

MINISTRY OF HEALTH MALAYSIA

Best Practices in Implementing Multidisciplinary Teams for Breast Cancer Treatment

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Background

This document is a result of the GP Breast Cancer MDT Capacity Building Project funded by the IAEA and IsDB. A regular initiative of the City Cancer Challenge Foundation (C/Can), (C/Can) introduces and disseminates the multidisciplinary and evidence-based clinical decision-making approach for breast cancer in all their cities.

This document was developed to partner with the Malaysian Clinical Practice Guideline in increasing MDT practice in Greater Petaling (Petaling Jaya, Subang Jaya, and Shah Alam) and other regions in Malaysia.

Breast cancer is the most common cancer in Malaysia, making up 19% of all new cancer cases diagnosed in 2012-2016¹. The incidence rate of breast cancer is also increasing, from 31.1 per 10,000 of the population in 2007-2011¹ to 49.3 in 2020². GLOBOCAN estimated that the rate would rise to 32% (for very high Human Development Index countries) by 2040³. While the Malaysian health system provides universal health coverage via highly subsidised services in the public sector, it still faces challenges in breast cancer management, characterised by relatively low survival rates and late-stage presentation at initial diagnosis⁴. In 2016, the Ministry of Health's first population-based cancer survival report, the Malaysian Study on Cancer Survival (MyScan), reported that just 66.8% of breast cancer patients survived for five-year years⁵. While this figure is a big improvement from the 49% in 2005,⁶ it is still lower than that in other developed Asian countries such as Singapore (82.1%)⁷, Korea (93.3%)⁸, and Japan (96.2%)⁹. It is also a concern that 47.9% of cases in 2012-2016 were diagnosed at a late stage (III and IV), compared to 43.2% in 2007-2011¹.

This document intends to create a common framework for the practice of multidisciplinary teams (MDTs) by outlining the best practices available in the country, based on the literature and expert consultation. It should be integrated into standard cancer care and be underpinned by other national (or international) policies and guidelines for cancer care, such as the National Strategic Plan for Cancer Control Programme 2021-2025, the Strategic Framework of the Medical Programme 2021-2025, the National Strategic Plan for Non-Communicable Diseases (NSP-NCD) 2016-2025, Clinical Practice Guideline for Management of Breast Cancer and others. Each hospital is encouraged to develop its own institutional protocol based on organisational resources and characteristics.

During the production of this document, guidelines from other countries were taken into account, including the following studies:

-
- > The Characteristics of an Effective Multidisciplinary Team (NHS National Cancer Action Team, 2010)

 - > Streamlining Multidisciplinary Team Meetings: Guidance for Cancer Alliances (NHS England, 2019)

 - > Improving the Efficiency of Breast Multidisciplinary Team Meetings: A Toolkit for Breast Services (Association of Breast Pathology, Association of Breast Surgery, British Society of Breast Radiology, UK Breast Cancer Group, 2020)

-
- > Tumour Boards: Optimising the Structure and Improving Efficiency of Multidisciplinary Management of Patients with Cancer Worldwide (American Society of Clinical Oncology, 2014)
-
- > Multidisciplinary Meetings for Cancer Care: A Guide for Health Service Providers (National Breast Cancer Centre, New South Wales, 2005)
-
- > Quality Indicators in Breast Cancer Care (European Society of Breast Cancer Specialists (EUSOMA) working group, 2017)
-

This document was developed through a city-wide process of discussion and consensus by multidisciplinary professionals in Greater Petaling, a series of consultation and discussions with Professor Josep Maria Borras from the Catalan Institute of Oncology (ICO), and through discussion during ASCO-C/Can Multidisciplinary Cancer Management Course (MCMC) with the external experts from C/Can partners American Society of Clinical Oncology (ASCO), the American Society of Clinical Pathology (ASCP), the International Atomic Energy Agency (IAEA), the International Society of Nurses in Cancer Care (ISNCC), the Tata Memorial Cancer Centre and Breast Surgery International. For a list of contributors see section 7.

01

Background

1.1 What is a multidisciplinary team

A multidisciplinary team (MDT) is made up of professionals from different clinical disciplines who meet to discuss and create a concordant outcome for a patient's diagnosis or treatment plan^{10,11}. An MDT usually works in clinical practice by means of periodic meetings with the professionals involved as a "tumour board" or "multidisciplinary case/cancer conference".

The practice of using MDTs was first formally introduced in the United Kingdom in response to the country's relatively poor cancer survival rates and inconsistencies in the quality of care provided by the National Health Service (NHS). This led to a reformation of the health system as outlined in the Calman-Hine report¹² and the subsequent NHS Cancer Plan¹³, which recommended that site specialists in each relevant discipline work together to make "well-informed and wise decisions".

The MDT approach was quickly adopted by health systems in countries across the globe. According to an international survey conducted in 2010 involving 39 countries, 65% of respondents from eastern Europe, 63% from western Europe, 35% from Asia, and 25% from South America declared that an MDT was a mandatory part of breast cancer care in their country¹⁴.

In the United Kingdom, using MDTs was made mandatory by the National Institute for Health and Care Excellence as part of its quality standard¹⁵. In the United States, the American College of Surgeons encourages the practice of MDTs and considers it as one of the cornerstones of their cancer program accreditation¹⁶.

