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Role of Primary Care Physicians in Cancer Care: A Systematic Review

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ABSTRACT

Objectives: To synthesize and critically evaluate the role of PCPs in the continuum of care in cancer. Methods: A total of 748 pertinent publications were found after a comprehensive search across four databases. 382 full-text publications were examined after duplicates were eliminated using Rayyan QCRI and relevance was checked; six studies finally satisfied the requirements for inclusion. Results: We included six studies with a total of 678 participants and almost one half of them 344 (50.7%) were males. These studies found that the family physician's role in cancer care, especially for palliative care, follow-up, and emotional support, is very important. However, gaps between perceived and actual roles continue to exist due to barriers at the patient, system, and professional levels. Structured appointments and follow-up have been associated with better access and patient satisfaction; outcomes of satisfaction are related to language, demographics, and perception of care. Family doctors were good at post-treatment follow-up, particularly in cases of breast cancer, acting as coordinators to guarantee continuity of care. Involvement of a family doctor was associated with improved quality of life and a pragmatic, cost-effective approach to sharing oncology workloads. Conclusion: Family physicians play a key role in accessible, patient-centered cancer care, particularly in prevention, follow-up, and palliative care. However, systemic barriers and unclear role definitions hinder their full integration into oncology care. Addressing these challenges through targeted education, enhanced collaboration with oncologists, and supportive policies can maximize their impact on patient outcomes and healthcare efficiency. Further research is needed to explore their role in varied healthcare settings and to develop strategies to overcome these barriers.

1. Introduction

The number of individuals living with or surviving cancer has increased due to

improved assessment, early detection, therapy, and an aging population; occurrence and survival estimates are expected to rise sharply over the next several decades [1, 2]. Five-year survival rates for both adult and cancers of children are rising for many cancer types and stages, and lifetime likelihood rates for evaluation of an invasive cancer can reach up to 45% for men and 38% for women [3]. As a result, health-care systems are under more strain at every stage of the cancer care continuum.

Health professionals must address the needs of survivors who are still at risk of relapse, the onset of a second cancer [4], and long-term morbidity associated with the physical and psychological and social late effects of their disease and/or its medical care [5], in addition to the acute effects caused by initial disease and treatment. As almost two-thirds may endure chronic late effects [6] during survival periods, which will, on average, last six decades [7], caring for childhood cancer survivors presents a unique challenge. Health care providers also need to attend to the requirements of older cancer survivors who are more likely to have comorbid conditions and use health care services more frequently [8].

The bulk of cancer therapy and routine follow-up for cancer patients has historically been delivered by oncologists at tertiary hospitals [9]. However, the viability of a specialist-based paradigm of care was diminished by oncology workforce shortages and the rapidly growing number of cancer survivors [10]. Given that the demand for oncologists is expected to increase by 48% between 2005 and 2020, some researchers believe that there will not be enough of them to address the demands of cancer patients and survivors in the future [11].

It has been proposed that primary care physicians (PCPs) would be qualified to take on a larger role in cancer care in response to these obstacles to oncologist-led follow-up. PCPs are in a good position to manage health care holistically and integrate cancer care into pre-existing and ongoing primary care since they are primary care clinicians who build lasting connections with their patients [12]. A PCP-based follow-up approach may be a safe substitute for oncologist care in terms of health outcomes, and patients may be happier with follow-up in some situations [13]. Additionally, PCP follow-up may facilitate more proactive care, enhanced interdisciplinary teamwork, greater continuity of care, and enhanced patient support [14].

Cancer is one of the leading causes of morbidity and mortality in most parts of the world. This has imposed a very challenging health condition that calls for a multidisciplinary approach. The PCPs act as the first contact in the health system, thus forming a critical point in early detection, risk assessment, patient education, and long-term management of cancer survivors. Their contributions, particularly in cancer care, are often underappreciated or entirely overlooked in oncology-focused literature. Given that the prevalence of cancer is steadily increasing, along with the trend toward more patient-centered, integrated models of care, understanding the role of PCPs is crucial in the effort to optimize outcomes in cancer and reduce disparities in healthcare. The existing knowledge needs to be consolidated through a systematic review, which will highlight the research gaps and give evidence-based recommendations to improve the involvement of PCPs in cancer care. This systematic review aims at appraising the role of PCPs in the continuum of care in

cancer.

