

BMJ Open Quality Referral delays in metastatic breast cancer care: barriers and facilitators across a fragmented pathway

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ABSTRACT

Background The proportion of women diagnosed with metastatic breast cancer (mBC) in Southern Thailand has remained stable at 10.5–11.7% over the past decade. Healthcare system-level and provider-level barriers contributing to these delays remain poorly understood.

Objectives To identify patient-related and healthcare system-related factors influencing referral delays for mBC in Southern Thailand, and to co-design implementation strategies with stakeholders to address these barriers.

Methods This co-produced qualitative study, developed in partnership with a breast cancer survivor support group, employed Force Field Analysis to identify barriers and facilitators influencing mBC referral in Health Region 12. Data were generated through semi-structured interviews with 8 women living with mBC and 13 medical interns, documentary analysis of 3 national policy documents and a stakeholder co-design workshop. Reflexive thematic analysis was undertaken, with findings synthesised across macro, organisational and micro levels.

Results Four barriers and three facilitators were identified. At the macro level, inequities in insurance scheme restrictions and the incomplete implementation of national guidelines created structural filters that delayed access to specialist care. At the organisational level, limited diagnostic resources, fragmented medical information systems and a culture of caution surrounding referral further compounded delays. At the micro level, socioeconomic constraints and reliance on traditional medicine interacted with system-level barriers, indicating that late presentation is more reflective of systemic dysfunction than of individual health literacy deficits. Facilitators were informal, fragile and largely dependent on individual clinician initiative.

Conclusions Referral delays are driven by cumulative and reinforcing structural barriers rather than patient-level factors alone. Through co-design, stakeholders prioritised two key interventions: a regional integrated queue system to enable urgency-based access, and a digital health platform to enhance care coordination. Future research should focus on feasibility testing and pilot implementation of these interventions to evaluate improvements in timeliness, equity and sustainability of cancer care.

INTRODUCTION

Breast cancer is one of the most common cancers among women globally, with an age-standardised incidence rate of 46.8 per

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Referral delays for breast cancer in low- and middle-income countries are well-documented, but existing evidence focuses predominantly on patient-level factors, such as health literacy and socioeconomic status. System-level drivers of delay remain poorly understood.

WHAT THIS STUDY ADDS

⇒ Using Force Field Analysis across the macro, organisational and micro levels, this study demonstrates that referral delays for metastatic breast cancer are primarily structurally driven by inequitable insurance schemes, unimplemented national guidelines, resource scarcity and fragmented information systems rather than by individual patient choices. The perceived 'low health literacy' of breast cancer survivors is a feedback loop, in which systemic barriers, such as inequitable universal health coverage and weak coordination of care within and between hospitals, reinforce patient disengagement.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The findings support two co-designed structural interventions: (1) a regional integrated queue system and (2) a digital health platform for closed-loop coordination, highlighting the urgent need to close the implementation gap between Thailand's breast cancer policy, guidelines and regional practice.

100 000 individuals in 2022.¹ In Thailand, the incidence is projected to increase from 21.6 to 25.6 per 100 000 individuals between 2022 and 2040.² Early detection and timely referral are associated with improved survival and remain a cornerstone of effective breast cancer management.^{3 4}

Timely referral of women presenting with relevant symptoms is recommended to facilitate prompt investigation and treatment.^{3 5 6} However, in low- and middle-income countries (LMICs), including Thailand, diagnosis is often delayed and occurs at more advanced stages.^{5 7 8} Referral delays have significant consequences, including postponed