In Malaysia, the Clinical Practice Guidelines (CPG) for the Management of Breast Cancer recommends the use of MDTs in managing breast cancer to improve clinical outcomes¹⁷. The National Strategic Plan for Cancer Control Programme 2021-2025 also highlighted MDTs as one of the focus areas for managing breast cancer¹⁸. The plan suggested that MDTs be implemented in all centres providing oncology services. The aspiration is for every breast centre in Malaysia to be equipped to practise a sustainable and well-governed MDT approach so as to ensure the highest standard of care is being delivered to patients.

1.2. Importance of MDTs

Evidence has shown that using MDTs leads to more accurate assessment and staging, more appropriate treatment and improved quality of life. A recent systematic review assessing the impact of an MDT meeting (MDTM) on patient management or clinician practice reported that these led to changes in diagnostic reports in 4-45% of patients, more accurate pre-operative staging, and a higher chance of receiving neo-adjuvant/adjuvant treatment¹⁹. Similarly, another systematic review reported that cancer management was changed in 2-52% of cases after MDTMs²⁰. In terms of clinical outcomes, one systematic review reported MDT improved survival among several solid tumour cancers²¹, with another breast cancer study that used interrupted time series analysis reporting a significant reduction in mortality rates of 18% (HR=0.82, 95% CI 0.74 to 0.91)²². Several reviews also reported other benefits such as reducing the time from presentation or diagnosis to treatment^{21,23} and improving quality of life²¹.

1.3. Importance of MDT Functions

The primary function of an MDT is to:

-
- Ensure each patient is offered the highest quality care through appropriate diagnosis and treatment recommendations based on a review by a team of specialists from various disciplines.
-

Effective integration of MDTs into breast cancer care should also result in the following outcomes:

-
- Patients' preferences and physical, psychosocial, and supportive needs being assessed holistically and considered in the decision making.
-
- Patients are given equal opportunities to be enrolled in relevant clinical trials.
-
- There is continuity of care between tertiary, secondary and primary healthcare or private and public health sectors through effective communication and timely referrals.
-
- The MDT acts as a platform for continuing education/ professional development across disciplines.
-
- Good documentation and data collection would allow continuous quality improvement and generate a database for future research.
-

1.4. Gaps to Implementing MDTs

Previous studies have investigated the barriers to implementing MDTs in other countries²⁴⁻²⁶. Studies from a few middle-resourced countries revealed that the common barriers towards MDT implementation were^{24,25}:

-
- Lack of support from the leadership team
-
- Professional hierarchies that discourage active participation of all involved disciplines
-
- Ineffective communication between different disciplines
-
- Insufficient human resources
-
- Increased workload that leads to lack of time and clinician burnout
-
- Inequity in access to health services due to geographical and economical limitations
-

However, these barriers identified in other countries can be turned into opportunities for effective implementation. To identify local needs and barriers, C/Can has identified major hospitals (from both public and private sectors) in Greater Petaling to form a network to implement MDTs. Stakeholder analysis will first be conducted among the experts from these hospitals to understand their perspectives and the barriers to MDT implementations in their institutions. Thereafter, training and education will be provided, based on this best practice document and case studies on how MDTs have been implemented in local settings. It is hoped that expertise and experience can be shared among the hospitals in this network and later expanded to other district hospitals.

02

The MDT

2.1 Membership²⁷⁻²⁹

Each MDT should consist of the following **core team members**:

-
- > Surgeon

 - > Clinical oncologist¹

 - > Pathologist

 - > Radiologist

 - > Oncology nurse/breast care nurse

 - > MDT coordinator

Other **non-core team members**, who can contribute to meetings when needed, include:

-
- > Palliative care physician

 - > Genetic counsellor

 - > Physiotherapist

 - > Psychiatrist/psychologist

 - > Plastic surgeon

 - > Social worker

 - > Specialist research nurse or Clinical trial specialist

 - > Breast Radiographers

2.2 MDT lead clinician

Effective leadership is crucial in ensuring the functioning and sustainability of the MDT. Each centre should identify an MDT leader to oversee the team. For centres that are creating an MDT, the leader can also play the role of a 'champion' to unite the team members from different disciplines, coordinate their efforts and maintain their support for the meetings. For example, breast surgeons are an ideal MDT lead clinician because they are usually part of the primary team for the diagnosis.

¹ Includes radiation and medical oncologist

The responsibilities of the MDT leader include:

-
- Governing the practice of MDTs in the centre (including objectives for the team, meeting frequency, responsibilities of team members etc.).
-
- Communicating with all relevant parties regarding the role of the MDTs and their importance in cancer care.
-
- Representing the MDT in meetings with the management team to negotiate the resources needed to run MDTs and identify issues of concern.
-

2.3 MDT-coordinator

It is essential to appoint an MDT-coordinator who will be responsible for facilitating and coordinating the meeting. Administrative personnel, nurses or medical officers can undertake the coordinator role.

