

Addressing cancer care gaps through improved early cancer diagnosis in Singapore: research priorities to inform clinical practice

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Early diagnosis of cancer is associated with improved clinical and patient outcomes. In many countries, primary care practitioners (PCPs) often serve as the first point of contact for patients in the healthcare system.¹ In countries such as England and Denmark, where PCPs serve as the gatekeepers in the health care system, research in early cancer diagnosis has been a critical area of focus. Understanding how patients appraise symptoms, how they seek help and how PCPs manage symptomatic patients has led to targeted interventions in these countries, resulting in significantly improved cancer stage at diagnosis and patient survival.¹

More than half of the world's cancer cases and mortality occur in Asia.² WHO released an urgent call for addressing gaps in cancer care in Southeast Asia last year, where more than two million cancer cases were reported in 2020 alone, with a focus on early detection and diagnosis through primary care.³ In Asia, healthcare systems vary significantly across countries. Singapore is a developed country with comparable healthcare resources as many European countries. Its high-quality and subsidised healthcare system provides accessible and affordable healthcare, including free screening for some cancer sites.⁴ However, the 5.9 million population is diverse ethnically, comprising 75% Chinese, 15% Malays, and 7.5% Indians, and harbours inequalities in health care utilisation and outcomes.⁴⁻⁶

Besides promoting cancer prevention strategies and routine screenings, primary care in Singapore is commonly the gatekeeper for specialised healthcare access, including investigations for suspected cancer symptoms. In Singapore, private General Practitioners (GPs) represent the vast majority of PCPs, while the remaining 20% are Family Physicians who work in public polyclinics.⁵ Cancer patients were found to seek consults from their primary care physicians at almost double the rate of the general population.⁷ With rising

cancer rates in Singapore over the past decade,⁸ the role of PCPs along the cancer diagnosis continuum is never more crucial, not only in prompt investigation and referral of patients with suspected cancer but also in reducing cancers diagnosed following an emergency presentation, which is itself associated with worse survival.⁹ While most cancer research in primary care settings in Singapore focuses on screening asymptomatic individuals and survivorship care,⁴ more effort is required to understand how symptomatic cancers are diagnosed and where missed opportunities occur.

The Pathways to Treatment model provides a framework for diagnostic intervals and contributing factors to the cancer diagnosis process in symptomatic patients (Fig. 1).¹⁰ Improving patient symptom awareness, appraisal and help-seeking behaviours, shortening the time from which a GP sees a symptomatic patient to referral (the primary care diagnostic interval) through improving testing strategies, referral pathways, and system capacity and efficiency, may shorten the diagnostic intervals, leading to earlier diagnosis of symptomatic cancers.¹

Research focusing on the primary care events, diagnostic process and intervals is lacking in Singapore. We advocate a rigorous effort to increase the evidence base in this field locally, to understand the role of PCPs in diagnosing symptomatic cancers in Singapore, as well as to identify contributing factors to suboptimal care and outcomes in patients with suspected cancer. The Singapore Primary Care Cancer Network (SPRiNT) was established in 2020, to advance cancer care across the continuum of prevention, early detection diagnosis, and survivorship at the primary care level. Spearheaded by the National University Health System (NUHS) Department of Family Medicine, SPRiNT is a network of primary care institutions, specialist cancer institutions, and non-government cancer organisation—Singapore Cancer Society in Singapore. It is modelled after the Australian Primary Care Collaborative Cancer Clinical Trials Group (PC4), to which it has ties to, and is similar to the CanTest Collaborative in the UK, both with goals centred around developing primary care cancer research and capability in the respective countries. The aim is also to encourage cross-institutional



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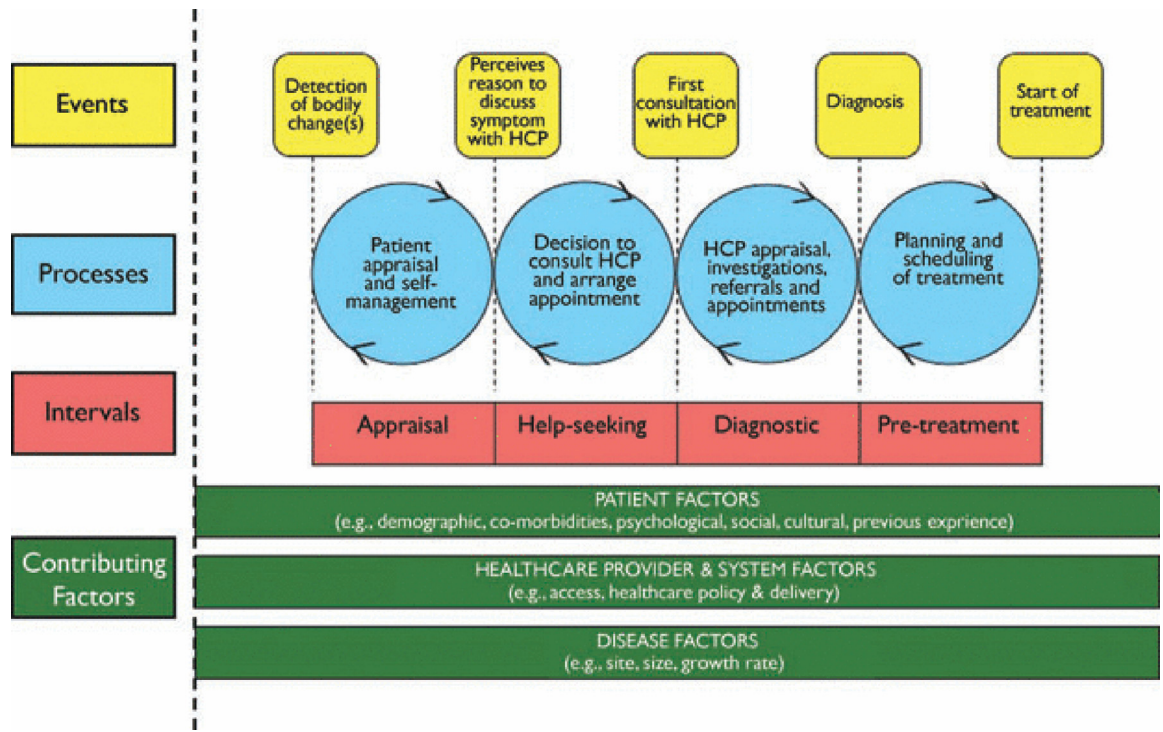


Fig. 1: The model of Pathways to Treatment.¹⁰

learning and collaborations, develop the next generation primary care cancer researchers, and advance cancer research in the different countries to address their national priorities. Projects helmed by SPRiNT members span the continuum of the cancer diagnosis pathway, from studying patients’ helping-seeking behaviours, and practitioners’ investigation and referral behaviours, to diagnostic intervals of different parts of the cancer diagnostic pathway. Through SPRiNT, we hope to better understand our current clinical practice, so that suitable interventions can be developed to target missed diagnostic opportunities and inequalities in cancer diagnosis, care, and outcomes.

Declaration of interests

Authors have no conflict of interest to declare.

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