

CanNET—a new service model linking regional and metropolitan cancer services into single networks

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Abstract

Background: The treatment for cancer is often complex, involving many disciplines and therapies, which makes it difficult for Australians living in rural and remote areas to access the full range of care required within their local community.

Aim: The Cancer Service Networks National Demonstration Program (CanNET) is a Commonwealth initiative which aimed to improve access to cancer care by linking regional and metropolitan cancer services.

Method: Up to \$7 million was made available across seven jurisdictions over a two year period from 2007 to 2009. This funding was to assist the development of sustainable links between cancer specialists and other leading health professionals in metropolitan cancer services and their colleagues in rural and regional centres. Each jurisdiction also made a contribution to the development of the cancer service networks. The cancer service network model is underpinned by: active consumer involvement; the development of agreed referral pathways; a multidisciplinary approach to cancer control; involvement of primary care and allied health professionals; championing of evidence-based practice; access to continuing professional development and training; and integration of rural and regional cancer services into a broad practice network.

Results: Despite having commenced from a different stage in the evolution of these reforms, each jurisdiction has made significant progress towards the establishment of a cancer service network. Achievements include national collaboration on the development of a Directory of Services focusing on identifying Initial Cancer Multidisciplinary Assessment Teams using an agreed template and the use of standardised mini audit tools to assess the degree to which patients receive evidence based cancer care. A national evaluation framework and tools to measure the impact and outcome on consumers, health professionals and the health care system have been developed. A collaboration strategy to facilitate sharing of knowledge and development of common resources across the networks was also implemented. A consumer survey exploring people's experiences with and perceptions of cancer care delivery is being conducted across five jurisdictions.

Conclusion: CanNET is an approach that enables formal linkages to be developed so that health professionals can work in a co-ordinated and safe manner. Cancer service networks offer the opportunity to improve outcomes by providing agreed standards that accord with best available evidence and to ensure that more people have access to quality treatment and care closer to home where practicable.

Background

Cancer is a major health problem in Australia today, directly affecting one in three men and one in four women in their life-time.¹ Australia's cancer survival rates are very good by world standards, and the quality of treatment received by people in Australia is high.² Despite this record, several recent enquiries and reports have identified that there remain opportunities to produce better outcomes and quality of life for people affected by cancer by improving the organisation and delivery of cancer control activities, throughout the patient journey.³⁻⁶ Apart from causing distress, an uncoordinated approach to cancer care can impact adversely on optimal survival by limiting access to treatment and care.

The treatment for cancer is often complex, involving many disciplines and therapies, which makes it difficult for many Australians living in rural and remote areas to access the full range of care required within their local community. In regional areas, where hospitals and health professionals do not have ready access to specialist cancer services, the challenges of providing cancer care based on the best available evidence can be significant. Changes in education and training of health professionals, increasing sub-specialisation, an ageing health workforce and difficulty recruiting skilled staff add to the difficulties for rural and regional health care organisations to develop and maintain comprehensive local cancer services.⁷

In the United Kingdom (UK), clinical networks have been implemented to support the delivery of world's best practice cancer care because of their capacity to link:

...groups of health professionals and organisations from primary, secondary, and tertiary care working in a coordinated manner, unconstrained by existing professional and [organisational] boundaries to ensure equitable provision of high quality effective services.⁸

The Cancer National Service Improvement Framework acknowledges the impact that access and geographical disadvantage have on cancer outcomes.⁵ Addressing this disparity requires a range of actions to ensure that the health care system is able to provide all Australians, irrespective of where they live with access to appropriate treatment and care.⁵ Establishing integrated and networked cancer services was identified as one of many priority actions required to improve cancer outcomes.⁵

This paper provides an overview of the strategies employed across Australia to establish the essential building blocks for the development of cancer service networks during the period 2007-2009.

Aim

The Cancer Service Networks National Demonstration Program (CanNET) aims to improve access to better coordinated cancer services by linking regional and metropolitan cancer services into single networks.

Method

CanNET was funded by the Australian Government through Cancer Australia. It was implemented in partnership with all states and the Northern Territory to increase access to coordinated cancer care and improve cancer outcomes, particularly for people in regional and rural areas. Up to \$7 million was made available across seven jurisdictions over the period from May 2007 to May 2009. Each CanNET developed a project plan (Table 1) based on the national program objectives (Table 2) to address identified local needs.