Roles of a coordinator include:

BEFORE THE MEETING

-
- Scheduling the meeting and inform the team.
-
- Arranging for the logistics of the meeting (e.g. meeting room, videoconferencing facilities etc.).
-
- Finalising the list of patients to be discussed in the meeting, with the supervision of the MDT lead clinician.
-
- Circulating the agenda among the MDT members.
-
- Compiling and collating the minimum data set for each patient discussed.
-
- Sending the data set to the off-site attendees in advance.
-

DURING THE MEETING

-
- Recording attendance.
-
- Recording the input of patient discussion and finalised recommendations. (refer to Appendix 1 for proforma).
-
- Prompting the MDT for mandatory data items (e.g. TNM staging and performance status).
-

AFTER THE MEETING

-
- Circulating meeting outcomes and action plans to all personnel involved.
-

2.4 Low-resource settings

At centres where not all core team members are available, MDTs can be formed via collaboration with the main referral hospitals or teaching hospitals. Regular meetings can be conducted via videoconferencing or teleconferencing. For meetings involving off-site attendees, it is essential to ensure the necessary documents (e.g., scans, X-ray films, reports) are submitted in advance. For example, pathologists and radiologists joining the teleconference should be provided with images a few days in advance to allow sufficient time for their evaluation before the MDT meeting.

2.5 Private hospital setting

An MDT approach should also be practised in private hospitals treating breast cancer patients. If the hospital lacks a certain speciality within the MDT, a partnership between private and public hospitals is encouraged to share available expertise.

The MDTM

3.1 Logistics

An MDTM should be conducted in a designated meeting room in the centre. The MDTM room should have sufficient facilities to allow the presentation of information (such as radiology images, microscopic pathology images and other minimum data sets) for team viewing. If the meeting includes off-site attendees, the venue should have videoconferencing technology to allow every member to hear and speak to their counterparts.

3.2. Scheduling

MDTMs should be held regularly to ensure timely discussion of all cases. It is recommended to meet at least weekly or fortnightly (depending on caseloads).

The meeting should be held at a time convenient to all attendees; hence it is important to seek input from all members (including off-site attendees) before setting the time. Organising the meeting at the same time and place is an excellent practice to make it part of the members' routine. The duration of the MDTM should be adjusted appropriately according to the number of cases and their complexity. It is recommended to limit the duration to a maximum of two hours.

According to the Breast MDT Disciplines Feedback Surveys conducted among 1,220 MDT members in the United Kingdom in 2018-2019, one of the findings was that individual specialists felt that their contribution might not be required for all discussions.³⁰ Hence, the meeting agenda can be deliberately designed into different sections according to the discussion outcomes. Each section would have a different disciplinary attendance requirement. This would allow flexible attendance for different specialities, so they do not need to sit through the whole meeting when their input is not required. There could also be nurse-oriented MDT to discuss patient care issues such as respite care, home care or in-patient care.

An example of scheduling the agenda (adapted from Improving the Efficiency of Breast Multidisciplinary Team Meetings: A Toolkit for Breast Services)²⁹:

Sections	Surgeon	Oncologist	Pathologist	Radiologist	Oncology nurse	Palliative care physician
Diagnostic core biopsies	✓	✗	✓	✓	✓	✗
Oncology discussion (including diagnostic cases identified for neoadjuvant treatment)	✓	✓	✓	✓	✓	✗
Post-operative	✓	✓	✓	✓	✓	✗
Metastatic/ recurrence	✓	✓	✗	✓	✓	✓
Non-oncology discussion (mainly imaging cases, e.g. MRI scans, CT staging)	✓	✗	✗	✓	✓	✗

3.3. Case selection

The MDT should discuss all newly diagnosed cases. Recurrent cases can also be discussed at the clinician's discretion.

In circumstances where not all new cases can be discussed, the following cases should be prioritised for MDTMs:

- When the diagnostic test results are **discordant** (eg. histopathological results reported benign tumour but radiology results suspected it to be malignant), the case should be discussed to confirm or exclude the diagnosis of breast cancer.
- Patients are at the key points in the care pathway to **formulate management plans** (e.g. initial treatment, preoperative (including after neoadjuvant chemotherapy), post-operative, breast cancer recurrence, etc.).
- Complex cases (e.g. old age, pregnancy).

For cases that show concordance in triple assessment (pathology, imaging and clinical) and the treatment is planned according to the standard care in the CPG for Management of Breast Cancer, they might not need to be discussed at an MDTM. However, it is always good practice to keep a record of all cases diagnosed and/or treated in the hospital and mention those cases that will not be discussed at the beginning of the MDTM to ensure work transparency and accountability.

There is also a validated tool, MeDiC, that can be used to order the complexity of cases and prioritise case selection (Appendix 5)³¹.