specialist assessment, delayed cancer staging, deferred initiation of treatment and limited access to symptom control and supportive care,^{5 9} all of which contribute to poorer survival outcomes.^{10 11} Beyond clinical outcomes, such delays may exacerbate patients' uncertainty, anxiety and psychological distress,¹² much of which is potentially preventable. In Thailand, referral pathways depend on an individual's health coverage. Under the Universal Coverage Scheme (UCS) and the Social Security Scheme (SSS), referrals follow a stepwise pathway from district-level community hospitals to provincial centres, with upward referral requiring formal authorisation.¹³ The third scheme, the Civil Servant Medical Benefit Scheme (CSMBS), is more flexible, as doctors can initiate a patient's referral from any facility. In Southern Thailand, hospital cancer registry data show that the number of women diagnosed with breast cancer rose from 589 in 2011 to 756 in 2020. However the proportion of patients diagnosed with metastatic breast cancer (mBC) remained stable at 10.5–11.7% over the same period,¹⁴ suggesting that current referral pathways are insufficient to facilitate earlier-stage diagnosis. Previous studies have examined both patient-level and healthcare-level factors contributing to referral delays.^{3–5 13 15} Patient-level factors include socioeconomic status, urban–rural residence, financial insecurity and health literacy, including limited awareness of mBC symptoms.^{9 16} Healthcare-level factors, although less extensively studied, include system design, provider capacity and organisational processes that influence referral pathways and timing. To date, the literature has largely focused on patient-level contributors, whereas evidence on healthcare provider and system-level

drivers—particularly within the Thai context—remains limited.^{3 4 13 15 17–19}

In this study, we aimed to identify and explore health-care system-related factors influencing referral delays for women with mBC in Southern Thailand and to co-design implementation strategies with key stakeholders to address barriers across the referral pathway.

MATERIAL AND METHODS

Study design

This co-produced qualitative study employed Lewin's Force Field Analysis^{20 21} to identify barriers (restraining forces) and facilitators (driving forces) influencing referral for mBC in Health Region 12, Southern Thailand (figure 1).

Patient and public involvement

The study was co-designed with the Chom-rom-yen breast cancer support group, a social enterprise comprising 466 breast cancer survivors and their caregivers from diverse socioeconomic backgrounds, with whom the research team has an established collaborative relationship.²² Two representatives from the group, PS (head of the support group) and NS, were actively involved throughout the research process.

Group members co-developed the research questions (November 2023), supported participant identification and recruitment (from November 2024) and participated in iterative reflection on findings as well as a stakeholder co-design workshop to assess the feasibility of potential solutions (October 2025; figure 2). Data were generated from three sources: semi-structured interviews with

