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# **Enhancing patient-centred approaches to optimise early-breast cancer care**

**A review of current practice and opportunities  
for improvement in Thailand**



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# About this Report

*“Enhancing patient-centred approaches to optimise early-breast cancer care: a review of current practice and opportunities for improvement in Thailand”* is a research report by Economist Impact examining the existing breast cancer care pathway in Thailand and the factors that help or hinder the goal of achieving optimal patient-centred care.

The research aims to understand the unmet needs within the health system and opportunities for improvement. We analyse how Thailand can improve patient-centred care and build awareness, promote screening, early detection, diagnosis and prognosis, and ensure access to high-quality treatment, including supportive and palliative care.

Our goal is to help develop patient-centred care pathways and improve long-term outcomes for women with breast cancer in Thailand. We hope to do this by identifying unmet needs for early breast cancer care and analysing factors that act as barriers or facilitators to delivering patient-centred early breast cancer care. Our report uses a research method called ‘force field analysis’, which maps out forces that promote or hinder patient-centred care and highlights opportunities and gaps that drive change.

Economist Impact conducted a primary research programme to raise awareness and stimulate

discussion among key stakeholders in Thailand. We conducted an initial evidence review and convened an expert panel to help design the ‘force field’, which encompasses practices favouring and hindering optimised patient-centred early breast cancer care. Alongside this, Economist Impact co-facilitated a workshop with various key stakeholders to understand national-level challenges in Thailand. This country report resulted from this research and workshop insights.

Our thanks go to the Thailand stakeholders who attended the local country workshop and shared their insights and experience (in alphabetical order):

- Assoc. Prof. **Puree Anantachoti**, PhD, Researcher and Associate Professor, Social and Administrative Pharmacy Department, Faculty of Pharmaceutical Science, Chulalongkorn University
- **Anunchai Assawamakin**, PhD, Academic instructor and Researcher, Department of Pharmacology, Faculty of Pharmacy, Mahidol University, and Advisor at Senate Standing Committee on Public Health, National Health Security Board; Chulabhorn Research Institute; and National Legal Medical Cannabis and Hemp Committee

- **Orajitt Bumrungrskulswat**, Co-founder and Assistant Secretary General, Heart to Heart Foundation, Thailand; Board Member at International Alliance of Patients' Organisations (IAPO); and Advisor at Informal Labour Strategic Steering Committee, Thai Health Promotion Fund
- Assoc. Prof. Dr **Youwanush Kongdan**, Director of Namarak hospital, Bangkok, and the President of the Thai Breast Cancer Society (TBS)
- **Orawan Owararint**, President of Thailand Breast Cancer Community (TBCC) and Member of Heart to Heart Foundation, Thailand
- Assoc. Prof. Dr **Napa Parinyanitikul**, Oncologist and Associate Professor, Medical Oncology Unit, Department of Medicine, Faculty of Medicine, Chulalongkorn University and King Chulalongkorn Memorial Hospital, Thai Red Cross, Bangkok, Thailand
- **Suleeporn Sangrajang**, PhD, Deputy Director, Health System Development. National Cancer Institute, Department of Medical Services, Ministry of Public Health
- Assoc. Prof. Dr **Kanjana Shotelersuk**, Radiation Oncologist, Division of Therapeutic Radiology and Oncology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
- Dr **Piyawan Tienchaiananda**, Medical Oncologist, Rajavithi Hospital, Bangkok, Thailand
- Assoc. Prof. Dr **Wichai Vassanasiri**, Ex-president of the Thai Breast Cancer Society (TBS) and former Head of Breast Surgery unit, Associate Professor, Phramongkutklao Hospital, Thailand
- Dr **Passakorn Wanchaijiraboon**, Medical oncologist and Deputy Director, Cancer

Center of Excellence Phrapokklao Hospital, Chantaburi, Thailand

In addition, we are grateful to the following people who served as our Asia-Pacific regional expert panellists (in alphabetical order):

- **Libby Burgess**, Chair, Breast Cancer Aotearoa Coalition, New Zealand
- Dr **Polly SY Cheung**, Founder, Hong Kong Breast Cancer Foundation, Hong Kong
- Dr **Julia Gandhi**, Executive, Committee member, Breast Cancer Foundation (BCF), Singapore; Chair, Women in Pharma, ISPE, Singapore
- Prof. **Chisato Hamashima**, Professor, Division of Health Policy, Department of Nursing, Faculty of Medical Technology, Teikyo University, Japan
- Prof. **Mikael Hartman**, Senior Consultant and Head of Breast Services, National University of Singapore, Singapore
- Prof. **Chiun-Sheng Huang**, Professor and Chairman, Director of Breast Care Centre National Taiwan University Hospital, Taiwan
- Prof. **Ava Kwong**, Chief of Breast Surgery Division, The University of Hong Kong, Hong Kong
- Prof. **Bruce Mann**, Director of Breast Tumour Stream, Victorian Comprehensive Cancer Centre, Australia

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This research programme was conducted by the Economist Impact team. This research team consisted of Gerard Dunleavy, Neeladri Verma, Emily Tiemann, Jocelyn Ho, and Yogita Srivastava.

# Executive summary

Breast cancer is the most common cancer affecting women in Thailand and is rapidly increasing, with over 37,200 new cases expected in 2040, a 66% increase from 22,200 in 2020.<sup>1</sup> Breast cancer fatalities are also expected to almost double for the same period, from 8,300 in 2020 to 16,600 in 2040.<sup>1</sup>

Breast cancer diagnosed at an early stage, when it is not too large and has not spread, is more likely to be treated successfully than breast cancer diagnosed at an advanced stage. Advanced breast cancer not only creates an urgent health challenge but also impedes the quality of life, and brings significant economic costs for patients, their families and public health systems.

There are significant opportunities to improve breast cancer care in Thailand by understanding the patient-centred care pathway for early breast cancer diagnosis and treatment and investigating the unmet needs in managing breast cancer.

Using an evidence-based approach that incorporates a review of existing data and an expert panel meeting, we designed a force field analysis to assess existing policies and system performance across four domains of the patient journey: population awareness, screening and diagnosis, treatment, and survivorship.