3.4 Preparation

The following information should be prepared prior to the meeting (minimum data set):

- Patient information (presented by the primary team) it is important to ensure:
 - › Relevant medical history
 - › Performance status
 - › Comorbidities
 - › Family history
 - › Patient preferences (if known) & social history
- Imaging films and reports (radiology team)²
 - › CT/ PET scan
 - › Mammography
 - › Ultrasound
 - › MRI
 - › Nuclear medicine tests (if needed)

² Refer to CPG Management of Breast Cancer (Third Edition) Appendix 3- RECOMMENDED REPORTING SYSTEM BI-RADS; Appendix 4- BREAST IMAGING SURVEY FORM

-
- > Blood test results

 - > Histopathological examination (HPE) and/or cytological reports (pathology team)³
 - > *Histology on biopsy
 - > *ER status on biopsy
 - > *PR status on biopsy
 - > *HER2 status on biopsy
 - > Ki67 percentage
 - > Pathological tumour size
 - > Pathological lymph node involvement

 - > Diagnosis & date of diagnosis (if known)⁴

 - > Treatment plan (if the previous plan is being reviewed)

 - > Relevant genetic test results

 - > Multigene assay results if available

 - > Options of potential clinical trials

*Essential in newly diagnosed and recurrent breast cancer

3.5 Patient-centred decision making

The MDTM chairperson (lead clinician or anyone appointed) should facilitate the discussion. The chairperson should ensure all selected cases are discussed, as well as encouraging the participation of all members. The radiologist is responsible for providing inputs on the clinical interpretation of images; the surgeon on the extent of growth and resectability of tumours; the oncologist on potential treatment pathways, the pathologist on biopsies/ resection slides and reports, and the oncology nurse on patient-centred factors such as physical, psychosocial, supportive needs. For every patient being discussed at the MDTM, it must be clear what clinical question needs to be addressed. Based on the inputs from various disciplines, the team must reach a concordant conclusion on the patient's diagnosis or treatment plan. A patient's demographic, comorbidities, psychosocial needs, and preferences should always be taken into account. The team should consider all treatment options (even if it is unavailable at that centre) and the patient's suitability for clinical trials.

³ Refer to CPG Management of Breast Cancer (Third Edition) Appendix 6- HISTOPATHOLOGY WORKSHEET FOR BREAST BIOPSY/ MASTECTOMY

⁴ Refer to CPG Management of Breast Cancer (Third Edition) Appendix 5- TNM CLASSIFICATION OF BREAST CANCER

3.6 Meeting outputs

Attendance of meetings should be documented for audit or improvement purposes. All clinical decisions should be documented in the patient's file (refer to Appendix 1 for MDTM Proforma). It should be clear which clinician and when will the MDT decision be communicated to the patient. While communicating with patients, it is a good practice to inform them that the MDT has come together to discuss and agree on a best recommendation to increase their confidence in the recommendation. Follow-up actions for the meeting could include:

-
- > Communicate the MDT outcome (for diagnosis or treatment plan) with the patient
-
- > Discuss with the patient the option to be involved in a clinical trial
-
- > Refer the patient for supportive/ palliative care
-
- > Refer the patient to the relevant primary care team based on the MDT treatment plan
-

3.7 Confidentiality

All patient information and discussions at MDTM should be made confidential. In meetings which involve teleconferencing, meetings should not be recorded.

3.8 Conflict of interest

Industry representatives (e.g. pharmaceutical or medical device companies) should not be present at MDTMs to ensure patient confidentiality and unbiased case review. Similarly, patients or their family members should not take part in MDTMs, so as to ensure unbiased case reviews.

04

Implementation

After identifying the potential barriers to implementation, a quality implementation framework has been adapted from the literature³² to suggest practical steps to take towards initiating an MDT in a hospital:

Phase 1: Initial considerations with regards to the host setting

Conduct a needs and resources assessment

- > The leadership of the department (e.g. heads of departments) should understand the importance of an MDT and how it would benefit the patients and hospital
- > Identify an MDT leader (who will be the champion for implementation)

Conduct a capacity/ readiness assessment

- > Ensure the department has the *will* and the *means* (i.e., adequate resources, skills and motivation) to implement an MDT

Decisions about adaptation

- > Should the MDT be modified in any way to fit the hospital setting? (e.g. collaboration with certain specialists from another institute)

Obtain explicit buy-in from critical stakeholders

- > Identify the MDT core and non-core members
- > Ensure genuine and explicit buy-in from the leadership team (e.g. heads of departments, specialists/ consultants from surgery, radiology, oncology, and pathology) and front-line staff who will assist in implementation (e.g. medical officers, nurses)

Staff recruitment

- > Identify or recruit staff to support implementation (e.g. administration staff, nurse or medical officer to be MDT-coordinator)

Staff training and capacity building

- > Teach all included members the why, what, when, where, and how of MDTs



Phase 2: Creating a structure for implementation

Form the MDT team (based on Section 2 of this document)

Develop an implementation plan (based on Section 3 of this document)



Phase 3: Ongoing structure once implementation begins

Process evaluation

- > Gather feedback from MDT members regarding the implementation
- > Evaluate the strengths and limitations of the implementation and adjust accordingly

Technical assistance or coaching

- > Ensure regular meetings with the MDT network to review the implementation and learn from each other



Phase 4: Improving future applications

Learn from experience

- > Conduct quality audits regularly (based on Section 6 of this document)

05

Clinical Trials

Research is an integral part of cancer care. Clinical trials are vital, as they are part of the process of ensuring a treatment's safety and efficiency before it is made available. Being involved in a clinical trial provides opportunities for patients to be exposed to treatment that might not be routinely available.