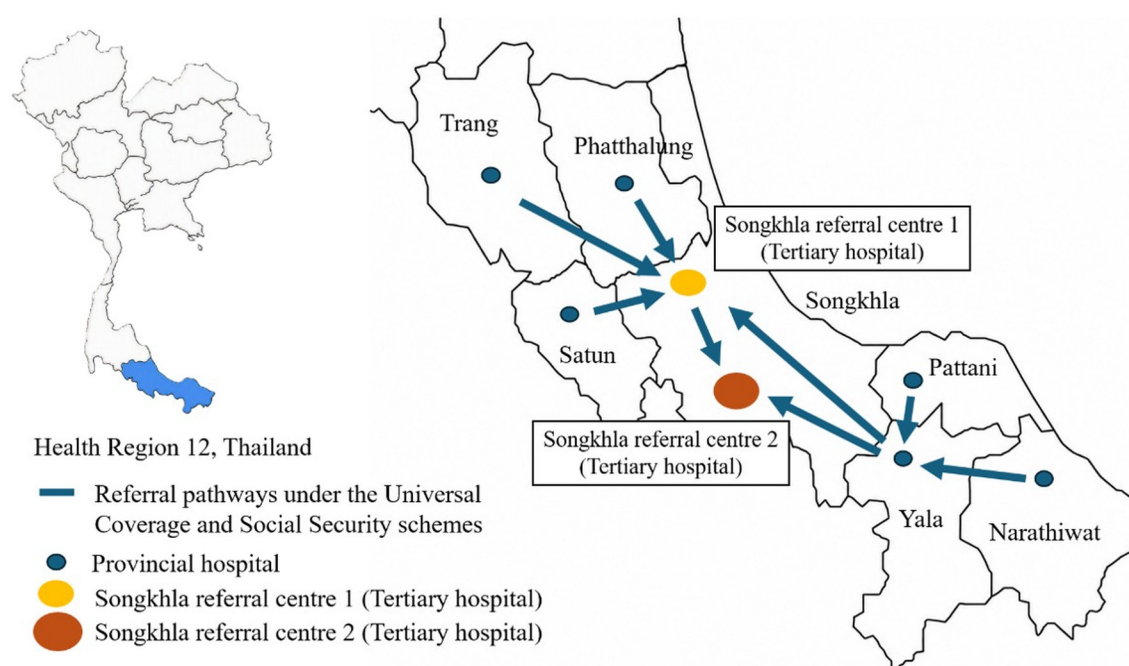


Figure 1 Health Region 12 in Southern Thailand and cancer care referral pathways under the Universal Coverage Scheme and Social Security Scheme.

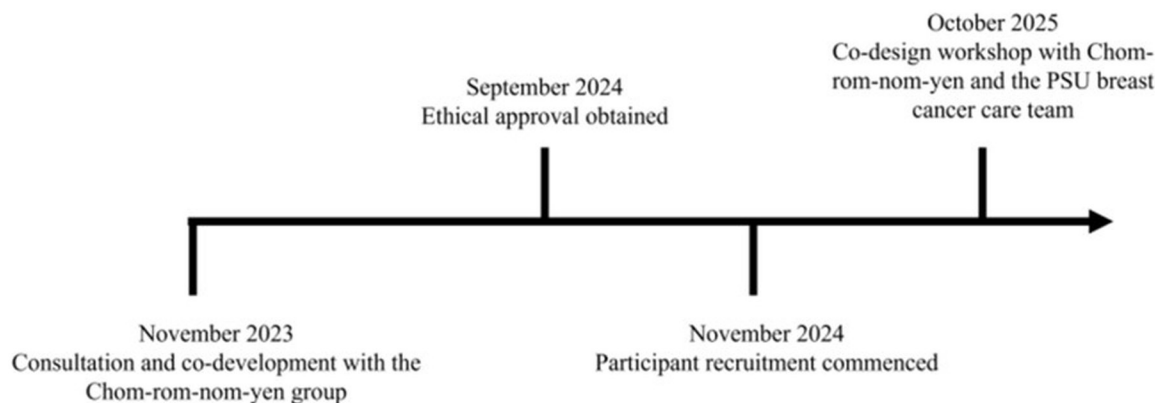


Figure 2 Study timeline and key milestones. PSU, Prince of Songkla University.

women living with mBC and medical interns, documentary analysis of national policy documents and a co-design workshop.

Documentary analysis

SS conducted a documentary analysis of three national policy documents published between 2015 and 2025: (1) the Cancer Anywhere Policy (2021), (2) National Health Security Office reimbursement guidelines and (3) UCS regulations.^{13 23 24} The analysis focused on referral patterns prescribed in each document, including eligibility criteria, geographical catchment areas, approval processes and inter-facility referral pathways. These prescribed pathways were compared with participants' accounts of how referral systems operated in practice, enabling identification of gaps between policy intent and clinical reality at the regional level.

Participants

The study was conducted at one of four oncology referral centres in Health Region 12 between November 2024 and October 2025. The region serves approximately 5.02 million people, with a Muslim majority (52.8%) and a slight female majority (50.9%). Two participant groups were recruited: (1) women living with mBC (aged ≥ 18 years, Eastern Cooperative Oncology Group (ECOG) performance status 0–1, able to communicate in Thai; those with elevated suicidal risk on the 8 Questions instrument²⁵ were excluded), and (2) medical interns (newly qualified doctors). We focused on medical interns as they served as the first point of contact for patients and are responsible for initiating referrals.

Participant recruitment was supported by the Chom-rom-nom-yen group, the Prince of Songkla University (PSU) Radiation Oncology Unit and the Tanyawej Breast Center for patients, and through purposive sampling with snowball techniques²⁶ for interns. Sample size was guided by the concept of information power²⁷; recruitment continued until no new insights emerged after 21 participants.²⁷ No participants were excluded due to elevated suicidal risk.