Indicators within each domain were selected based on evidence of their impact on promoting or deterring optimisation of patient-centred care for early breast cancer. We then conducted

a workshop to discuss our findings and gain the perspective of key experts in Thailand to flesh out key opportunities for improvement. We drafted scores for indicators within these four domains based on our research and insights from the workshop. This report combines in-depth research and force field analysis of early breast cancer care in Thailand.

## Key findings:

- **Awareness:** Population awareness is crucial for early detection and better health-seeking behaviour. In Thailand, awareness gaps exist among people living in urban and rural areas. Also, many people tend to use social media platforms to gain cancer information. However, the credibility of a source is as important as the availability of information. Patient advisory plays a significant role in Thailand in spreading awareness of the disease and encouraging women to perform regular breast self-examinations (BSE) and clinical breast examinations (CBE). However, the lack of knowledge of the risk factors associated with breast cancer among Thai women is a challenge that must be tackled to optimise patient-centred early breast cancer care.
- **Screening and Diagnosis:** The screening programme recommended in Thailand focuses on BSE and CBE. Mammographic and ultrasound screening, though recommended, is not covered under universal health coverage (UHC) schemes, leading to its lower uptake

in Thailand, which could be a barrier to early diagnosis. Though the National Cancer Control Programme (NCCP) does not include national screening for breast cancer, the medical society aims to propose guidelines for identifying high-risk populations who could benefit from a risk-based breast cancer screening programme. The unequal distribution of diagnostic setups in urban areas also adds to the access challenges for people in rural regions. While there have been some positive attempts to overcome these access barriers, such as the introduction of mobile screening units, this initiative could not achieve the desired results and had only a minor impact. Attempts to improve genetic testing, however, have been successful and were identified as having a considerable effect in optimising early breast cancer care.

- **Treatment:** Universal health coverage which reduces out-of-pocket costs for early breast cancer patients and multidisciplinary teams which provide integrated care in some large hospitals, University Hospitals, and Cancer Centre Hospitals are driving better patient-centred early breast cancer care in Thailand. However, clinical practice guidelines, though they offer support for developing a treatment plan, only have a minor impact as the treatment plans are often based on benefits provided to the beneficiaries of public reimbursement schemes. The variable access to precision medicine under different public reimbursement schemes and lack of patient involvement in decision-making hinder patient-centred care for early breast cancer patients. Additionally, Thailand's healthcare workforce shortage is a substantial challenge to achieving patient-centred early breast cancer care.
- **Survivorship:** Support groups for early breast cancer survivors in Thailand play an important role in enhancing patient-centred care. However, poor survival rates highlight the several challenges from screening to treatment

that can lead to poor outcomes, which require attention.

We conclude with the following opportunities to optimise early breast cancer care and improve outcomes for people living with breast cancer in Thailand:

- 1. Data, data, data:** Improving the availability of data from cancer registries would help develop better evidence-based strategies to improve the quality of cancer care and develop targeted screening and treatment protocols for high-risk populations.
- 2. Rethink reimbursement:** The reimbursement system in Thailand is complex and fragmented. While it provides comprehensive coverage of essential drugs and treatments, only a minority of patients can access novel, high-cost, innovative therapies. Establishing equal access, performance-based reimbursement and more affordable drug prices for newer, more efficient treatments and drugs could help reduce disparities and improve Thailand's breast cancer outcomes.
- 3. Improve distribution and access:** The lack of workforce, infrastructure support, and equipment at Thailand's district and provincial hospitals can be a significant barrier to early breast cancer management that should be addressed. The concentration of breast cancer clinics in Bangkok and other larger cities also means access issues for people in rural areas.
- 4. Improve collaboration and information sharing:** To provide improved patient-centred care pathways, the policymakers, patients, and healthcare workers need to work together. Transparency and information sharing among all stakeholders are necessary for collaboration.

# Introduction

Every year, approximately 190,696 people are diagnosed with cancer in Thailand, and breast cancer is the third most commonly seen cancer, with an overall incidence rate of 11.6%.<sup>2</sup> The disease accounts for 22.8% of all female cancers, making it the most common cancer in women in Thailand, and it is also Thailand's third most common cause of cancer deaths, with around 8,200 deaths in 2020.<sup>2</sup>

Early detection of breast cancer leads to earlier treatment and therefore better outcomes.<sup>3</sup> Timeliness of diagnosis and treatment impacts the extent of cancer spread (or cancer stage). Early and intermediate-stage cancers are confined to the primary or source organ and adjacent areas, such as lymph nodes, while advanced-stage cancers usually spread elsewhere in the body. Early Stage Breast Cancer includes both precancerous stage (ductal carcinoma in situ) and invasive cancer of the breast (adenocarcinoma) – clinical stages I, II and IIIA.<sup>4</sup> Women with early-stage disease have an excellent prognosis. A 5-year survival for Stage I breast cancer is around 94.4%, while a 5-year survival for a Stage IV disease at diagnosis is around 28.3%.<sup>5</sup>

To deliver collaborative, coordinated, and accessible care, most health systems are moving towards the patient-centred care (PCC) model, especially for managing chronic conditions like cancer.<sup>6</sup> Patient-centred care delivers the right care at the right time and place and addresses patient values and preferences through information sharing, empathy, empowerment, and health promotion. PCC is a crucial element of high-quality care because it improves patient and health system outcomes.<sup>6</sup> To provide holistic cancer care, The National Cancer Institute of Thailand (NCI) has developed the National Cancer Control Programme (NCCP) to promote the prevention, early detection and treatment of cancer with optimal supportive care.<sup>7</sup> The NCCP recommendations for breast cancer screening include breast self-examination (BSE) for all women aged 30-70 years and clinical breast examination (CBE) for women aged 40-70 years, with mammography as an opportunistic approach.<sup>7</sup>

This report aims to understand key factors that affect the early breast cancer care pathways in Thailand and gain insight into how patient-centred approaches to early breast cancer care can be enhanced.