Recruitment of patients into clinical trials should be systematic and well-planned to ensure all patients have an equal chance to be considered or assessed for suitability. However, recruitment is often driven by the clinician's awareness of the available trials. MDTMs can be an excellent platform to improve patient recruitment as it increases fellow colleagues' awareness on clinical trials during MDT discussions. Each MDT should have access to a list of clinical trials available for easy reference during meetings. For eligible patients, the information of clinical trials should be recorded in the outcomes of meetings for follow-up actions.

Quality governance

It is essential to review the MDT process regularly to ensure continuous improvement. It is recommended to conduct quality audits at least once annually (frequency to be discussed and agreed by the team) to review the process. Refer to Appendix 2 for a list of data points required in data collection.

Some process indicators that each team can monitor are:

Process indicators	Definition
Proportion of patients reviewed ⁵	$\text{Proportion of patients reviewed} = \frac{\text{Number of breast cancer cases discussed in MDT in a period}}{\text{Number of new breast cancer patients in the same period}}$
Attendance of members at MDTM	Attendance of members should be monitored to ensure sufficient inputs from various disciplines for the discussion.
Minimum data set	Specific database should be in place to collect and check the clinical data required in Section 3.4. The minimum data set should be assessed for completeness. The proportion of patients discussed without sufficient information to make recommendations at MDTM should be monitored.
Concordance between MDT recommendation and actual treatment	If the actual treatment given to the patient is not concordant with the recommendation, such cases should be reviewed. The reason for the discrepancy should be described in the MDTM minutes and in the medical records.
Serious treatment complications or unexpected events/ death	MDT should monitor such cases and review them for learning.
Impact on staff time	Impact of MDT preparation and meeting on staff time should be assessed and managed to improve the efficiency of the process.

As the MDT implementation becomes more established, each institute can use the following process and outcome indicators to measure the benefits of the MDTM. The targets for these indicators are aimed to be achieved after at least two years of continued activity of the MDT, considering that there is a learning curve for any team. Refer to Appendix 2 for a summary of data collection requirements to monitor the timeliness of diagnosis and treatment initiation.

Short term process and outcome indicators	Reference
<p>1. Waiting time</p> <p>To ensure timely breast cancer diagnosis, waiting time should be shortened from the first presentation.</p> $\frac{\text{Number of new breast cancer patients referred to the breast clinic within 2 weeks in a period}}{\text{Number of new breast cancer patients in the same period}} \times 100\% \geq 80\%$	CPG Management of Breast Cancer (3rd Ed)

⁵ EUSOMA recommends that a minimum 90% of cancer patients should be discussed pre and postoperatively by an MDT³³.

2. Timely diagnosis

Evaluation, imaging, tissue sampling and pathology should be completed as early as possible to confirm diagnosis.

The Global Breast Cancer Initiative (World Health Organization)

Time from first presentation to diagnosis = 60 days

3. Time from diagnosis to definitive surgery

Definitive surgical treatment is to be done in a timely manner to avoid worsening disease and increased morbidity & mortality due to delay in treatment.

National Strategic Plan for Cancer Control Programme 2021-2025

$$\frac{\text{Number of patients going for definitive surgery within 4 weeks of diagnosis in a period}}{\text{Number of patients going for definitive surgery in the same period}} \times 100\% \geq 75\%$$

4. Timely adjuvant treatment

All patients that require adjuvant treatment (chemotherapy, radiotherapy and/or targeted therapy) should be able to access these treatments in a timely manner.

$$\frac{\text{Number of new cases given appointment within 2 weeks for first consultation at Oncology Clinic in a period}}{\text{Number of new cases requiring consultation at Oncology Clinic in the same period}} \times 100\% \geq 75\%$$

$$\frac{\text{Number of patients who were started on adjuvant radiotherapy within 3 months from the date of completion of surgery/ chemotherapy in a period}}{\text{Number of patients who decided to receive adjuvant radiotherapy in the same period}} \times 100\% \geq 75\%$$

Other indicators (optional in a first phase):

$$\frac{\text{Number of patients who were started on chemotherapy within 2 weeks from the date of decision in a period}}{\text{Number of patients who decided to receive chemotherapy in the same period}} \times 100\% \geq 75\%$$

$$\frac{\text{Number of patients who received urgent MRI within 48 hours from the date of acute symptoms of spinal cord compression in a period}}{\text{Number of patients who had acute symptoms of spinal cord compression in the same period}} \times 100\% \geq 75\%$$

$$\frac{\text{Number of patients who were started on urgent radiotherapy within 24 hours from the date of MRI for acute symptoms of spinal cord compression in a period}}{\text{Number of patients who decided to receive urgent radiotherapy for spinal cord compression in the same period}} \times 100\% \geq 75\%$$

National Strategic Plan for Cancer Control Programme 2021-2025

5. Clear surgical margins

Clear surgical margins improve patient survival and reduce mortality.

$$\frac{\text{Number of patients with clear surgical margins in breast-conserving surgery in a period}}{\text{Number of patients who underwent breast-conserving surgery in the same period}} \times 100\% \geq 85$$

CPG Management
of Breast Cancer
(3rd Ed)