Data collection

Semi-structured interviews were conducted either face-to-face or via LINE, a widely used messaging application in Thailand that supports both audio and video calls, according to participants' preference. The semi-structured interview guides are provided in online supplemental file 1. All interviews were audio-recorded with consent, transcribed verbatim in Thai, checked against the recordings and de-identified.

Force field analysis synthesis

Analysis followed a two-stage process. First, policy analysis was conducted to contextualise the referral system. Then, reflexive thematic analysis was undertaken following the approach of Braun and Clarke²¹ by a multidisciplinary team: SS (sociologist), TNP (Thai radiation oncologist), TRP (Thai family medicine physician and qualitative researcher) and NG (quality improvement and implementation researcher). Reflexivity was maintained throughout the analytical process.²²

Findings from thematic and documentary analyses were synthesised using Force Field Analysis (SS, TRP and TNP). Each theme was categorised as either a barrier or facilitator and mapped across macro, organisational and micro levels. Preliminary findings were shared with the Chom-rom-nom-yen group and the PSU breast cancer care team for member checking.

Co-design workshop

Three researchers (SS, TNP and TRP) convened a co-design workshop at the university site with four representatives from the Chom-rom-nom-yen group, two members of the breast cancer care team and the research team. Proposed solutions derived from the Force Field Analysis were presented to stakeholders. The workshop lasted approximately 3 hours and was structured around two key questions: which identified barriers can feasibly be mitigated, and which facilitators can be created or strengthened? Field notes were recorded by SS.

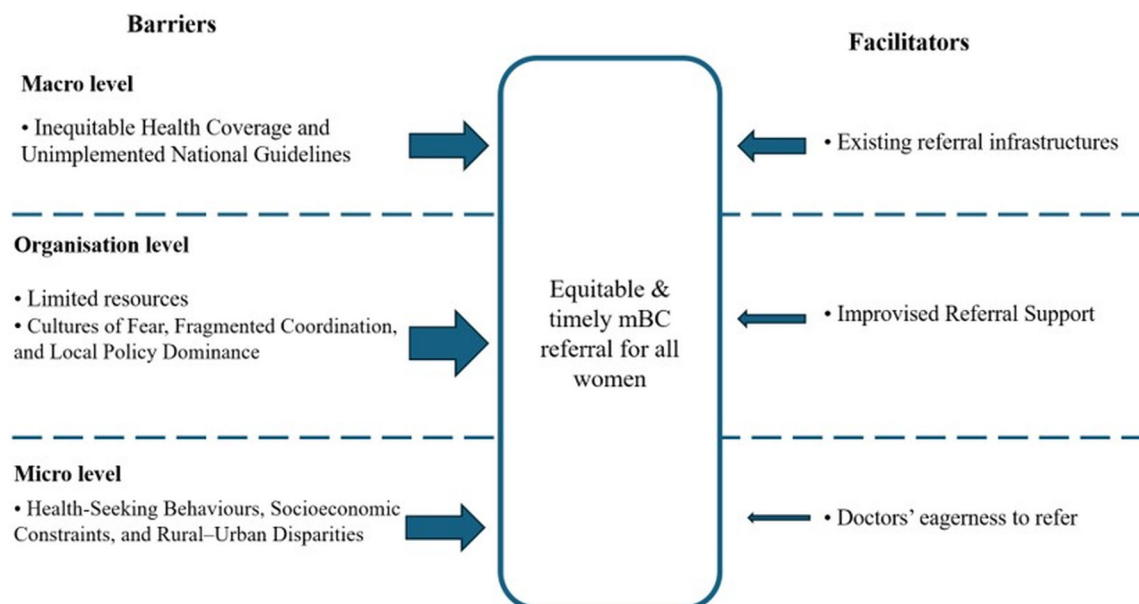


Figure 3 Multilevel barriers and facilitators influencing equitable and timely referral for women with metastatic breast cancer. mBC, metastatic breast cancer.