# The burden of breast cancer in Thailand

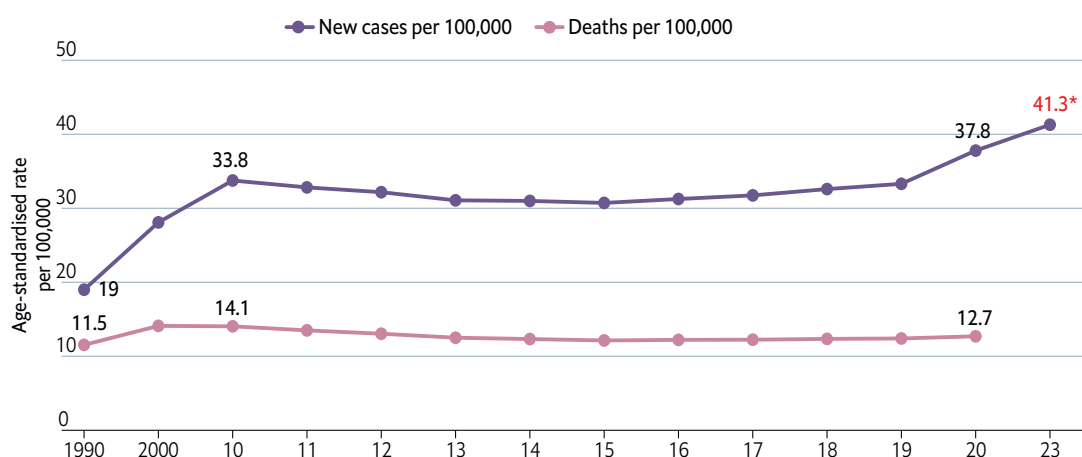
Breast Cancer is the most common cancer diagnosed in women in Thailand, with a rising incidence, especially among women younger than 50 years.<sup>8</sup> It poses a heavy burden with an age-standardised incidence rate of 37.8 per 100,000 women in 2020<sup>2</sup>, which is projected to reach 41.3 per 100,000 women in 2023<sup>9</sup>. Breast cancer is the third leading cause of death in Thailand, with an overall mortality of 6.6%.<sup>2</sup>

In Thailand, the 5-year prevalence rate of breast cancer is 213.32 per 100,000 population (all ages)<sup>2</sup> and is associated with 0.21 million disability-adjusted life years (DALYs)<sup>10</sup>. New

breast cancer cases are most commonly seen in women aged 55 to 70.<sup>9</sup>

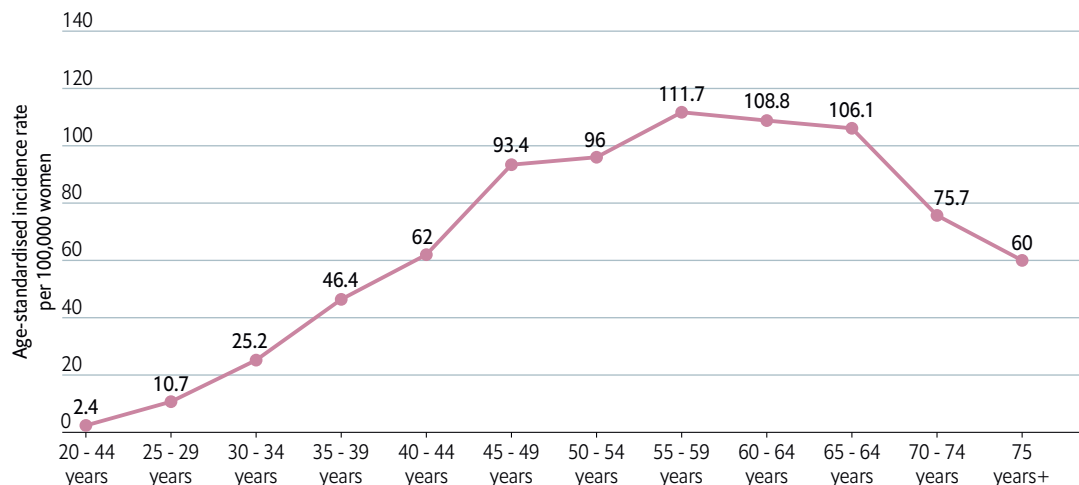
According to Thailand Cancer Registry 2021 data, most cancers diagnosed are Stage II (28.4%) followed by almost equal proportions of diagnosed Stage IV (23.7%), Stage I (23.4%), and Stage III (23.2%) breast cancer.<sup>11</sup> However, on analysing the extent of spread, 31% of cancers had localised spread, and 23% had direct metastasis at the time of diagnosis. Only a quarter of new cases had localised breast cancers.<sup>11</sup>

**Figure 1: Age-Standardised breast cancer incidence and mortality per 100,000 women, Thailand 1990-2019**



Source: IHME data<sup>10</sup>, Cancer in Thailand Vol. X, 2016-2018<sup>9</sup>, and Global Cancer Observatory - Thailand Cancer Profile 2020.<sup>2</sup> \*Projected values

**Figure 2: Age-Standardised breast cancer incidence per 100,000 women, Thailand 2017**

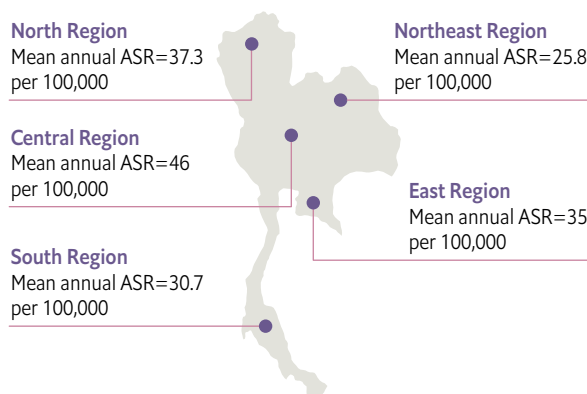


Source: Cancer in Thailand Vol. X, 2016-2018.<sup>9</sup>

Within Thailand, breast cancer incidence rates vary geographically.<sup>12</sup> The northeast region has the lowest reported occurrence of breast cancer, with an incidence rate of 25.8 cases per 100,000,

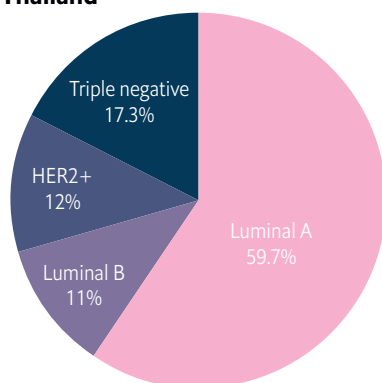
compared to the northern, central, eastern, and southern regions, with ASRs of 37.3, 46, 35, and 30.7 cases per 100,000, respectively.<sup>9</sup>

