Cancer in General Practice

The role of the general practitioner (GP) in cancer control is being redefined. An increase in cancer prevalence and survivorship has thrust new demands on the healthcare system and in doing so has provided the impetus to consider new models of integrated cancer care.\textsuperscript{1,2} Domains that have been flagged as key priorities for improving cancer outcomes, including primary prevention, early detection, timely access to specialist treatment and optimal aftercare, rely heavily on actions undertaken at a primary care level.\textsuperscript{2,3} Despite this recognition, a framework for primary care oncology is still being devised, with Weller et al\textsuperscript{4} remarking that “general practice is still somewhat adrift in the complex world of cancer services”.

This uncertainty has instigated a shift in cancer policy, planning and research. GP input and priorities have been increasingly considered in the development of cancer control policy.\textsuperscript{5} Additionally, there has been an exponential rise in primary care cancer research.\textsuperscript{6} These initiatives are reinforcing a paradigm that GPs are integral to the coordination of complex cancer care.\textsuperscript{3,6,7}

From prevention to palliation, this essay explores the evolving role that GPs play and the challenges they face at all stages of the cancer journey.

Cancer Prevention

At the outset, GPs play an important part in the primary prevention of cancer, a salient area of cancer control given current epidemiological trends.\textsuperscript{2} In 2012, cancer was reported to be the largest contributor to disease burden and a leading cause of premature death in Australia.\textsuperscript{1} Currently, by the age of 75, 1 in 3 males and 1 in 4 females have received a cancer diagnosis (not counting non-melanoma skin cancer).\textsuperscript{1} Whilst these numbers are predicted to increase over the next decade, it is estimated that one third of cancer is preventable if risk factors are addressed.\textsuperscript{1}

The ‘National Service Framework for Cancer’ outlines key cancer risk reduction strategies. These include smoking cessation, alcohol reduction, sun protection, weight loss, increased physical activity, healthy diets, safe sex practices and education regarding familial risk.\textsuperscript{2} The regular and ongoing patient-doctor relationship established in general practice creates an opportunity for the promotion of such lifestyle behaviours. Patients consider rapport, trust and continuity of care as enablers to their engagement in preventative health care in general practice.\textsuperscript{8} However, there are challenges to achieving risk management. Amoroso et al\textsuperscript{9} reported considerable variation amongst GPs in New South Wales regarding risk factor intervention. GPs cited patient compliance and time constraints as barriers to providing advice.\textsuperscript{9,10} Furthermore, payment structures which do not encourage the education and counselling of asymptomatic patients are viewed as problematic.\textsuperscript{11} Motivational interview training and guidelines have been suggested as strategies to support GPs in risk management.\textsuperscript{3,9,10}
Immunisation against oncogenic viruses is a key preventative strategy for some cancers. Vaccines which target type 16 and type 18 Human Papilloma Virus (HPV) are reported to prevent 70% of cervical cancers. Similarly, the risk of hepatocellular carcinoma is reduced with Hepatitis B vaccination. Primary care settings play an important role in immunisation delivery. GP attitudes and clinical routines have been shown to significantly influence vaccination rates.

**Cancer Screening**

Screening represents another facet of cancer control pertinent to general practice. GPs are crucial for the dissemination of information relating to the purpose, benefits and limitations of population based screening programs. Australia currently offers population screening for breast, cervical and most recently bowel cancer. These programs rely on GPs to promote participation, manage patients who record a positive result and provide data to program registers. Although there is not currently population screening for prostate cancer, GPs are encouraged to inform patients about the option of PSA testing. Similarly, whilst there is no population screening for melanoma, GPs can conduct skin examinations. To improve diagnostic accuracy, it is recommended that GPs who frequently examine lesions are trained in the use of dermoscopy.

An ongoing objective in Australia is to increase participation in prevention and screening programs amongst disadvantaged and minority groups. Lower socioeconomic groups have higher levels of behavioural risk factors and higher rates of many cancers. This is evident among Indigenous Australians, who experience higher cancer mortality rates, particularly for smoking-related cancers, cervical cancer and liver cancer. Indigenous Australians are less likely to participate in breast and cervical screening programs and are more likely to smoke, be overweight and have less fruit and vegetables in their diet. Sexual orientation can also impact upon screening rates. For instance, homosexual women are less likely to have regular cervical screening, partly due to a misguided notion that they are at less risk of cervical cancer. Poorer utilisation of screening programs is also reported in rural areas, particularly where there is no female provider. Overall, whilst improving participation in under screened groups is multi-factorial, it is well recognised that GPs are central to reducing inequities.