6. Reporting to the National Cancer Registry

All cases should be reported to the national registry to improve cancer surveillance.

$$\text{Percentage of breast cancer cases reported} = 100\%$$

In the mid- or long-term, using an MDT is also expected to improve these outcomes:

Mid- and long-term outcome indicators	Source of information
Percentage of patients diagnosed at advanced stage (III or IV)	Malaysia National cancer registry report (MNCR)
5-year survival rate	Malaysia National cancer registry report (MNCR)

List of contributors

The team of specialists that initiated and participated in the development of the document included:

No	Name	Role & Affiliations
1	Professor Nur Aishah Binti Mohd Taib	Project Coordinator/Lead Senior Consultant Breast Surgeon, University of Malaya Medical Centre (UMMC)
2	Dr Izzuna Mudla Binti Mohamed Ghazali	Project Co-lead Deputy Director, Medical Development Division, Ministry of Health Malaysia
3	Dr Anita Binti Baghawi	Project Co-lead Head, National Breast Cancer Clinical Practice Guidelines (CPG) Development Team Chair, College of Surgeons' Breast and Endocrine Chapter, Academy of Medicine of Malaysia (AMM) Consultant Breast & Endocrine Surgeon, Hospital Putrajaya
4	Alene Yong Sze Jing	Technical Writer PhD candidate, School of Pharmacy, Monash University
5	Derrick Z Chan	Project Support City Manager, City Cancer Challenge Foundation (C/Can)

The experts from Greater Petaling, Malaysia who participated in the review and consultation of the document included:

No	Name	Role & Affiliations
1	Dr Vaishnavi Jeyasingam	Consultant Oncologist, Hospital Kuala Lumpur, MOH Subang Jaya Medical Centre Malaysian Oncology Society
2	Dr Patricia Gomez	College of Surgeons @ Academy of Medicine of Malaysia (AMM) Pantai Hospital
3	Dr Vijayalakshmi K	Head, Breast Imaging Special Interest Group @ College of Radiology @ Academy of Medicine of Malaysia (AMM) Gleneagles Hospital
4	Dr Lam Chee Loong	Consultant in Palliative Medicine Senior Lecturer; Department of Medicine Faculty of Medicine, University of Malaya University of Malaya Medical Centre
5	Matron Nur Nadia Renu	Oncology Nurse/Breast Care Nurse Nurse Researcher Lean Healthcare Initiative; Trainer and Facilitator; Institute for Health Management, National Institutes of Health (NIH), Ministry of Health Malaysia
6	Dr Mohamad Rafie Md Kaslan	Consultant Anatomic Pathologist, Hospital Putrajaya Member, International Academy of Pathology Malaysian Division (IAPMD)

The team of external experts and C/Can team that participated in the review and consultation of the document included:

No	Name	Institution
1	Professor Josep Maria Borrás	Catalonian Cancer Strategy, Catalan Institute of Oncology, Barcelona
2	Dr Roselle Bernardo de Guzman	Manila Central University-FDTMF Hospital, Manila, Philippines
3	Dr Kaori Tane	Hyogo Cancer Centre, Hyogo, Japan
4	Dr Jane Elizabeth Brock	Brigham and Women's Hospital, Boston, USA
5	Dr Ong Mun Wai Eugene	Luma Women's Imaging Centre, Singapore
6	Dr Rima Sanjay Pathak	Tata Memorial Centre, Mumbai / Homi Bhabha National Institute
7	Professor Patsy Yates, AM, PhD, RN, FACN, FAAN	Queensland University of Technology / International Society of Nurses in Cancer Care (ISNCC)
8	Dr Pauline Anne Peronilla Cauton	Cardinal Santos Medical Centre, Manila, Philippines
9	Dr Kavitha Däster	Breast Surgery International
10	Dr Thet Ko Aung	City Cancer Challenge Foundation (C/Can)
11	Dr Rolando Camacho	City Cancer Challenge Foundation (C/Can)

The document was developed with an awareness of currently available resources (human resources, infrastructure, equipment) to make it financially sustainable.

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Appendix 1

MDT meeting proforma

It is essential to review the MDT process regularly to ensure continuous improvement. It is recommended to conduct quality audits at least once annually (frequency to be discussed and agreed by the team) to review the process. Refer to Appendix 2 for a list of data points required in data collection.

Some process indicators that each team can monitor are:

Meeting Date:

Patient Particulars

> Name

> RN

> Age

> Contact

> Next of kin

Purpose Of MDT

> Diagnostic core biopsy

> Oncology discussion

> Post operative

> Metastatic/recurrence

> Radiology imaging discussion

MDT Complexity

MDT Attendees

Background History

- > Comorbid
- > Medication
- > Allergies
- > Performance status

Background History

- | | |
|--------------------|-------------|
| > Lump | > LOW |
| > Pain | > Jaundice |
| > Nipple Discharge | > Headache |
| > Screening | > Bone pain |
| > Others | > Others |
| > Dyspnoea | |

Risk factors

- | | |
|-----------------------------------|---------------------------|
| > Family History of Cancer | > Age at last child birth |
| > Hormonal contraception | > Menarche |
| > HRT | > Menopause |
| > Para Gravida | > Breast feeding |
| > Age 1 st child birth | |