**Figure 3: Breast cancer in different regions, mean annual Age-Standardised Rate (ASR) per 100,000, Thailand**



Source: Cancer in Thailand Vol. X, 2016-2018.<sup>9</sup>

**Figure 4: Prevalence of breast cancer by type, Thailand**



Luminal A subtype is the most commonly seen breast cancer type in Thai women.<sup>8</sup> The triple-negative breast cancer is the second most commonly seen subtype and is disproportionately high among Muslim women in Southern Thailand, who also have poor survival rates.<sup>8</sup> According to a study, the incidence of Luminal A, Luminal B, and Triple Negative subtypes peak at 50 years, while the incidence of HERS+ peaks at 60 years.<sup>8</sup>

Source: Chuaychai A, Sriplung H. A rapid rise in hormone receptor-positive and HER2-positive breast cancer subtypes in Southern Thai women: A population-based study in Songkhla. PLoS ONE.<sup>8</sup>

# The cost of breast cancer in Thailand

In Thailand, healthcare costs for breast cancer treatment represent a significant proportion of the national budget.<sup>13</sup> Once a cancer diagnosis is received, medical treatment expenses are a significant consideration. This depends on the type of cancer, the hospital used, the treatment approach (such as operation, radiation treatment, hormone medical treatment and chemotherapy), and the duration of treatment.<sup>14</sup> Though Universal Health Coverage (UHC) does cover treatment expenses to an extent, cancer patients also have to consider indirect costs if they have to stop working for an extended period, which would inevitably affect their income.<sup>14</sup> Therefore, despite UHC, families affected by cancer often suffer catastrophic health expenditures due to gaps in the current

health public reimbursement scheme.<sup>13</sup> For instance, for early breast cancer, only 60% of high-cost anticancer medicines are reimbursable, and if others are used, this has to be paid out-of-pocket.<sup>15</sup>

Like all cancers, breast cancer has a lower economic burden and better treatment and survival outcomes when detected and treated early, and the risk of dying from cancer and facing catastrophic costs is associated with more advanced disease stages.<sup>13</sup> Two-thirds of patients diagnosed with breast cancer have an advanced stage of the disease, and though most women are provided universal coverage for breast cancer by the government, the benefits offered are insufficient for certain critical medical treatments.<sup>16</sup>

# The current state of patient-centred care for early breast cancer in Thailand

The Thai government assigns almost 13.3% of its total budget to public health services.<sup>17</sup> Basic healthcare services are currently free-of-charge at designated healthcare facilities<sup>18,19</sup>, and the government finances approximately 75–80% of healthcare costs via UHC.<sup>13</sup> Since 2002, Thai people have had access to healthcare coverage via three different reimbursement mechanisms under UHC – the Universal Coverage Scheme (UCS) covers 75% of the population; the Social Security Scheme (SSS) scheme for private sector employees, covers 16% of the population; and the Civil Servant Medical Benefit Scheme (CSMBS), covers 8% of the population.<sup>13</sup> In addition, around 2% of the population holds additional private health insurance.<sup>13</sup>





Cancer is a growing health challenge in Thailand. To address the national burden of cancer, Thailand launched its first national cancer control plan in 1997.<sup>20</sup> With the support of the Ministry of Public Health, the national plan was designed to integrate six strategic areas of cancer control into the healthcare system: cancer informatics, primary prevention, early detection, treatment, palliative care and cancer control research.<sup>7</sup> Founded on this, the provision of medical services under the universal coverage follows an integrated “Continuum of Care” design, providing

access to and coverage for cancer screening and early detection, treatment and palliative and supportive care.<sup>20</sup>

The breast cancer care continuum spans from population awareness through to referral, screening, diagnosis, treatment, follow-up, rehabilitation and, if applicable, palliative care. The patient’s journey outlines steps within defined timescales, and there are clear, bright spots (enablers) and some areas of further improvement (resistors) noted in Thailand for optimising patient-centred care for early breast cancer patients.

By combining the evidence review findings and Asia-Pacific regional expert interviews, the most influential forces affecting optimised patient-centric breast cancer care have been mapped for Thailand (methodology explained in the Appendix). Table 1 summarises the various forces that have been identified as either driving (enablers) or hindering (resistors) the optimisation of patient-centric breast cancer care in Thailand, and the following section explores the extent to which this happens according to key stakeholders consulted, listing a score from 1 – 4 depending on the level of perceived impact (refer to Appendix for details).

**Table 1: Overview of enablers and resistors for optimising patient-centred early breast cancer care in Thailand**

Domains	Enablers	Resistors
<b>Population awareness</b> 	<b>Patient advocacy:</b> Strong patient advocacy across different organisations ensure that women have information on screening and early detection, diagnosis, and treatment.	<b>Lack of risk factor awareness:</b> There is low knowledge and awareness of the risks of breast cancer.
<b>Screening &amp; Diagnosis</b> 	<b>Mobile screening units:</b> Since 2014, mobile screening units have been sent to several districts in Thailand, targeting women aged 30-70 years.	<b>Screening programme:</b> Breast self examination and clinical breast examinations are promoted with mammography provided on an opportunistic basis.
	<b>Efforts to improve diagnostics:</b> The Pathum Raksa project was launched in 2015 to improve the quality of biomarker testing in Thailand.	<b>Inequity:</b> Diagnostic equipment distribution is focused in Bangkok, leading to reduced accessibility to screening in rural areas.
<b>Treatment</b> 	<b>Coverage:</b> Thailand achieved universal health coverage in 2002, reducing out-of-pocket costs for breast cancer patients.	<b>Workforce shortage:</b> There is an insufficient number of qualified doctors and state-run breast clinics.
	<b>Multidisciplinary approach:</b> Care is provided by a team of surgeons, oncologists, and nurses.	<b>Shared decision making:</b> Patient involvement in decision making is not widely practiced.
	<b>Guidelines:</b> The National Cancer Institute created Clinical Practice Guidelines for management of breast cancer.	<b>Reimbursement:</b> There are discrepancies across three public health insurance schemes in coverage of certain innovative medicines, precision medicine tests, and biomarker testing.
<b>Survivorship</b> 	<b>Support groups:</b> They provide patients with emotional and physical care and support.	<b>Survival:</b> The 5-year age-standardised survival rate for breast cancer in 2018 was 69%, lower than other countries.