**Cancer Diagnosis**

When a patient identifies a symptom, a GP is often their first port of call within the healthcare system. This places GPs on the frontline of cancer diagnosis. Studies from countries with similar primary care structures to Australia suggest that over 80% of patients with cancer first present with symptoms to their GP. Accordingly, these initial consultations represent a key step in the cancer care pathway and should be a target for interventions that aim to minimise diagnostic delay.
Despite the important sentinel role that GPs assume, the task of cancer diagnosis in general practice is not a simple one. GPs work in a low-prevalence environment where they have to interpret a conglomeration of signs and symptoms that are poorly predictive, non-specific and in the majority of instances are not attributable to cancer. This is particularly apparent when diagnosing young adults and teenagers. Given this ambiguity, the development of strategies which facilitate early cancer detection in general practice are considered essential to advance cancer care in Australia.

In order to improve diagnostic rubrics, primary care studies that critically analyse presenting signs and symptoms within a statistical framework need to be undertaken. Barraclough commented that currently there is a scarcity of such studies, however the literature on the positive predictive value (PPV) of cancer ‘red flags’ is increasing. Shapley et al identified eight clinical presentations, based on a PPV of 5% or greater and stratified according to age and sex groups, that were strong indicators of cancer. These included rectal bleeding, iron deficiency anaemia, haematuria, haemoptysis, breast lump, and post-menopausal bleeding. Similarly, Hamilton et al showed several symptoms, signs and investigation results that were associated with lung cancer in multivariable analyses.

The challenge of assimilating this growing evidence base into general practice systems is recognised. Consequently, there is a drive to develop decision support tools which streamline the algorithms for suspected cancers. At a basic level, risk calculator software is being used to generate risk scoring systems for several cancers. More advanced schemes are based around the concept of data mining, a technique where computational processes are optimised to analyse, discover patterns and extract meaningful information within large data sets. It is proposed that data mining can be used to scour general practice computers to systematically identify ‘at risk’ patients and prompt general practitioners to take action through alerts, reminders, recalls and follow-ups. Whilst these models can clearly quantify risk, the threshold of risk that should warrant a referral remains debatable.

Referral to Secondary Care

When GPs have suspicions of cancer they take on the role of gatekeeper, selecting who will enter the realms of secondary care. This is a balancing act, featuring competing patient and health system agendas. At one end of the spectrum, blanket low threshold referrals place both economic and time pressures on health services. Additionally, they run risk of medicalising patients’ lives and initiating a torrent of unnecessary investigations. Conversely, at the other end of the spectrum, GPs do not want to delay diagnoses nor assume the responsibility associated with a watchful waiting approach. After all, late diagnosis has repeatedly been identified as factor contributing to poorer cancer survival rates.

Disparities in cancer survival have been observed in countries with similar healthcare access, economies and cancer registries. This has prompted discussions on how referral infrastructures influence cancer control. It has been postulated that persistently higher survival rates in Australia, compared to countries such as Denmark and the United Kingdom, are due to access to investigations, such as computerised tomography, which minimise diagnostic delay. Even within Australia, poorer outcomes for rural areas are partly attributed to reduced access to these investigations. The United Kingdom instituted
explicit guidelines designed to fast-track referrals and rectify poorer survival rates. However, limitations in case selection highlight that such guidelines are not infallible. They are only strong as the evidence base which supports them and don’t replace the need for sound clinical judgement.

**Active Cancer Treatment**

Whilst active cancer treatment is mainly undertaken at secondary specialist centres, GPs play a key supportive role after diagnosis. It is argued that the GP is the most consistent health professional during the cancer journey and regular patient contact should be encouraged. Adams et al reported that cancer patients actively sought to maintain contact with their GP during cancer treatment and recommended that GPs proactively contact newly diagnosed patients and consider offering specific appointments to review their cancer care.

During active treatment general practice can offer multidimensional care. GPs are needed to treat existing co-morbid disease, common in people with cancer, to maximise treatment options, quality of life parameters and survival rates. GPs can also address the psychosocial concerns of the patient and their families. Additionally, they can manage the side effects of cancer treatment. As oral chemotherapies and biological agents continue to develop and hospital stays shorten, it is predicted that acute toxicities and even chemotherapy administration will occur increasingly in an outpatient setting. This suggests that the scope of GP involvement during cancer treatment will only increase.