Table 1 Key focus for each CanNET

| Jurisdiction | Network | Key focus |
|--|--|---|
| NEW SOUTH WALES: Cancer Institute, NSW | Linking the Northern Sydney and Central Coast, Hunter New England and the North Coast Area Health Services. Population 2.4 million | Matched funding to build upon a range of Cancer Institute initiatives Strengthening the delivery multidisciplinary care Piloting of continuing professional development material Exploring role redesign |
| NORTHERN TERRITORY: Department of Health and Community Services | Territory wide cancer service network. Population 202 793 | Developing a Territory Cancer Plan, including a service delivery model and agreed referral and treatment pathways Up skilling of the workforce, including Aboriginal Health Workers Promote and enhance multidisciplinary care & use of tele-health |
| QUEENSLAND: Queensland Health | Established 12 cancer practice improvement groups | Strengthening multidisciplinary care in breast, lung, prostate and upper GI, Improving communication with primary care providers Testing the use of novel IT applications to improve care delivery, data collection and continuing professional development. |
| SOUTH AUSTRALIA: Department of Health | State wide cancer service network. Population 1.54 million | Developing agreed cancer referral pathways across the state for: Upper Gastrointestinal, Lymphoma and Adolescents and Young Adults. Developing a general MDT in Mt Gambier with links to specialists in Adelaide Increasing the cancer care competencies of health professionals at several rural nodes |
| TASMANIA: Department of Health and Human Services | State wide cancer service network. Population 482 236 | Establishing MDT and agreed referral pathways for lung & bowel cancer Formalising links with inter-state services for less common cancers, such as: sarcoma, germ cell and neuro-endocrine Hub development to facilitate information sharing |
| VICTORIA: Department of Human Services | A partnership between the Hume Regional Integrated Cancer Service & the North Eastern Metropolitan Integrated Cancer Service Population 1.6 million | Linking outer metropolitan areas into the network Consumer needs assessment Focusing on establishing multidisciplinary lung tumour groups |
| WESTERN AUSTRALIA: Department of Health | Link metropolitan cancer services with the Great Southern. Population 60 000 | Focus on increasing cancer control capacity in Albany Strengthening and sustaining a general multidisciplinary team with links to cancer specialists in Perth Developing visiting specialist services & expanding the use of tele-health for cancer care in the region |

Table 2 Objectives of the Cancer Service Networks National Demonstration (CanNET) Program (2007-09)¹¹

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| Ensure that cancer services reflect the point of view of those directly affected by cancer |
| Ensure those directly affected by cancer are involved as an integral part of CanNET development so that the patient experiences co-ordinated care without being aware of professional and administrative boundaries |
| Reduce time between assessment and diagnosis, and diagnosis to treatment, by looking at services from the patient's perspective and ensuring that the care pathway is as coordinated as possible, particularly across the joint management that includes primary and tertiary care |
| Increase efficiency of referral systems for sub-specialist opinion and treatment |
| Develop a strong multidisciplinary approach to cancer control that actively includes allied health and primary care, and which supports rural and regional provision of cancer services. |
| Improve quality—through responding to the results of audit and the development of a formal Quality Assurance program |
| Address workforce issues—through the development of innovative roles and new ways of working for health professionals, especially primary care |
| Enhance service planning by bringing together a range of people who would not normally come into contact with one another |
| Avoid duplication of effort, by being part of a national program, and building on the experience and expertise of other networks across Australia and internationally |