RESULTS

Participant characteristics

Between November 2024 and October 2025, a total of 21 participants were recruited: 8 women with mBC (median age 52 years, range 38–66 years; UCS, n=3; CSMBS, n=2; SSS, n=3) and 13 intern doctors (median age, 27 years; range, 25–28 years; 62% female; 69% based in rural community hospitals).

Overview of barriers and facilitators

7 of the 13 intern doctors reported awareness of the identified policies; however, all indicated that these policies had not been implemented locally, suggesting a disconnect between policy and practice. The synthesised analysis identified four barriers and three facilitators, which were categorised across macro, organisational and micro levels (figure 3).

Macro level

Barriers: inequitable health coverage and unimplemented national guidelines

Policy context

Documentary analysis revealed that Thailand's three insurance schemes impose distinct referral rules, approval processes and geographical restrictions. A patient's insurance scheme determines which facilities they can access, the administrative steps required for referral and the speed of approval.²⁸ Patients under the UCS are required to follow a structured, stepwise pathway from district-level community hospitals to provincial centres, with upward referral requiring formal authorisation.¹³ Access for those under the SSS is limited to contracted networks, with referrals permitted only when specific clinical criteria are met.^{28 29} In contrast, beneficiaries of the CSMBS have greater flexibility and may bypass strict gatekeeping mechanisms.¹³

The Cancer Anywhere policy was intended to enable treatment at any appropriately equipped facility; however, regional documents indicated that it has not been consistently implemented in local practice. Instead, individual hospitals operate under locally developed guidelines, resulting in considerable variation in referral processes.

This new policy provides cancer patients with several key benefits: the ability to choose a hospital based on convenience and proximity to home; access to treatment within the designated timeframe; no requirement to return to their registered facility to obtain a referral letter; and access to comprehensive, high-quality care at capable facilities with reduced waiting times. (National Health Security Office, 2021)³⁰

Participant experience

Intern participants confirmed that national guidelines were not implemented as local protocols governed daily practice. The referral pathway is governed by administrative rather than clinical logic.

Where [the patient] is referred to depends on the [healthcare] scheme the patient has. (Interview, D001)

Together, scheme-based restrictions and unimplemented reforms created a structural filter that slowed access to specialist care, regardless of clinical urgency.

Facilitator: existing referral infrastructures

Health service zone structures, regional hospital networks and the stepped-care model provide the basic referral skeleton. The participants acknowledged that these pathways existed and provided a foundation for movement through the system. However, intern participants described them

as functional in structure but heavily impeded by scheme restrictions and bureaucratic requirements, consistently overpowered by macro-level barriers, enabling referral in principle, but rarely delivering it in a timely or equitable manner.

Organisational level

Barrier: limited resources

Participant experience

Women reported waiting 1–6 months for diagnostic procedures. Although clinical guidelines recommend timely treatment initiation,³¹ reported delays tend to exceed the optimal time frame.

Some patients have to wait two to three months... and the appointments are still uncertain. (Interview, D002)

Resource scarcity operates as a structural (limiting capacity) and psychological barrier (producing distress that compounds the clinical impact of delay).

Barriers: cultures of fear, fragmented coordination and local policy dominance

Participant experience

The participant interns described a culture of caution around referrals. Patients physically transported records between facilities, and interns reported a 'feedback deficit' from tertiary centres:

The systems of each hospital are not linked; medical records cannot be accessed or shared... this leads to issues regarding treatment plans or the overall care process. (Interview, D012)

These barriers interacted as a multiplier: scheme restrictions meant that patients moved across facilities, resource scarcity meant long waits and at each transition, the risk of information loss increased.

Facilitator: improvised referral support

Some facilities had introduced informal telephone consultations and ad hoc coordination between clinicians. Intern participants reported that these improvised practices—such as personal calls to specialists, negotiation of queue positions and occasional sharing of clinical notes—could expedite referral for individual patients. However, these approaches were neither formalised nor standardised, and were not consistently accessible across the region. Their effectiveness depended largely on individual initiative and personal relationships between clinicians, rendering them fragile facilitators that were insufficient to overcome structural barriers at scale.