Communication is crucial for the successful syncing of primary and specialist treatment. However, lack of communication is frequency cited as a problem. Adams et al identified that patients viewed a lack of communication between their GP and secondary care as a barrier to consulting their GP about cancer related issues. Similarly, Lundstrom et al reported that one third of patients considered the cooperation between primary care and hospitals as suboptimal. Patient-centred, integrated primary care hubs have been proposed as a model for overcoming coordination and continuity issues in cancer care. Moreover, schemes such as CanNET are strengthening the interface between general and specialist practice in Australia.

Primary care for cancer patients is particularly important in Australia given the decentralised population. Geographic remoteness limits access to secondary treatment and higher mortality rates are observed with increasing remoteness. Socioeconomic, religious and cultural factors in rural and remote communities create further barriers, influencing perceptions of cancer and fuelling a reluctance to leave communities for treatment. Bulsara et al reported that patients living in rural areas considered a close relationship with their GP to be helpful in managing their illness. By liaising with their GP they could avoid unnecessary trips to the hospital. Rural GPs are reported to be more involved in treating cancer patients than their urban counterparts, however there is still scope to optimise this input.
Survivorship and Follow-up

The number of patients surviving cancer is increasing and thus healthcare systems need to expand cancer care beyond active treatment.\(^1\) In Australia, the overall mortality rate for cancer has decreased by 17\%.\(^1\) Moreover, five-year survival from all cancers combined reached 66\% in 2006-2010.\(^1\) Whilst the notion of survivorship is positive, the challenge is to develop new models of care that recognise cancer as a chronic condition and accommodate cancer survivors accordingly.\(^5\)

Shared follow-up between specialist and primary care doctors has been proposed as a model for long-term management of cancer patients.\(^5\) GPs can provide cancer-specific follow-up that focuses on detecting recurrence, assessing late complications of treatment, screening for new cancers and addressing emotional concerns.\(^5\) Two randomised control trials have reported primary care follow-up for breast cancer to be a viable option when patient satisfaction, quality of life, disease recurrence and other clinical parameters were considered.\(^5,55\) It is proposed that such findings could be extrapolated to other cancer types.\(^5\)

Advantages of GP involvement in cancer follow-up have been put forward. Perceived benefits from a patient perspective include increased convenience, reduced costs, reduced burden on specialists and greater continuity of care.\(^5,56\) Cancer survivors appear to be a vulnerable group, in that a previous diagnosis of cancer may overshadow other medical problems. Multivariable analyses have shown that cancer patients were less likely to receive recommended care across a range of medical conditions.\(^57\) However, this discrepancy was overcome when both oncologists and primary care doctors contributed to follow-up care. Patients followed in general practice were more likely to receive general medical care, an important aspect of treatment given that co-morbid conditions often pose a greater risk to survival.\(^5,57\)

A recurring concern regarding GP involvement in any follow-up is the need for GP training and support.\(^5,52\) Hall et al.\(^5\) reported that patients considered additional, specific GP training necessary for their confidence in shared follow-up schemes. Similarly, GPs themselves were concerned they lacked the expertise and time required for such programs.\(^48,53\) Patients in general practice were less likely to have ongoing cancer surveillance through colonoscopies or mammograms, perhaps reflecting an uncertainty in GP responsibilities.\(^57\) These concerns highlight the need for education and guidelines that clarify the roles of primary and secondary care with regards to both cancer surveillance and general health. The concept of ‘survivorship planning’ has gained popularity as a way of specifying responsibilities. A formal handover from secondary care, which outlines case details along with protocols for post-treatment surveillance and re-referral to specialists, has been identified as a technique for optimising primary care involvement.\(^5\)
Palliation

Despite increased survival rates, palliative care still represents a significant facet of cancer care. With the improved management of common cancers, the scope of palliative care is widening to encompass not only patients on the verge of death, but also patients who may live for many years in the community.\textsuperscript{58} Although the care of a patient with a terminal disease is complex, GPs have competencies in necessary areas of symptom assessment and control along with an awareness of the person, their family, and the context of their life.\textsuperscript{49} There is evidence to suggest that terminally ill patients prefer to die at home and that GP involvement facilitate such wishes.\textsuperscript{59,60} Studies have shown that a majority of GPs in Australia are involved with palliative care, however barriers to participation include knowledge gaps, lack of interest and the structure of service provision.\textsuperscript{60} Consequently, initiatives which cultivate GP skills in palliative care have been encouraged. Strategies to address shortcomings include continued education, decision support tools and collaboration with specialist palliative care providers.\textsuperscript{58,60}

Conclusion

In conclusion, GP involvement is advantageous across the continuum of cancer care. Through continued resource allocation, communication and support from specialists, further training and focused research, there is potential to further hone the contributions GPs make.
References