Social and occupational history

- > Social support
- > Living arrangement
- > Occupation
- > Insurance

Examination

Breast and axilla

- | | |
|-----------------|-----------------|
| > Right | > Left |
| › Skin + nipple | › Skin + nipple |
| › Lump | › Lump |
| › Lymph node | › Lymph node |

Systemic

- > CNS
- > Lungs
- > Abdomen
- > Bone

Imaging

- MMG/USG/MRI
- CT scan
- PET
- Others

Biopsy

- Date
- Type

Surgery at diagnosis (Yes/No)

- Date
- Type

HPE

- | | |
|---------------------------------------|---|
| <input type="checkbox"/> Histology | <input type="checkbox"/> Immunohistochemistry |
| <input type="checkbox"/> Size | <input type="checkbox"/> ER |
| <input type="checkbox"/> Grade | <input type="checkbox"/> PR |
| <input type="checkbox"/> Margin | <input type="checkbox"/> HER2 |
| <input type="checkbox"/> Nodal status | <input type="checkbox"/> SISH |
| <input type="checkbox"/> LVI | <input type="checkbox"/> Ki67 |

Stage: clinical/ pathological

T N M

Diagnosis

Discussion/concerns raised

Recommendation

Treatment Intent

Neoadjuvant

Adjuvant

Palliative

Osteoporosis

Others

Treatment Plan

Surgery

Chemotherapy

Radiotherapy

Hormonal therapy

Other

Clinical Trial

Supportive care needs

Rehabilitation

Financial

Social

Referral

Patient Preferences:

Any known preferences

Comment:

Management discussed with patient:

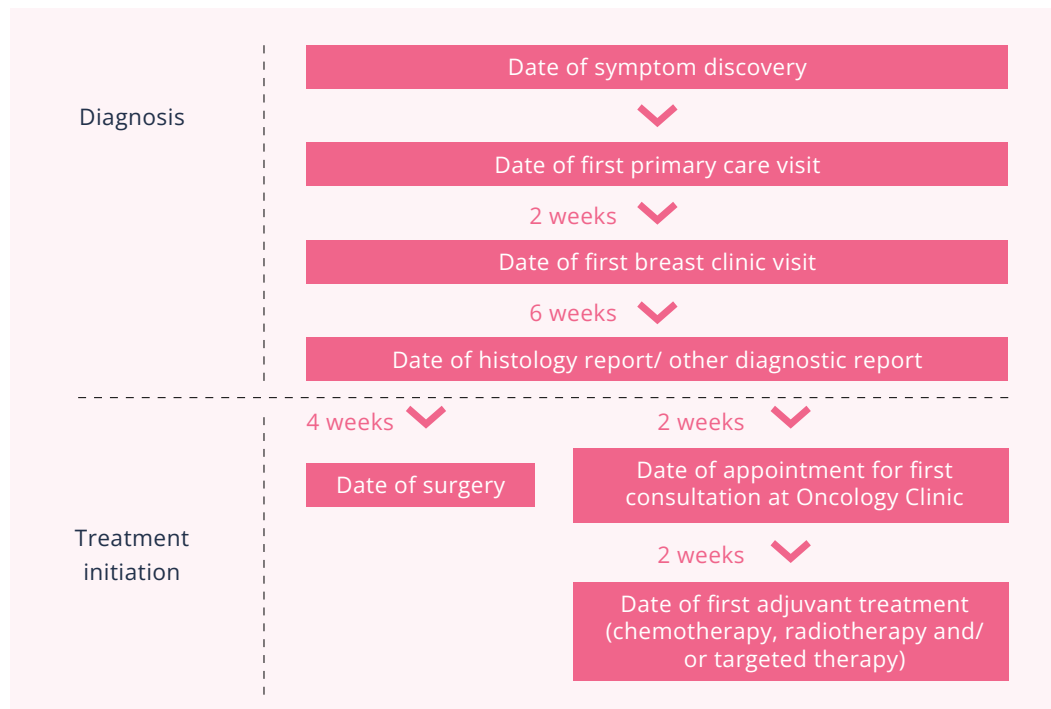
Follow up plan

Prepared by:

Appendix 2

Data collection requirements

To monitor timeliness of diagnosis and treatment initiation¹:



Other data points:

- Number of breast cancer cases discussed in MDT
- Number of new breast cancer cases (using number of breast cancer patients who underwent surgery as proxy)
- Attendance of core team members at MDTM
- Attendance of non-core team members at MDTM
- Number of cases discussed without sufficient information at MDTM
- Number of new breast cancer patients referred to the breast clinic
- Number of patients going for definitive surgery
- Number of new cases requiring consultation at Oncology Clinic
- Number of patients who decided to receive chemotherapy
- Number of patients with clear surgical margins in breast-conserving surgery
- Number of patients who underwent breast-conserving surgery

¹ Mohd Mujar NM, Dahlui M, Emran NA, et al. Breast Cancer Care Timeliness Framework: A Quality Framework for Cancer Control. JCO Global Oncology. 2022;(8):e2100250. doi:10.1200/GO.21.00250