**“Thai people still misunderstand cancer. A lot of people think when someone is diagnosed with cancer, they die. But that is not true today. Early-stage cancer has good outcomes and survival. Thus, we have to focus on promoting health literacy for Thai patients”**

Suleeporn Sangrajang  
Deputy Director of Health System Development National Cancer Institute  
Department of Medical Services Ministry of Public Health.

## Population Awareness

Increasing awareness of breast cancer signs and symptoms among the general population supports early disease detection.<sup>7</sup> Building population awareness is the first step towards creating a patient-centred care pathway for early breast cancer. People often go to social media to gain knowledge on health issues such as cancer as the information is readily available; however, because of an abundance of false news, the credibility of the source is as important as the availability of information. “Today, with social

**Table 2: Mapping enabling and resisting forces for population awareness in Thailand**

		Strong ← Weak				Weak → Strong				
	Enabling Forces	4	3	2	1	1	2	3	4	Resistors Forces
<b>Population awareness</b>	<b>Patient advocacy:</b> Strong patient advocacy across different organisations ensure that women have information on screening and early detection, diagnosis, and treatment.									<b>Lack of risk factor awareness:</b> There is low knowledge and awareness of the risks of breast cancer.

media, there is a lot of fake news. That’s why, in general also, Thai people still misunderstand cancer. A lot of people think when someone is diagnosed with cancer, they die. But that is not true today. Early-stage cancer has good outcomes and survival. Thus, we have to focus on promoting health literacy for Thai patients”, says Ms Suleeporn Sangrajang, Deputy Director of Health System Development National Cancer Institute Department of Medical Services Ministry of Public Health.

In Thailand, patient advocacy groups play a critical role in building this population awareness. These advocacy groups run awareness campaigns, support groups and counselling, including for underprivileged populations, to ensure all Thai women are informed and have access to breast cancer services. For instance, the Queen Sirikit Centre for Breast Cancer (QSCBC) has educated the public about breast cancer every October since 2008. They promote awareness and correct information to break myths around the disease spreading the key message ‘Early Detection May Save Your Life’.<sup>21</sup>

“Right now, breast cancer awareness is vital, especially for women in the countryside”, says Ms Orajitt Bumrungrskulswat, Co-founder and Assistant Secretary General, Heart to Heart Foundation, Thailand. “We can educate women to check regularly for symptoms, but what about after they find that they have symptoms of a

lump? Ideally, they need to be referred to the healthcare unit or a hospital; however, there is still a gap, and it isn’t easy, especially in rural areas, to get a referral. Patient advocacy groups often bridge the gap in the referral system by coordinating with the hospital and patient.”

Knowledge of risk factors associated with breast cancer is also essential to population awareness. However, in Thailand, there is a lack of understanding of breast cancer risk factors such as genetic predisposition and lifestyle considerations such as alcohol, physical inactivity and being overweight. Survey results show that the knowledge of breast cancer risks among Thai female undergraduates is among the worst in developing Asia, with under 5% knowing that exercise and weight levels affect risk levels and only 35% knowing that genetic factors predispose to breast cancer.<sup>22</sup> There is a disparity in awareness levels, including understanding risk factors among urban vs rural women. Dr Napa Parinyanitikul, Oncologist and Associate Professor Department of Medicine King Chulalongkorn Memorial Hospital Thailand, says, “Even though we have data and information on websites, we have a gap as the people in the rural area often need help accessing this knowledge. We need a different strategy for promoting awareness in urban and rural areas. This approach will have a greater impact on the patient’s response.”

“We should cultivate in our younger generations awareness of cancer screening and prevention. Making breast cancer a part of the Thai Suka Seuksa (health education) curriculum can improve population awareness of the disease and promote basic knowledge about breast cancer risk factors and symptoms; this is an existing tool,” says Assoc. Prof. Puree Anantachoti, Researcher and Associate Professor Social and Administrative Pharmacy Department, Faculty of Pharmaceutical Science, Chulalongkorn University. “In this way, we can help spread awareness even among boys who can communicate this in their families. Why should only women or girls know about these things when boys and men are also affected?”

Patient advocacy is a key driver of patient-centred early breast cancer care in Thailand; however, the role of patient advocacy groups should be expanded to support women in navigating the care pathway after first symptom detection. The lack of knowledge of breast cancer risk factors also poses a considerable challenge to optimising patient-centred early breast cancer care in Thailand.

### Screening and Diagnosis

Breast cancer screening modalities can enhance early breast cancer detection in asymptomatic

patients. In Thailand, women are encouraged to perform routine breast self-examination (BSE) to increase awareness and prompt more women to have clinical breast examinations (CBE).<sup>23</sup>

Mobile screening units, started in 2014, were sent to several districts per year nationally, targeting women 30-70 years of age to provide follow-up from BSE. The mobile units have nurses to conduct breast examinations, radiologists to verify mammograms and healthcare volunteers who promote knowledge, awareness and education about breast cancer screening and prevention.<sup>24</sup> Though the aim of mobile units is to provide access to women in remote areas, this initiative is seen as only having a minor impact in driving patient-centred care. Ms Sangrajang says, “Mobile screening units were available only in some parts of Thailand and were functional for a short period. These had minimal impact on early detection.”