Micro level

Barriers: health-seeking behaviours, socioeconomic constraints and rural–urban disparities

Care delays were intertwined with the participants' socioeconomic status. Economic survival almost always overrides care seeking.

I was too busy selling goods [during the tourist season], so I didn't go to see the doctor... I thought I would save some money first. (Interview, P001)

This is compounded by patients' fear of modern oncology and chemotherapy side effects, such as severe fatigue, which led several participants to seek traditional medicine. For instance, one Muslim participant described using Quranic healing therapy to counter the debilitating exhaustion caused by chemotherapy:

I am Muslim, and I used Quranic healing therapy. He [the faith healer] read the Quran over me, then massaged my legs, joints, and other areas. He treated me every day for 18 days. I was absolutely knackered [from the chemo] and it [the healing therapy] helped as I was finally able to sit up. (Interview, P08)

In Thailand's Southern Border Provinces, the literature suggests that reliance on traditional medicine is more concentrated within Thai Muslim communities, where spiritual healing and herbal remedies are deeply woven into the cultural fabric.³² Moreover, rural patients face additional barriers, such as longer travel distances, fewer diagnostic services and cumulative costs of transport, accommodation and lost income.

Critically, intern participants challenged the common framing of late presentation as 'low health literacy'. They highlighted that patient reluctance was often a relational response to a system that imposed a month-long wait for basic diagnostic investigations.

If we don't consult [personally], they will be put in a normal queue for an ultrasound, which can take more than four to five months. (Interview, D002)

This observation revealed a critical dynamic within the force field. Macro-level barriers (inequitable coverage, unimplemented guidelines) and organisational-level barriers (limited resources, weak coordination) were fed back to the micro level, reinforcing patients' perception that the system was unresponsive. This perception strengthens micro-level barriers by discouraging engagement in formal care. What appears to be 'low health literacy' is, in fact, a feedback loop, in which barriers at every level compound one another. Therefore, the late-stage presentation is a consequence of the overall imbalance in the force field.

Facilitator: doctors' eagerness to refer

The strongest facilitators were doctors' improvised workarounds, including extra care efforts, coordinating queues and negotiating appointments through informal networks. However, effectiveness depended on the participants' social capital or wealth:

I got the queue quickly because I have a relative working here. (Interview, P003)

Patients who have sufficient financial resources will choose to walk into [the hospital] and pay for

everything themselves out of pocket just to receive faster treatment. (Interview, D003)

This facilitator, paradoxically, enabled some individuals to circumvent existing barriers while reinforcing inequities for those without social connections or financial resources. Participants recognised the inherent instability of such practices, their role in perpetuating inequity and advocated for the formalisation of referral coordination pathways. Proposed solutions included a regional integrated queue system and automated inter-hospital feedback mechanisms (D006, D007), aimed at transforming fragile, individual-level facilitation into sustainable institutional processes.

Co-design workshop

Following the Force Field Analysis, the findings were shared with stakeholders for validation and prioritisation. Through this process, two priority interventions were identified.

The first is a regional integrated queue system designed to redistribute diagnostic and treatment capacity across the health region through a shared and transparent queue. This system aims to restore urgency-based access and to institutionalise the intermittent facilitation currently achieved through informal coordination among individual clinicians. However, stakeholders emphasised that any reallocation of resources must avoid increasing travel burdens for financially vulnerable women.

The second is a digital health and telemedicine platform incorporating teleconsultation capabilities, shared electronic health records, specialist appointment scheduling and a patient-accessible personal health record across facilities. This platform is intended to address information fragmentation and reduce the need for costly, repeated travel.

Stakeholders identified several key implementation challenges for both interventions. These include questions regarding governance structures—specifically whether the platform should be clinician-led to ensure appropriate clinical oversight or patient-led to enhance engagement—as well as concerns regarding varying levels of digital literacy among both patients and healthcare providers.