2. Methods

Search strategy

The PRISMA and GATHER criteria were adhered to in the systematic review. To locate pertinent research on the role of PCPs in the continuum of care in cancer, a comprehensive search was carried out. Four electronic databases were searched by the reviewers: SCOPUS, Web of Science, Cochrane, and PubMed. We eliminated any duplicates and uploaded all of the abstracts and titles that we could find using electronic searches into Rayyan. After that, all of the study texts that met the requirements for inclusion based on the abstract or title were gathered for a thorough examination. Two reviewers independently assessed the extracted papers' suitability and discussed any discrepancies.

Study population—selection

The PEO (Population, Exposure, and Outcome) factors were implemented as inclusion criteria for our review: (i) Population: PCPs, including general practitioners and family medicine doctors or cancer patients who received primary care, (ii) Exposure: The involvement or role of PCPs in various stages of cancer care, (iii) Outcome: Impact on cancer care delivery, such as early detection rates, quality of care, patient outcomes, continuity of care, and patient satisfaction.

Data extraction

Data from studies that satisfied the inclusion requirements were extracted by two objective reviewers using a predetermined and uniform methodology. The following information was retrieved and recorded: (i) First author (ii) Year of publication, (iii) Study design, (iv) Country, (v) Sample size, (vi) Age, (vii) Gender, (viii) Data collection tool; (ix) Main outcomes.

Quality review

Since bias resulting from omitted factors is frequent in studies in this field, we used the ROBINS-I technique to assess the likelihood of bias since it enables a thorough examination of confounding. The ROBINS-I tool can be used for cohort designs where individuals exposed to different staffing levels are tracked over time and is designed to assess non-randomized studies. Each paper's risk of bias was evaluated independently by two reviewers, and any differences were settled by group discussion [15].

3. Results

The specified search strategy yielded 748 publications (Figure 1). After removing duplicates (n =366), 382 trials were evaluated based on title and abstract. Of these, 299 failed to satisfy eligibility criteria, leaving just 83 full-text articles for comprehensive review. A total of 6 satisfied the requirements for eligibility with

evidence synthesis for analysis.

