bogda Koczwara</b>, Senior Staff Specialist, Medical Oncology, Flinders University</p> <p><b>Associate Professor Rosemary Knight</b>, Social Scientist, Australian National University - Cancer, chronic illness and social disadvantage</p> <p><b>Julie Marker Chair</b>, Cancer Voices SA, Cancer and chronic illness, consumer priorities</p> <p>Discussion</p> |
| 10.30 – 11.00am | Morning Tea   |
| 11.00 – 12.30am | <p><b>Professor Malcolm Battersby</b>, Director, Flinders Human Behaviour and Health Research Unit, Flinders University -</p> <p><i>Chronic disease management – what works and why?</i></p> <p>Discussion</p>  |
| 12.30 – 1.30pm  | Lunch   |
| 1.30 – 2.30pm   | <p>Group Work</p> <p>1) Systems 2) Workforce, 3) Training and 4) Policy.</p>  |
| 2.30 – 3.00pm   | Afternoon Tea   |
| 3.00 – 4.00pm   | Report findings from group work (nominate spokesperson)   |

## Day 2 – Data, Research and Collaborations

### Program Goals (day 2):

1. Identify key data elements to inform research and practice
2. Identify emerging areas of research of relevance to cancer and chronic illness
3. Identify opportunities for national and international collaborations

|                 |  |
|-----------------|--|
| 9.00 – 10.30am  | <p>International perspectives - discussing development in each country, and resulting opportunities and challenges.</p> <p><b>Dr Richard Goodman</b>, Senior Medical Advisor, Office of the Assistant Secretary for Health, Department of Health and Human Services, and National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention</p> <p><b>Dr Judith Lee Smith</b>, Senior Behavioural Scientist, Centres for Disease Control and Prevention</p> <p><b>Prof Mary McBride</b>, Distinguished Scientist, BC Cancer Agency</p> <p><b>Associate Professor Diana Sarfati</b>, Director of the Cancer Control and Screening Research Group, University of Otago</p> <p>Discussion - What (if anything) cannot be done without international collaboration?</p> |
| 10.30 – 11.00am | Morning Tea  |
| 11.00 – 12.30pm | <p><b>Professor David Roder</b>, Flinders University Epidemiology –</p> <p><i>Cancer and chronic illness – what data do we have? What data is missing and how do we get it?</i></p> <p>Discussion</p>  |
| 12.30 – 1.30pm  | Lunch  |
| 1.30 – 2.30pm   | <p><b>Professor Michael Fenech</b>, Professor and Director, Genome Health and Personalised Nutrition Laboratory</p> <p><i>Biology of chronic illness, premature aging and cancer?</i></p> <p>Discussion</p>  |
| 2.30 – 3.00pm   | Afternoon Tea  |
| 3.00 – 4.00pm   | <p>Group Work</p> <p>What are the actions and deliverables with respect to;</p> <ol style="list-style-type: none"> <li>a. Data</li> <li>b. Strategic collaborations</li> <li>c. Emerging areas or research</li> </ol>  |
| 4.00 – 4.30pm   | Next steps, responsibilities and timeline  |