DISCUSSION

This study reframes referral delays in mBC in the southern border provinces of Thailand as a predominantly systemic phenomenon. Rather than attributing late presentation to low health literacy or patient hesitation, our Force Field Analysis demonstrates that delays arise from the cumulative interaction of structural barriers across macro, organisational and micro levels of the health system.

Previous studies have linked health literacy to breast self-examination rather than clinical examination³³ and to lifetime screening behaviour^{34 35}; however, such associations tend to locate the problem at the individual level. In contrast, our findings indicate that delays are

not attributable to a single patient-level factor but are produced and compounded across multiple stages of the care pathway, from symptom recognition to referral, diagnosis and treatment initiation. Restrictive referral policies, fragmented information systems and diagnostic bottlenecks frequently override patients' willingness and ability to seek timely care. This systemic interpretation aligns with the Model of Pathways to Treatment and the Andersen Model of Total Patient Delay, both of which conceptualise delay as a cumulative process shaped by healthcare organisation and system capacity.^{36 37} Our findings are consistent with evidence from systematic reviews in Asian LMICs, which identify health system factors as dominant contributors to delayed breast cancer diagnosis.³⁸ Collectively, these findings underscore that patient education alone is insufficient to reduce referral delays.

Thailand's UCS has improved financial protection and survival compared with the pre-UCS era³⁹; however, our findings suggest that universal entitlement does not ensure equitable access. Structural disparities persist due to differences in the design of the three major insurance schemes. The CSMBS operates with fewer gatekeeping mechanisms, enabling more rapid access, whereas the UCS and SSS rely on fixed provider networks in which reimbursement rules often require formal, multistep approval for cross-boundary referrals.⁴⁰ Administrative structures can therefore override clinical urgency, creating a de-facto three-tiered system, in which time to treatment varies according to insurance status. Although the Cancer Anywhere policy (National Health Security Office, 2021) was intended to reduce such barriers,⁴¹ our findings indicate that its implementation remains inconsistent. Persistent administrative requirements and reimbursement constraints continue to limit patient mobility, highlighting a gap between policy intent and clinical reality.

Resource bottlenecks in pre-diagnostic imaging and radiotherapy also emerged as major drivers of delay. When essential resources, such as CT, MRI or radiotherapy slots, are limited, patients are channelled into prolonged standardised queues.^{9 42} For mBC, such rigid queuing is particularly problematic. In the pre-diagnostic phase, it delays staging and may allow disease progression before treatment planning; in the post-diagnostic phase, failure to prioritise based on metastatic progression undermines the system's ability to deliver timely care.⁴³ The consequences are both clinical and psychological. Prolonged waiting can generate significant distress, compounding the burden of an advanced diagnosis,¹² while delays in radiotherapy may adversely affect event-free survival and overall prognosis, converting manageable symptoms into avoidable suffering.^{44 45} Therefore, these queues should be understood not merely as operational inefficiencies but as constraints on quality and equity. Future quality improvement initiatives must ensure that clinically urgent cases are prioritised appropriately.

Discontinuity of medical information—particularly the 'feedback deficit' between tertiary and community

hospitals—further disrupts coordinated care across transitions.⁴⁶ Although e-consultation programmes show promise,⁴⁷ they do not guarantee closed-loop communication: diagnostic results, staging information and treatment plans are not consistently communicated back to referring teams.^{48 49} This fragmentation is especially problematic in mBC, where management requires dynamic, coordinated decision-making across multiple care settings.^{50 51} Achieving continuity necessitates fully interoperable systems; however, the adoption of healthcare-specific data standards in oncology remains limited.⁵² Such interoperability is particularly critical for community providers managing emergencies and end-of-life care, where timely access to comprehensive patient information can directly influence outcomes.