Early diagnosis and precise histologic understanding of breast tumours are essential to providing the best breast cancer treatment options and better survival outcomes.<sup>25</sup> Pathum Raksa project, launched in 2015, improves the quality of breast cancer biomarker testing in Thailand to address the false-negative rates of breast biomarkers. Since its implementation,

**Table 3: Mapping enabling and resisting forces for screening and diagnosis in Thailand**

		Strong ← Weak					Weak → Strong				
	Enabling Forces	4	3	2	1		1	2	3	4	Resistors Forces
Screening & Diagnosis	<p><b>Mobile screening units:</b> Since 2014, mobile screening units have been sent to several districts in Thailand, targeting women aged 30-70 years.</p>										<p><b>Screening programme:</b> Breast self examination and clinical breast examinations are promoted with mammography provided on an opportunistic basis.</p>
	<p><b>Efforts to improve diagnostics:</b> The Pathum Raksa project was launched in 2015 to improve the quality of biomarker testing in Thailand.</p>										<p><b>Inequity:</b> Diagnostic equipment distribution is focused in Bangkok, leading to reduced accessibility to screening in rural areas.</p>



19 hospitals across Thailand have officially joined the initiative, of which six agreed to share their data.<sup>25</sup> This has a considerable impact on optimising patient-centred early breast cancer care.

The breast cancer screening programme in Thailand includes BSE for all women aged 30-70 years and CBE for women aged 40-70 years, with mammography as an opportunistic approach.<sup>7</sup> The three UHC schemes cover clinical breast examination, diagnostics and treatment but not mammography or ultrasounds for screening purposes.<sup>13, 24</sup> Therefore, while mammography and ultrasounds for screening are recommended, they are not reimbursed.<sup>13</sup> Dr Piyawan

**“As our country has limited resources, we can optimally use our resources by prioritising high-risk populations. We should have breast screening guidelines tailored for the Thai people”**

Assoc. Prof. Dr Youwanush Kongdan  
Director of Namarak hospital, Bangkok, and the President of the Thai Breast Cancer Society

Tienchaiananda, Medical Oncologist at the Rajavithi Hospital Bangkok, says, “Public health policy should implement free mammography and ultrasound for all patients 40 years and above. However, the number of mammography machines and trained medical workers we have are not adequate for country-based screening in Thailand.” This has been identified as a considerable barrier to patient-centric early breast cancer care. Dr Youwanush Kongdan, Director of Namarak hospital, Bangkok, and The President of the Thai Breast Cancer Society, points out, “As our country has limited resources, we can optimally use our resources by prioritising high-risk populations. We should have breast screening guidelines tailored for the Thai people

and not blindly follow the West. We can define the criteria for higher-risk populations, and the identified people could be offered access to mammography and ultrasound without cost.”

There is an evident concentration of cancer diagnostic equipment in Bangkok. Out of the 2,823 CT, MRI, and mammography machines in Thailand, almost a quarter of the machines are in Bangkok, and the remaining are found throughout 76 provinces.<sup>26</sup> Approximately 35% of these machines are in the private sector and not available to 75% of the population covered under the UHC scheme.<sup>26</sup> Women in rural areas in Thailand also have lower access to mammography machines, as healthcare centres and community hospitals in non-municipal or rural areas do not provide mammograms.<sup>27</sup> People from these areas need to be referred to provincial or large hospitals to get a mammography scan<sup>27</sup>, which poses a considerable hindrance to the ability to provide patient-centred early breast cancer care.

## Treatment

Thailand achieved UHC in 2002, which provides full financial coverage and covers the total cost of services to healthcare facilities without any co-payment.<sup>28</sup> All Thai citizens must be enrolled in either national health insurance or employees' health insurance, which covers cancer care such as clinical breast examination; curative treatment such as surgery, chemotherapy, and radiation therapy; and supportive and palliative care.<sup>14</sup> The UHC, by reducing the out-of-pocket expenses for early breast cancer patients, significantly drives patient-centred care. There is room for improvement, however, by expanding the coverage to some novel therapies. “In early breast cancer, all major treatment costs are reimbursable except some neoadjuvant trastuzumab and immunotherapies for Stage II-III breast cancer which are the optimal treatment of all early breast patients,” says Dr Tienchaiananda.

**“We have guidelines to treat the patient; however, in real-life practice, often, the reimbursement suggestion dictates the treatment plans.”**

Dr Piyawan Tienchaiananda  
Medical Oncologist, Rajavithi Hospital, Bangkok, Thailand.

In Thailand, the care for breast cancer patients is provided by a multidisciplinary team of surgeons, oncologists and nurses.<sup>13</sup> Dr Parinyanitikul says, “We do not have a multidisciplinary team in every hospital in Thailand. Still, in the major hospitals such as the University Hospital and the Cancer Center hospital, we have teams of surgeons, radiation oncologists, radiologists and medical oncologists available.” Multidisciplinary teams have been shown to drive patient-centred early breast care in Thailand.

Clinical Practice Guidelines for the management of breast cancer are available in Thailand, created by the National Cancer Institute, and these guidelines recommend different treatment pathways for different types of

breast cancer diagnosed.<sup>29</sup> However, the cost of therapies and treatments may also have an impact on the treatment plan chosen. Dr Tienchaiananda says, “We have guidelines to treat the patient; however, in real-life practice, often, the reimbursement suggestion dictates the treatment plans.” Treatment guidelines, therefore, only drive patient-centred care to some extent.

Breast cancer services in Thailand are stretched. With insufficient numbers of qualified family physicians, patients often bypass the primary healthcare system and self-refer directly to tertiary or regional centres.<sup>13</sup> There are also limited numbers of state-run specialist breast clinics or one-stop services and a shortage of breast surgeons, medical oncologists, and radiologists in Thailand.<sup>13</sup> All these factors negatively impact the efficiency and effectiveness of current resources and facilities and strongly hinder the optimisation of patient-centred early breast cancer care.

The concept of patient participation in healthcare decision-making is relatively new in the Thai context, and there is a need for more

**Table 4: Mapping enabling and resisting forces for treatment in Thailand**

		Strong ← Weak				Weak → Strong				
	Enabling Forces	4	3	2	1	1	2	3	4	Resistors Forces
Treatment	<b>Coverage:</b> Thailand achieved universal health coverage in 2002, reducing out-of-pocket costs for breast cancer patients.				→					<b>Workforce shortage:</b> There is an insufficient number of qualified doctors and state-run breast clinics.
	<b>Multidisciplinary approach:</b> Care is provided by a team of surgeons, oncologists, and nurses.				→					<b>Shared decision making:</b> Patient involvement in decision making is not widely practiced.
	<b>Guidelines:</b> The National Cancer Institute created Clinical Practice Guidelines for management of breast cancer.				→					<b>Reimbursement:</b> There are discrepancies across three public health insurance schemes in coverage of certain innovative medicines, precision medicine tests, and biomarker testing.
										<b>Optimisation of patient-centred early breast cancer care</b>

education for both the public and healthcare providers. In a Thai study, oncology nurses acknowledged that patients could not be as involved in the decisions about their cancer care in Thailand.<sup>30</sup> Barriers to shared decision-making identified were high clinician workload, lack of time, and ambiguity of existing guidelines supporting lifestyle decisions.<sup>30</sup> “Shared decision-making is important, but its expected outcome depends on many factors; not only the level of education and health literacy of patients and their care providers but also the number of doctors and nurses who provide information and possible alternatives for the patients,” says Assoc. Prof. Anantachoti. Lack of patient involvement in decision-making is a major barrier to optimising patient-centred early breast cancer care in Thailand.