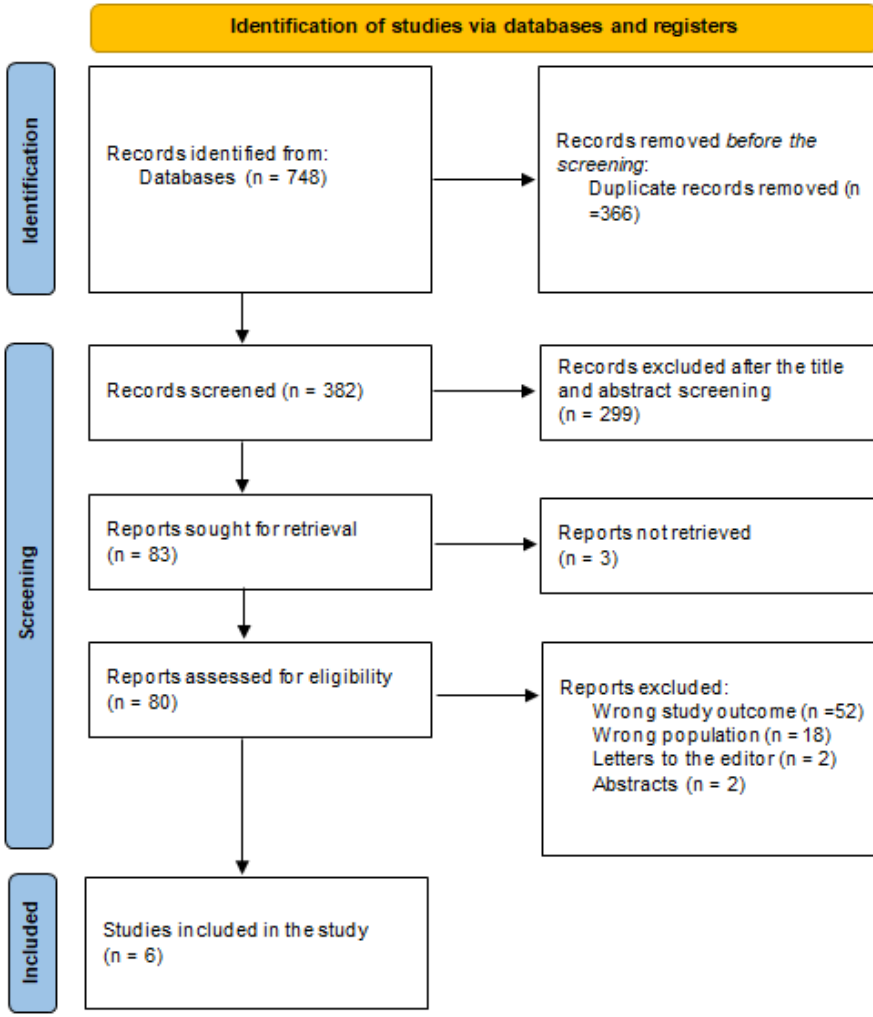

Figure (1): PRISMA flowchart [16].

Sociodemographic and clinical outcomes

We included six studies with a total of 678 participants and almost one half of them 344 (50.7%) were males. Regarding study designs, four studies were cross-sectionals [18, 19, 21, 22], and two were qualitative studies [17, 20]. Four studies were implemented in Canada [17-19, 22], and two in France [20, 21]. The earliest study was conducted in 2001 [20] and the latest in 2023 [18].

There exists a gap between the responsibilities family physicians believe they should undertake and the activities they actually perform in daily practice [17]. This gap is influenced by a variety of challenges: those relating to the patients, those relating to

the system, and professional barriers. Other findings reveal that fixed consultations or follow-ups with family doctors for palliative care are indeed linked to better accessibility of services [18]. In this regard, the main enabling factors are the predispositions of the patients based on their language and demographics, combined with positive appraisal of the care provided by the general practitioners [19].

This contributes to a delay in accessing needed services when patients are usually not aware of the potential role family physicians can play in palliative care [20]. More recently, family physicians have been considered crucial in coordinating follow-up after treatments, including, among others, breast cancer patients, for whom they serve as "quarterbacks" in care to ensure continuity [21]. These gave both the patients and their families better quality-of-life scores, hence emotional support, besides general medical care by the family physician. Moreover, care for early-stage breast cancer patients transferred to the family physicians was an effective and reasonable strategy that would minimize workload pressure on specialized oncology services [22]. Taken together, these findings emphasize the critical role of family physicians in ensuring the links in cancer care delivery and improvement in patient-centered outcomes.

Table (1): Outcome measures of the included studies

Study ID	Study design	Country	Sociodemographic	Data collection tool	Main outcomes
Easley et al., 2017 [17]	A qualitative research	Canada	N=21 Male: 9 (42.9%)	Semi-structured telephone interviews	There appears to be a gap between the part that FPs believe they should play and their everyday lives. In order to carry out the desired activities that would best assist their cancer patients, family physicians must overcome obstacles that are patient-based, system-based, and professional.
Moon et al., 2023 [18]	Cross-sectional	Canada	N= 258 Mean age: 59.6 Male: 115 (44.6%)	A survey	The current study found that having a planned or scheduled FP appointment or receiving palliative care services from FPs was correlated with enabling factors that reflected ease of access to FPs, predisposition factors of sex and English as the first language, and positive opinions of FPs' care.
Moon, 2017 [19]	Cross-sectional	Canada	N= 79 Mean age: 58.3 Male: 33 (42%)	A survey	Although many patients had not seen their FP for palliative care, patients were often involved with their FPs. Lack of awareness of FP services, delayed access to care, and the FP's perceived role were all potential obstacles to FP-provided palliative care.
Norman et al., 2001 [20]	A qualitative research	France	N=25 Age range: 28-84 Male: 11 (44%)	An interview	After the acute treatment stage of breast cancer treatment is over, family doctors are increasingly the medical "quarterbacks" of care for these women.
Sisler et al., 2004 [21]	Cross-sectional	France	N=102 Age range: 18->80 Male: 90 (44.6%)	A survey	Patients with cancer are treated by family physicians. FPs do a good job of providing the most commonly needed types of assistance, but not all of them, including family support. More assistance with general