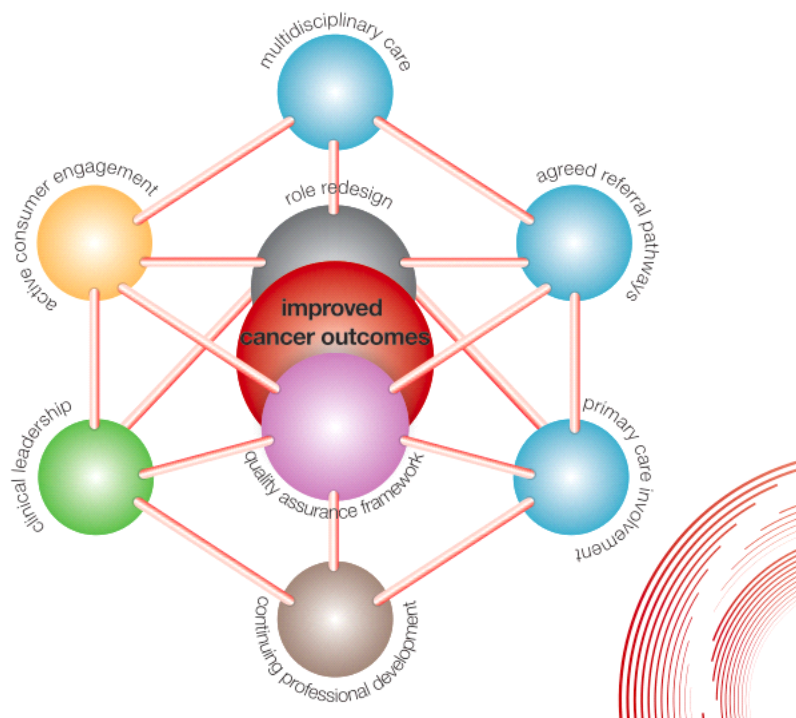
The focus of the work undertaken by each network was shaped by their geography, differing health systems and jurisdictional priorities. Despite these differences, all jurisdictions agreed to base their cancer service network development on the principles agreed by Cancer Australia and the key network elements identified in the literature.⁸⁻¹⁰ These key elements, based on the UK cancer network model⁸ included: active consumer involvement; agreed referral pathways; a multidisciplinary approach to cancer control; involvement of primary care and allied health; adopted evidence-based practice; established access to professional education and training; and integration of rural and regional cancer services into a broad practice network.

To assist the jurisdictions with these practice change processes a National Support and Evaluation Service was established as a key component of the CanNET Program.¹¹ The objective of this service was to ensure consistency, reduce duplication, and facilitate a national approach to network development and to build the evidence for cancer service networks in Australia.

Results

There has been an evolution from the initial project plans to the projected outcomes with all project plans requiring refinement or re-scoping at the mid-point (June 2008). It is important to acknowledge that each of the networks commenced from different starting points, with wide variability in the pre-existing levels of capacity, differing operating environments and contexts for network development. The majority of the networks took longer than originally anticipated to commence the work program, with many delays associated with the appointment of project staff. Despite these challenges, each network has made significant progress towards putting the necessary building blocks in place to facilitate the establishment of an effective cancer service network to improve cancer outcomes (Figure 1).

Figure 1 Elements Cancer Services Network Development¹¹



These cancer services network elements provide a reference point in determining the impacts of the program during the first 20 months, as summarised below:

Active consumer engagement

Each network has engaged consumers in the planning, implementation and evaluation of services to varying degrees. While some networks have struggled to legitimise a space to engage consumers in the change process, others have undertaken extensive consumer consultations. For example, Victoria has developed a consumer participation strategies¹² and South Australia has identified rural cancer consumers' needs which will help shape future network development.¹³ As little is known about the perceptions and experiences of consumers (patients and those affected by cancer) a cancer consumer survey is being conducted in partnership with five of the networks (CanNET NT, QLD, SA, TAS and WA). Of note, this is not a satisfaction survey and that these networks have not previously had the capacity to undertake a consumer survey of this magnitude.

Multidisciplinary care

Because of the nature of cancer and its treatment, there is a need to involve multiple health professionals from as early as the assessment stage.¹⁴ Developing a coordinated and structured multidisciplinary assessment of people recently diagnosed with cancer helps to ensure this happens. Treatment and care planned by a multidisciplinary team utilises the health system more effectively, reduces potential risks associated with multiple clinician involvement and improves patient outcomes and experiences.¹⁴⁻¹⁷ System change is required so that eventually all Australians diagnosed with cancer will be assessed and have their treatment planned by a multidisciplinary cancer assessment team.