The reimbursement system in Thailand is complicated and fragmented.<sup>31</sup> The CSMBS is an open-ended budget system that covers a minority of the population with relatively generous access. On the other hand, the SSS and UCS, which apply to most people, have closed-end budgets and are capitation-based.<sup>31</sup> CSMBS provide more coverage and adequate access compared to SSS and UCS.<sup>32</sup> The reimbursement of cancer drugs in Thailand operates on a no-payment policy but with access to only a limited range and number of drugs. Though most essential medicines are covered, there are discrepancies in access to precision medicine tests for some cancer-targeted therapies and biomarker testing. Thus, reimbursement poses a considerable barrier to patient-centred early breast cancer care.

## Survivorship

As the incidence of breast cancer is rising each year in Thailand; there is a growing population of patients and survivors in need of care and support.<sup>33</sup>

Ms Bumrungskulswat says, “Support groups are fundamental in helping breast cancer survivors. We need to strengthen and build capacity for support groups. We need to develop a support group in every community or district so they can help each other.”

Breast cancer survivors may suffer from physical, psychological, emotional, and social discomforts, which negatively impact their daily lives.<sup>34</sup> Provision of supportive care from families, healthcare teams, and support groups improves the quality of life for cancer survivors by managing stigma and difficulties, and some groups in Thailand offer emotional and practical support by distributing beauty equipment to aid with changes in physical appearance.<sup>21</sup> This is identified as an important driver of patient-centred early breast cancer care.

Despite diagnostics, medicines, and treatments made available to the Thai public, survival rates of breast cancer are low compared to other countries. Thailand’s 5-year age-standardised survival rate for breast cancer was 69% in 2018.<sup>13</sup> Factors associated with better survival are lower stage, lower grade, age of diagnosis between 40 and 69 years, absence of comorbidities and a favourable genetic profile.<sup>13</sup> Therefore, identifying breast cancer early and starting

**Table 5: Mapping enabling and resisting forces for survivorship in Thailand**

		Strong ← Weak				Weak ← Strong				
	Enabling Forces	4	3	2	1	1	2	3	4	Resistors Forces
Survivorship	<b>Support groups:</b> They provide patients with emotional and physical care and support.									<b>Survival:</b> The 5-year age-standardised survival rate for breast cancer in 2018 was 69%, lower than other countries.

**“The success of the treatment depends on the continuation of the treatment. Often non-treatment costs could be a crucial factor for the continuation of therapy, leading to success and better survival rates.”**

Dr Passakorn Wanchaijiraboon  
Medical oncologist and Deputy Director, Cancer Center of Excellence  
Phrapokklao Hospital, Chantaburi, Thailand.

treatment without delay is very important - however, 17% of patients in Thailand report a delay of over three months from the time of diagnosis to the start of treatment.<sup>18</sup> The workforce shortage discussed earlier may also lead to late diagnosis.

The extent of the delay between symptom onset and diagnosis that impacts the stage and spread of breast cancer and, in turn, survival rates also depends on several aspects of patient

behaviour and beliefs and the physical and financial accessibility of appropriate primary and secondary healthcare services.<sup>18</sup> “The success of the treatment depends on the continuation of the treatment,” says Dr Passakorn Wanchaijiraboon, Medical oncologist and Deputy Director, Cancer Center of Excellence Phrapokklao Hospital, Chantaburi, Thailand. “Often non-treatment costs such as the cost of temporary residence for 2-month radiotherapy could be a crucial factor for the continuation of therapy, leading to treatment success and better survival rates. Some patients will refuse the radiotherapy treatment because they cannot afford the temporary residence. If the government could fully or even partially reimburse the temporary resident cost, this could also determine the survival rate of the patients.”

The poor survival outcomes are a considerable challenge to optimising patient-centred early breast cancer care.



# Opportunities to improve and optimise early breast cancer care in Thailand

As we look to improve and enhance early breast cancer care in Thailand, optimal resource utilisation, better coverage of efficient novel diagnostics and therapies, and equitable distribution of facilities should form the basis of care from the very start of the patient journey from expanded and targeted screening, to diagnosis, to treatment and finally to follow-up care. We conclude with some actions suggested by the experts in our workshop that could create more person-centric early breast cancer care in Thailand.

## 1. Data, data, data

Cancer registries are key for planning and monitoring, but also help provide evidence-

**“If we have access to quality data and registries, we can know which segments of the population have the lowest survival rates, and this can help us prioritise. Assessing the current situation first is important before we do anything else; if we know the real data, we can plan”.**

Assoc. Prof. Dr Youwanush Kongdan  
Director of Namarak hospital, Bangkok, and the President of the Thai Breast Cancer Society

based data to improve quality of care and improve outcomes for breast cancer. The Thai Ministry of Public Health is strongly supporting cancer registration as an important strategy in its National Cancer Control Program, hoping to improve the quality of the cancer registry data, however as of 2020 only 31.2% of the population is covered by quality registries.<sup>7</sup> Data tells us a lot and should be a point of focus in Thailand. “Whether Thai people are under private or government programmes, from a rural or urban area, survival rates are different,” says Dr Kongdan. “If we have access to quality data and registries, we can know which segments of the population have the lowest survival rates, and this can help us prioritise. Assessing the current situation first is important before we do anything else; if we know the real data, we can plan”.