					medical issues, more knowledge about cancer, and more emotional support for patients and their families were all linked to higher quality-of-life scores.
Vanhuyse et al., 2007 [22]	Cross-sectional	Canada	N=193 Age range: 34-90 Male: 86 (44.5%)	A survey	43% of practice's breast cancer patients qualify to have their family doctor monitor them for continued cancer care. Transferring follow-up for early-stage breast cancer to family doctors is a safe and possibly economical way to lighten workloads.

Table (2): Risk of bias assessment using ROBINS-I

Study ID	Bias due to confounding	Bias in the selection of participants into	Bias in the classification of interventions	Bias due to deviations from the intended	Bias due to missing data	Bias in the measurement of outcomes	Bias in the selection of reported result	Overall bias
Easley et al., 2017 [17]	Mod	Mod	Low	Low	Low	Low	Low	Low
Moon et al., 2023 [18]	Low	Low	Low	Low	Low	Mod	Low	Low
Moon, 2017 [19]	Low	Mod	Mod	Low	Low	Mod	Low	Moderate
Norman et al., 2001 [20]	Low	Low	Mod	Mod	Low	Low	Mod	Moderate
Sisler et al., 2004 [21]	Mod	Mod	Low	Low	Low	Mod	Mod	Moderate
Vanhuyse et al., 2007 [22]	Crit	Low	Mod	Mod	Low	Low	Low	Critical

4. Discussion

This review emphasizes the key role of the family physician in cancer care, from prevention and palliative care to survivorship and the psychosocial support of patients and their families. The review shows that structured involvement of the family physician, such as scheduled appointments and follow-ups, is associated with substantial gains in access to care, patient satisfaction, and continuity of care. Lawrence et al. reported that it is unknown if expanding the role of PCPs in cancer care is feasible given their viewpoints and preferences. With the potential to benefit patients, oncologists, and the healthcare system financially and medically, PCPs are willing to take on a larger role in cancer care if provided the necessary assistance [23].

The primary focus of PCPs' work is not cancer, and for those with limited time and resources, more effort is frequently directed toward other chronic illnesses that are more prevalent [24]. In contrast to generalized training, the literature indicates that PCPs appreciated regular and comprehensive information-sharing systems [25], such as patient-specific guidelines [26, 27] or surveillance/care plans pertaining to their

specific patient [27, 28]. Cancer care is complicated and extremely individualized due to the more than 200 distinct cancer diagnoses, the wide range of patient reactions to treatment, and ongoing advancements in the medical sector. Therefore, generalized training and information soon become outdated and less applicable in this situation. Therefore, creating patient-specific, conveniently accessible, and up-to-date information seems to be intimately related to the difficulty of adequately educating PCPs [29].

This study also found that lack of awareness regarding the roles family physicians can play, together with professional boundaries and systemic constraints, hinder their complete integration in oncology care pathways. Such barriers need targeted education for knowledge building, clearer definition of roles, and interprofessional collaboration to enhance the quality of care. Results confirm that family physicians should be used to maximum advantage in the management of non-specialist cancer care, especially for early-stage cancers and post-treatment follow-up, where their accessibility and holistic approach pay big dividends. Sisler et al. also found that the primary providers of follow-up care following breast cancer therapy are becoming more and more family doctors. Patients benefit from the primary care approach given to other chronic disorders, and breast cancer should be considered a chronic medical condition even in women who do not have the disease [30].