Across Australia each network has been working collaboratively to develop new multidisciplinary teams or to enhance the functioning of existing teams. For example, in South Australia a state wide upper gastrointestinal multidisciplinary team has been developed which links specialist clinicians across multiple sites via videoconferencing to plan patients' care incorporating private and public sector practitioners. In

Western Australia a fortnightly general multidisciplinary team has been established in Albany which has the input from a radiation oncologist and a medical oncologist based in Perth via web-based video-conferencing. There is evidence that the number of sub-specialist multidisciplinary teams across CanNET NSW have increased from 38 to 47 teams.¹⁸

Several of the networks are working on formally linking smaller multidisciplinary teams with teams that have a higher caseload. These linkages are particularly relevant in regional communities and less populated jurisdictions to ensure that existing teams have access to larger sub-speciality multidisciplinary team for less frequently occurring cancers or those requiring more complex care. For instance in Tasmania, planning is under way to ensure that the necessary agreements and processes are established to enable clinicians to link into the relevant Victorian multidisciplinary team for sarcoma and neuro-endocrine cancers.

Testing novel technology such as PC based video conferencing and other meeting solutions across multiple sites to address the tyranny of distance and to better utilise specialist clinicians' available time is also being explored. In Victoria, web based meeting technology is being used to link clinicians from the Hume region into a lung multidisciplinary team held in Melbourne, enabling all of the relevant reports to be viewed simultaneously.¹⁹

A Directory of Service is being developed in each network to enable consumers and primary care providers to locate the nearest initial cancer multidisciplinary assessment team, by tumour type and postcode.¹¹ The majority of these directories will be web based and available from the relevant jurisdictional website.²⁰

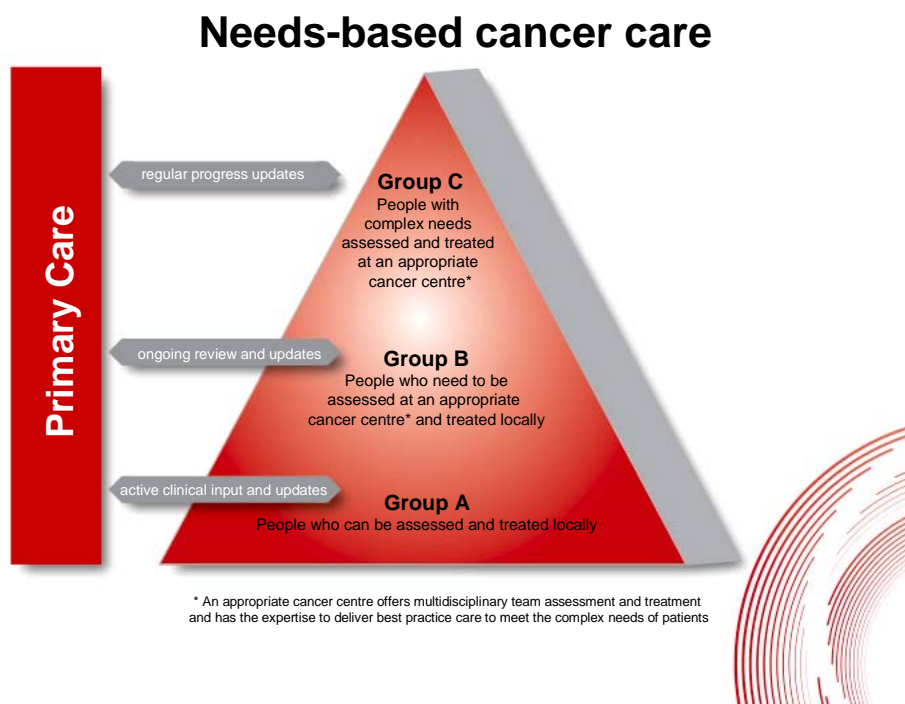
As multidisciplinary care presents a new way of working, all of the networks have invested in providing continuing professional development opportunities for team members. This has involved on-line multidisciplinary team learning forums as well as ensuring teams have access to a range of relevant resources and tools (terms of reference, patient consent forms, general practitioner feedback letters etc).²¹

Agreed referral pathways

Formal linkages are being developed so that health professionals within the network can work in a co-ordinated and safe manner to deliver evidence based cancer care. As part of this process many of the networks focused on the establishment of agreed referral pathways, using the following definition to guide this work:

A referral pathway is a series of steps, including clinical intervention to be taken by health care providers in response to people newly diagnosed with cancer or with recurrent or progressive disease. Its aim is to ensure more appropriate referral of patients to specialist cancer services, including the multidisciplinary team. A referral pathway is a process as much as a product or tool. Ideally it is developed via a comprehensive and inclusive approach between cancer services and relevant health care agencies to establish relationships and a shared understanding and agreed ways of working together to better address the cancer care needs of a defined population.²² Agreed referral pathways aim to ensure the timely and appropriate referral of patients to specialist cancer services. Developing agreed referral pathways is particularly important in areas where there are smaller caseloads to ensure that people with a specific cancer are referred to the most appropriate multidisciplinary care team for assessment and treatment planning (Figure 2).