## 2. Rethink reimbursement

The reimbursement system in Thailand is complex and fragmented, and while coverage of essential and cost-effective drugs is provided to all patients regardless of economic status, only a small minority of patients can access newer, innovative, more efficient, but more costly drugs, which may negatively affect breast cancer outcomes. While the Thai FDA approves more than 85% of cancer drugs worldwide, only half are reimbursable. “In Thailand, most targeted

therapies are not included in the reimbursement list, nor are their companion tests. Patients must pay out of pocket,” says Assoc. Prof. Anantachoti. “Ability to pay is a problem for many devastating diseases such as breast cancer; thus, the insurers should reconsider the philosophy of providing health insurance — for example, focus on such catastrophic illnesses and let the eligibility share some costs for minor illnesses. Financial resources need to be properly re-allocated in the right place.” Establishing equal access and more affordable drug prices could help reduce disparities and improve breast cancer outcomes in Thailand. Additionally, performance-based reimbursement could be explored: “value-based reimbursement which covers the whole life cycle of a patient”, according to Mr Anunchai Assawamakin, Researcher Department of Pharmacology Faculty of Pharmacy Mahidol University, and Advisor at Senate Standing Committee on Public Health; National Health Security Board; Chulabhorn Research Institute; and National Legal Medical Cannabis and Hemp Committee. Establishing equal access, better reimbursement processes, and more affordable drug prices could help reduce disparities and improve breast cancer outcomes in Thailand.

### **3. Improve distribution and access**

The lack of resources in the district and provincial hospitals in Thailand can be a major barrier to the successful treatment of early breast cancer. Most breast cancer clinics are in Bangkok and other larger cities, which means that the type of care available as well as the quality of

care can differ. “It is not just the availability of facilities, but the distribution that matters, since treatments such as radiation take time,” Says Dr Kanjana Shotelersuk, Radiation Oncologist Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand. “If patients need to travel a long distance, they are more likely to reject a treatment”.

### **4. Improve collaboration and information sharing**

In order to invite change and improvement, benefits need to be clearly defined, with an established system linking those on the front line with decision-makers. “Doctors want to change and move forward, but first they need policy makers to hear their voice, as they can sometimes speak a different language”, says Mr Assawamakin, “We need to create a link, better collaboration, and clear actions, based on potential gains. If we want to improve screening? Policymakers need to know what the gains would be”. The patient voice is also important, and can sometimes be underestimated in decision-making. “We need more input from patients, and healthcare professionals cannot substitute the patient voice, which can be quite small,” says Dr Tienchaiananda.

There are several drivers of patient-centred early breast cancer in Thailand. Yet, lack of workforce, inequitable access, and poor survival rates remain the most significant barriers. Policymakers should focus on these areas of improvement to further enhance patient-centred care.



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# Appendix

## Overall Methodology

Our primary aim of this research programme was to understand the patient-centred approaches to early breast cancer in Thailand and the ways in which care can be enhanced.

Economist Impacts's approach to achieve this aim is comprised of the following components:

1. Literature review: to understand the various data available on patient-centred early breast cancer care in Thailand and identify the factors that either strengthen or hinder patient care.
2. Meeting of experts across the Asia-Pacific region: to incorporate the expertise of those working directly on patient-centred care for early breast cancer patients in the region, to refine the focus of the research programme, and capture key aspects and best sources of information to help develop the Thailand-specific force-field.
3. In-country Thailand workshop: to incorporate insights from experts working in Thailand including oncologists, researchers, policy advisors, and patient advocates. The experts were asked to rate the various forces based on the level of impact that they have in either enabling or hindering patient-centred care.

The review started with a broad view of the issues related to breast cancer care in the Asia Pacific Region including the epidemiology of breast cancer subtypes, current prevalence rates, outcomes, early identification and diagnostic models, clinical pathways and delivery modes within early-stage breast cancer with a focus on patient-centred care.

### Scoring criteria for force-field analysis

Scoring		Enablers	Resistors
1	<b>Weak Impact</b>	Force has little impact on optimal patient-centred care	Force exists but has little impact on optimal patient-centred care or can be easily addressed
2	<b>Some Impact</b>	Force has some impact, but is still developing, is not widely utilised or implemented, or only certain groups may take it into consideration	Force poses some resistance to optimal patient-centred care but can be addressed with planning and resources
3	<b>Considerable Impact</b>	Evidence of the presence of the force, but not being followed or utilised sufficiently to deliver optimal patient-centred care	Force poses considerable resistance to optimal patient-centred care, but the impact can be minimised with extensive planning and resources.
4	<b>Strong Impact</b>	Force is a high-quality, generally accepted standard of practice and/or provides optimal patient-centred care	Force poses strong resistance to optimising patient-centred early breast cancer care

To ensure a more nuanced view of early breast cancer care and treatment, we identified four domains of patient-centred care – Population Awareness, Screening and Diagnosis, Treatment, and Survivorship. For each of these areas, we triangulated primary (expert engagement) and secondary (desk research) data to identify enablers and resistors for optimising patient-centred cancer care specific to Thailand. We then developed a scale to assess the impact of each force, supported by judgements found in the research phase of this study.

To tailor the force field to Thailand, it was felt that the perspective of the key experts should be used to elicit the scores. This was carried out in a workshop setting. To do so, an impartial facilitator worked iteratively with stakeholders to help them think more clearly about the relevant issues. Care was taken to ensure that as broad a range of potential stakeholders was included in the process as possible. 11 participants took part in the workshop, representing a range of expertise from healthcare to patient advisory groups.

During the workshop, the facilitator discussed each indicator in detail. After the workshop, each participant was given an option of providing their scores by sharing scanned copies of the paper-based questionnaire or submitting the google form. Nine out of eleven participants submitted the scores. Each indicator was scored by the participants from 1 – 4 depending on the level of perceived impact that it has in enabling or hindering patient-centred care as shown in the table above. The participant scores were then averaged. We analysed the results from the workshop and triangulated the data from desk research, and expert engagement and followed a consensus-based process to arrive at final scores for the forcefield analysis. This analysis helped in the identification of priority areas and issues at the country level and opportunities for improvement to tackle the greatest unmet needs in early breast cancer care.

While every effort has been taken to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report. The findings and views expressed in the report do not necessarily reflect the views of the sponsor.

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