Family physicians, when integrated into a multidisciplinary team in cancer management, should be able to optimize care through early detection, ensure continuity of survivorship care, and offer cost-effective solutions to reduce the burden on specialized oncology services. Extended training in oncology for family physicians and closer communication with the oncologists will help utilize this potential fully. More importantly, policy changes put their role in cancer care pathways into an even more formal setting, hence bridging the gaps in accessing patients, especially in areas that are underrepresented with specialists.

5. Strengths and limitations

This review synthesizes evidence from a range of study designs and geographic contexts, providing a comprehensive view of family physicians' roles in cancer care. It puts in perspective not only their contributions but also a number of systemic and professional challenges they face, thereby offering actionable insights into the improvement of policy and practice.

The studies included are from high-income countries; thus, the generalization for low- and middle-income settings may be limited. Besides, differences in the health care systems and roles played by family physicians in various countries may impact the generalizability of results found. Reliance on qualitative or self-reported data from subjects in some studies introduces biases and/or subjectivity in interpreting outcomes.

6. Conclusion

They help provide accessible and patient-centered cancer care, especially in

prevention and during follow-up and palliative care phases. While their role is increasingly recognized, several identified systemic barriers and lack of clarity over their responsibilities inhibit the full integration into oncology care pathways. Closing such gaps through focused education, better collaboration with the oncologists, and enabling policy will unleash their full potential for improved patient outcomes and higher efficiency in the health care system. Future research should explore the role of family physicians in diverse healthcare settings and develop strategies to overcome existing barriers.

References

Australian Institute of Health and Welfare. Older Australia at a glance (4th ed.). Australian Government Department of Health and Ageing, 2007.

Shulman LN, Jacobs LA, Greenfield S, et al. Cancer care and cancer survivorship care in the United States: will we be able to care for these patients in the future? J Oncol Pract. 2009;5(3):119–123.

Grunfeld E. Cancer survivorship: a challenge for primary care physicians. Br J Gen Pract. 2005;55(519):741–742.

Seehusen DA, Baird D, Bode D. Primary care of adult survivors of childhood cancer. Am Fam Physician. 2010;81(10):1250.

Mertens AC, Yasui Y, Neglia JP, et al. Late mortality experience in fiveyear survivors of childhood and adolescent cancer: the Childhood Cancer Survivor Study. J Clin Oncol. 2001;19(13):3163–3172.

Oeffinger KC, Mertens AC, Sklar CA, et al. Chronic health conditions in adult survivors of childhood cancer. N Engl J Med. 2006;355(15):1572– 1582.

Parsons SK, Brown AP. Evaluation of quality of life of childhood cancer survivors: a methodological conundrum. Med Pediatr Oncol. 1998;30(S1):46–53.

Repetto L, Venturino A, Vercelli M, et al. Performance status and comorbidity in elderly cancer patients compared with young patients with neoplasia and elderly patients without neoplastic conditions. Cancer. 1998;82(4):760–765.

Brennan M and Jefford M. General practitioner-based models of posttreatment follow-up. in Cancer Forum. The Cancer Council Australia. 2009.

Centre for Workforce Studies. Forcasting the supply of and demand for oncologists: A report to the American Society of Clincal Oncology (ASCO) from the AAMC Centre for Workforce Studies. 2007. Available at: http:// www.asco.org/sites/default/files/oncology_workforce_report_final.pdf. Accessed Nov 10, 2024.

Erikson C, Salsberg E, Forte G, Bruinooge S, Goldstein M. Future supply and demand for oncologists: challenges to assuring access to oncology services. J J Oncol Pract. 2007;3(2):79–86.

Weller DP, Harris MF. Cancer care: what role for the general practitioner? Med J Aust. 2008;189(2):59–60.