Figure 2 Needs based cancer care



Within CanNET WA the focus was on developing agreed referral pathways for people with lung, prostate and melanoma cancers. The Victoria team undertook extensive work on developing an agreed lung referral pathway linking the Hume Regional Integrated Cancer Service with Eastern Melbourne Integrated Cancer Service. In the Northern Territory, a generic cancer referral pathway was developed, while Tasmania focused on developing agreed referral pathways for some of the less frequently occurring cancers.

Primary care involvement

Exploring mechanisms to better engage primary care as a valid part of the cancer treatment team is an important element of cancer service network development. In Queensland the team has been exploring and defining the role of the general practitioner (GP) in cancer care, while the network in Victoria is evaluating the impact of employing a GP advocate as a member of the multidisciplinary team.

Primary care participation in cancer care delivery is further supported by two additional programs. Cancer Australia has partnered with the Cancer Institute NSW to develop information to help primary health care clinicians provide care to their patients during treatment.²³ Cancer Australia is also funding the development of the Education Program in Cancer Care (EPICC) which aims to build the knowledge, skills and expertise of GPs to support and increase their role across the cancer control continuum. Through this program access to web-based continuing professional development material will be available from Cancer Learning.²¹

Role redesign

The networks were all encouraged to address workforce issues through the development of new ways of working for health professionals. CanNET NSW used the Institute for Healthcare Improvements Breakthrough Collaborative Model²⁴ to explore a range of possible role redesign options such as GP follow up and radiation therapist lead radiotherapy review clinics.²⁵

Continuing professional development

Continuing professional development has been an important element of network development. Cancer Australia funded the development of Cancer Learning to support a range of continuing professional development activities for health professionals.²¹ Cancer Learning is a web based information hub that consolidates the enormous variety of evidence-based learning activities, resources and information in cancer care in one online location. These learning activities and resources are arranged around five themes: multidisciplinary care; coordination of care; supportive care, including psychosocial support; fundamentals of oncology; and latest treatments and evidence based practice.²¹ Information and resources to help health professionals to design and build educational programs or plan and carry out their own professional development are also available from Cancer Learning.²¹

The networks have utilised the learning activities and resources available from Cancer Learning in varying ways. Within CanNET Victoria, a series of interactive workshops to support health professionals to complete the psychosocial support modules were conducted. Cancer Care Coordinators working within the NSW and Queensland networks had an opportunity to participate in a series of on-line forums to support them to develop and implement a multidisciplinary clinical practice improvements initiative.

Quality assurance framework

Ensuring people get the right treatment, at the right time, in the most appropriate place, and delivered by clinicians with appropriate training and resources is central to the work being undertaken by each network. Establishing a quality assurance framework that measures the degree to which this is occurring is a key element of the CanNET program. The majority of networks elected to utilise existing local quality frameworks to ensure that evidence-based standards were met. For example the Northern Territory adopted the Northern Territory Health credentialing and quality improvement framework to guide service improvement, while CanNET NSW adopted the cancer services accreditation framework developed by the Cancer Institute, NSW.²⁶

Clinical leadership

Clinical leadership is a critical aspect of health services reform and clinicians play a key role. As Don Berwick noted over a decade ago:


Clinicians ought to be playing a central role in making the changes in the health care system that will allow the system to offer better outcomes, greater ease of use, lower cost, and more social justice in health status.

Establishing real changes in cancer care can occur through the development of sustainable links between cancer specialists and other health professionals in metropolitan cancer services and their colleagues in rural and regional centres. Formalising these linkages is a critical aspect of improving cancer care outcomes to help people more easily navigate the health system early in their cancer journey.