In response to systemic delays, clinicians often adopt improvised workarounds—informal deviations from standard processes that enable care delivery when formal systems are unresponsive, but introduce variability and potential safety risks.⁵³ In this study, intern doctors reported using personal contacts and informal communication to secure earlier appointments, effectively bypassing standard queues. While such practices may expedite care for individual patients, they undermine transparent, urgency-based allocation. This pattern is consistent with evidence on the role of social capital in shaping healthcare access^{54 55} and on informal support mechanisms that may inadvertently exacerbate inequities.⁵⁶ These workarounds represent necessary short-term coping strategies for both clinicians and women living with mBC, yet they perpetuate the very inequities they seek to mitigate.

Through co-design, stakeholders identified two structural interventions—a regional integrated queue system and telemedicine-enabled coordination—to transform fragile, individual-level facilitation into sustainable institutional mechanisms. This approach is grounded in experience-based co-design (EBCD), a participatory methodology that engages patients and staff as active partners in quality improvement by identifying key experiences along the care pathway and translating them into actionable priorities.^{57 58} In cancer care, EBCD has demonstrated its capacity to generate tumour-specific improvements grounded in lived experience, with patient empowerment and alignment between experience and change identified as key success factors.⁵⁹

The first intervention, a regional integrated queue system, responds to stakeholder consensus that the current first-come, first-served model fails to account for clinical urgency in mBC.^{60 61} It aims to institutionalise urgency-based prioritisation through a shared and transparent queue, redistributing diagnostic and treatment capacity across the region. The second intervention—a digital health and telemedicine platform incorporating teleconsultation, shared electronic records, specialist scheduling and a patient-accessible health record—addresses the information fragmentation identified throughout the referral pathway. This aligns with evidence that

interoperable e-health systems strengthen care coordination across distributed providers.⁵²

Together, these interventions aim to replace individual workarounds with system-level solutions that promote equitable, transparent and timely access to cancer care.

Strengths and limitations

This study employed a co-produced design developed in partnership with the Chom-rom-nom-yen group, from initial question formulation through to the co-design workshop, thereby enhancing cultural relevance and ecological validity.^{62 63} Interviews with both women living with mBC and medical interns provided complementary perspectives on the referral pathway. In addition, the integration of documentary analysis with participant data enabled direct comparison between policy intent and clinical practice. Force Field Analysis offered a structured analytical framework that illuminated how barriers at different levels interact and reinforce one another, moving beyond simple categorisation. Member checking with both patient and clinical stakeholders further strengthened the credibility of the findings.

Several limitations should be acknowledged. The study was conducted in a single referral centre within Health Region 12, and caution is required when considering transferability to regions with different demographic or resource contexts. Senior specialists, hospital administrators and policymakers were not included, limiting the range of perspectives captured in the analysis. Participants were recruited through a patient support group and a university-affiliated centre, which may have excluded women less engaged with formal healthcare systems. The inclusion of medical interns, rather than more senior clinicians, provided valuable front-line insights but may not fully reflect higher-level decision-making processes. Finally, the co-design workshop involved a relatively small group of stakeholders, and the proposed interventions will require broader engagement and feasibility testing prior to implementation.

CONCLUSION

This study demonstrates that referral delays for women living with mBC arise from the cumulative interaction of structural barriers across macro, organisational and micro levels, which collectively overwhelm the limited facilitators and system capacity. The facilitators identified were consistently informal, fragile and dependent on social capital rather than standardised processes. Structural intervention is therefore essential.

Through a co-design process with stakeholders, two priority areas for reform were identified: a regional integrated queue system to redistribute diagnostic and treatment capacity and restore urgency-based access, and a digital health platform to enable closed-loop information exchange and reduce the travel burden on patients.

Future research should focus on feasibility testing and pilot implementation of these co-designed interventions, alongside evaluation of their effectiveness in improving the safety, equity and sustainability of cancer care for women in Southern Thailand.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Consent obtained directly from patient(s).

Ethics approval Ethical approval was obtained from the Institutional Review Board of the Faculty of Medicine, Prince of Songkla University (REC.67-381-7-1). Written informed consent was obtained from all participants prior to data collection. Given the sensitive nature of the topic, a distress protocol was implemented to safeguard participants' wellbeing throughout the study.

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