Grunfeld E, Fitzpatrick R, Mant D, et al. Comparison of breast cancer patient satisfaction with follow-up in primary care versus specialist care: results from a randomized controlled trial. Br J Gen Pract. 1999;49(446):705.

Murray SA, Boyd K, Campbell C, et al. Implementing a service users' framework for cancer care in primary care: an action research study. Fam Pract. 2008;25(2):78–85.

Sterne JA, Hernán MA, Reeves BC, Savović J, Berkman ND, Viswanathan M, Henry D, Altman DG, Ansari MT, Boutron I, Carpenter JR. ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. bmj. 2016 Oct 12;355.

Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart LA, Prisma-P Group. Preferred reporting items for systematic review and meta-analysis

protocols (PRISMA-P) 2015 statement. Systematic reviews. 2015 Dec;4:1-9.
Easley J, Miedema B, O'Brien MA, Carroll J, Manca D, Webster F, Grunfeld E. The role of family physicians in cancer care: perspectives of primary and specialty care providers. Current Oncology. 2017 Apr 27;24(2):75.
Moon CC, Mah K, Pope A, Swami N, Hannon B, Lau J, Mak E, al-Awamer A, Banerjee S, Dawson LA, Husain A. Family physicians' involvement in palliative cancer care. Cancer Medicine. 2023 Mar;12(5):6213-24.
Moon CC. The Role of Family Physicians in Palliative Care: Perspectives of Patients with Advanced Cancer. University of Toronto (Canada); 2017.
Norman A, Sisler J, Hack T, Harlos M. Family physicians and cancer care. Palliative care patients' perspectives. Canadian Family Physician. 2001 Oct 1;47(10):2009-12.
Sisler JJ, Brown JB, Stewart M. Family physicians' roles in cancer care. Survey of patients on a provincial cancer registry. Canadian Family Physician. 2004 Jun 1;50(6):889-96.
Vanhuyse M, Bedard PL, Sheiner J, Fitzgerald B, Clemons M. Transfer of follow-up care to family physicians for early-stage breast cancer. Clinical Oncology. 2007 Apr 1;19(3):172-6.
Lawrence RA, McLoone JK, Wakefield CE, Cohn RJ. Primary care physicians' perspectives of their role in cancer care: a systematic review. Journal of general internal medicine. 2016 Oct;31:1222-36.
Britt H, Miller GC, Charles J, et al. General practice activity in Australia 2008–09. Australian Institute of Health and Welfare, University of Sydney. 2009.
Johansen ML, Holtedahl KA, Rudebeck CE. A doctor close at hand: how GPs view their role in cancer care. Scand J Prim Health Care. 2010;28(4):249–55.
Bober SL, Recklitis CJ, Campbell EG, et al. Caring for cancer survivors: a survey of primary care physicians. Cancer. 2009;115(18 Suppl):4409–18.
Nathan PC, Daugherty CK, Wroblewski KE, et al. Family physician preferences and knowledge gaps regarding the care of adolescent and young adult survivors of childhood cancer. J Cancer Surviv. 2013;7(3):275–82.
Nissen MJ, Beran MS, Lee MW, Mehta SR, Pine DA, Swenson KK. Views of primary care providers on follow-up care of cancer patients. Fam Med. 2007;39(7):477.
Emery J, Trevena L, Mazza D, et al. The role of primary and community-based healthcare professionals in early detection and follow-up in cancer care – a rapid review of best practice models: an evidence check rapid review brokered by the Sax Institute for the Cancer Institute NSW. 2012. Available at: https://www.saxinstitute.org.au/wp-content/uploads/REPORT_Role-of-PHC-cancer-early-detection-2smallpdf.com_.pdf. Accessed Nov 15, 2024.
Sisler J, Chaput G, Sussman J, Ozokwelu E. Follow-up after treatment for breast cancer: practical guide to survivorship care for family physicians. Canadian Family Physician. 2016 Oct 1;62(10):805-11.