Clinical leader play a key role in guiding network development. Each network was required to appoint a clinical leader. Although the organisation of the clinical leader's role has varied across the networks, establishing and defining this role and focus has proven difficult. Similar to previous research, the preliminary data suggest that large clinical loads, role ambiguity, and conflicting expectations have limited the degree to which clinical leaders have been able to effectively contribute to the reform process.^{28, 29}

Discussion

Adopting a partnership approach to network development has enabled Cancer Australia to work collaboratively with each State and the Northern Territory to put in place the essential building blocks for



the establishment of a cancer service network. Importantly it has fostered a national approach with a number of key achievements being attained, including the development of an initial Directory of Services. These jurisdictional based directories are identifying Initial Cancer Multidisciplinary Assessment Teams using an agreed template, but it is envisaged they will evolve over time to include additional services. Additional collaborations include: the use of standardised mini audit tools to assess the degree to which patients receive evidence based cancer care; development and implementation of a national evaluation framework and tools to measure the impact and outcome on consumers, providers; and the health care system; a collaboration strategy to facilitate sharing of knowledge and development of common resources across the networks; and development and implementation of a CanNET Consumer Survey exploring people's experiences with and perceptions of cancer care delivery. This baseline survey will assist with identifying the current strengths and gaps in cancer care delivery across Australia from a consumer perspective. The results will provide information to the cancer care sector to support the development of strategies to strengthen the delivery of cancer care to the Australian community.

The work being undertaken by the networks to establish agreed referral pathways will improve cancer outcomes by ensuring that there is equitable access to sub-specialist cancer assessment throughout each network. Establishing these agreed referral pathways will enable the formalisation of linkages between rural and metropolitan cancer services and across different jurisdictional borders. These pathways also create opportunities to link health professionals in different areas and across state and territory borders ensuring appropriate multidisciplinary care planning for people with less common cancers. Having these linkages and establishing agreed referral pathways helps networks to more readily identify: a) People who can be diagnosed, assessed and treated locally; b) People who can be diagnosed and assessed at an appropriate cancer centre but may be able to receive their treatment locally; and c) People who need to be diagnosed at an appropriate cancer centre and whose complex care needs and/or multi-modal treatment requirements necessitate ongoing treatment provided at a larger cancer centre.³⁰

Achieving this long term goal of ensuring that all people diagnosed with cancer are assessed and have their treatment planned by the most appropriate cancer multidisciplinary assessment team requires a significant investment at a national, jurisdictional and network level.

The Australian experience mirrors that of the UK, which found that clinical networks help to ensure that care is delivered in the most appropriate setting.³¹ Clinical networks also offer the opportunity to improve quality of care by providing agreed standards of care in accordance with best available evidence, whilst promoting the use of specific referral and follow-up guidelines. The preliminary evidence from the CanNET program suggests that the establishment of cancer networks can improve the delivery of cancer care, but embedding the practice and organisational changes required to support this reform requires a much longer term commitment.

Establishing an effective clinical network requires a 'bottom up and top down approach' to ensure that policy makers, health service managers, clinicians and consumers are all actively involved in the reform process. There has been wide variability in the degree to which the networks have been able to effectively engage these key stakeholders. The preliminary data suggest that those networks with greater pre-existing capacity have been more effective at engaging key stakeholders in the change processes required to improve linkages and coordination of cancer services across a region. There is a need for ongoing commitment by all to involve consumers in the change process and to have systems in place that support links between health service policy makers, managers and clinicians to effectively drive health care reform. The challenges experienced by the networks in effectively engaging key clinicians in network development suggest that there is a need to invest in developing and supporting clinical leaders, in medicine, nursing and allied health.

Conclusion

Cancer service networks offer the opportunity to improve outcomes for people affected by cancer by providing agreed assessment and treatment planning that accord with best available evidence and to ensure that more people have access to quality treatment and care closer to home. However, the process of reform is long, challenging and multifaceted. During the past 24 months CanNET has provided the space for consumers, clinicians and policy makers to consider new ways of working and opportunities to put in place some of the essential building blocks required to create effective cancer service reform. Achieving the objectives of CanNET will take a much longer period of sustained effort by all.

Policy recommendation


Importance of system wide collaboration

Acknowledgments

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