Appendix 3

Classification of Pathology Results

B – Category	Definition	Diagnosis
B1	Normal tissue Not sufficient tissue	<ul style="list-style-type: none"> · Artefactes, bleeding · Microcalcification (<100 µm) in normal terminal ductuli · Normal breast tissue · Minimal stromal fibrosis
B2	Benign lesions	<ul style="list-style-type: none"> · Fibroadenoma · Usual ductal hyperplasia (UDH) · Fibrosis with cysts · Sclerosing adenosis · Cysts, gangectasia · Periductal chronic inflammation · Abscess · Fat tissue necrosis · Microcalcification (>100 µm) · Columnar cell lesion without atypia · Small papilloma (completely removed) · Apocrine metaplasia · Pseudoangiomatous stromal hyperplasia (PASH)
B3	Benign lesion with uncertain biological potential	<ul style="list-style-type: none"> · Atypical ductal Hyperplasia (ADH) · Lobular Neoplasia (LN, Ø pleomorphic) · Columnar cell lesion with atypia (FEA) · Papillary lesion (Papilloma with UDH, larger Papilloma) · Phylloides Tumor (PT) · Fibroepithelial Tumor (suspicious of PT) · Radial scar · Complex sclerosing lesion · Adenomyoepithelioma · Pregnancy like change with atypia) · Mucocele like lesion · Spindle cell stromal Proliferation
B4	Suspicious of malignancy	<ul style="list-style-type: none"> · Probably malignant, evaluation limited due to technical reasons. · At least ADH, DCIS (non-high grade) not excluded. · Papilloma with ADH
B5	Malignant	<ul style="list-style-type: none"> · DCIS, LN (pleomorphic), Microinvasion (a) M. Paget (a) · Invasive breast cancer (b) · At least DCIS, invasion not excluded (c) · Metastasis, Lymphomas, Sarcomas (d) malignant Phylloides Tumor (d)
a)	Non-invasive breast cancer.	
b)		
c)	Invasive breast cancer	
d)	Invasion not excluded Other malignancy, metastasis (except carcinoma)	

Minimally Invasive Breast Biopsies- Working Group of Swiss Society of Senology. Pathologic Classification System for biopsies and fine needle aspirations. Accessed August 16, 2022. <https://www.mibb.ch/pathology/>

Appendix 4

Management of Risk Lesions



Management of risk lesions
 IBUS 25.2.2006, 31.1.2010, 28.1.2012, 25.1.2014

	Diagnosis made by CNB	Diagnosis made by VAB
FEA	VAB or OE of visible lesion	wait and see is justified if the radiological lesion has been removed
Radial scar	VAB or OE of visible lesion	wait and see is justified if the radiological lesion has been removed
Papillary lesion without atypia	Remove larger or symptomatic (and especially peripheral) Papillomas. VAB is acceptable	
Papillary lesion with atypia	OE	OE
Phylloid tumor	OE. Free margins in borderline and malignant PT's	Follow up in completely excised benign PT's seems to be justified*
LN classical type	OE or VAB (remove US-visible lesion). High risk follow-up if lesion is removed	OE. High risk follow-up if lesion is removed
ADH	OE	OE. If the lesion has been removed completely and only focal ADH with calcifications exists, wait and see could be justified
DCIS and pleomorphic LN	OE	OE

CNB: core needle biopsy. VAB: vacuum assisted biopsy. OE: open excision. FEA: flat epithelial atypia. LN: lobular neoplasia. PT: phyllodes tumor. ADH: atypical ductal hyperplasia.

It is important, that imaging and pathological results are concordant, and that tissue sampling is sufficient

*Park HL (J Breast Cancer 2012) excised 53 benign phyllodes tumors with US-guided VAB with just 1 recurrence in the follow up

Rageth CJ, O'Flynn EA, Comstock C, et al. First International Consensus Conference on lesions of uncertain malignant potential in the breast (B3 lesions). *Breast Cancer Res Treat.* 2016;159(2):203-213. doi:[10.1007/s10549-016-3935-4](https://doi.org/10.1007/s10549-016-3935-4)

Appendix 5

MeDiC tool to aid deciding complexity of case

NIHR | National Institute for Health Research

KING'S
College
LONDON

CPSSQ
Centre for Patient Safety and Quality

Imperial College
London

MDT-MeDiC (V1.0)

Measure of case-Discussion Complexity for cancer MDT meetings: MDT-MeDiC (V1.0)

#	Complexity Item	Description
PATHOLOGY	1. Malignancy	Patient is either currently undergoing treatment, or it is a new diagnosis.
	2. Invasive component	Tumour is of high (3) or intermediate (2) grade, but also includes cancers that are poorly or moderately differentiated, invasive adenocarcinoma, carcinosarcoma, invasive ductal, small cell, aggressive, VIN III, clear cell carcinoma, or serous adenocarcinoma (both aggressive form of ovarian cancer considered grade 3), also mucinous, or lobular in breast cancer.
	3. Residual tumour	There is evidence or residual tumour after treatment due to an incomplete pathological or biological response to (surgical or oncological) treatment, for e.g. tumour is incompletely excised, margins are involved or positive, i.e. not clear of tumour, and patient is not cured.
	4. Recurrence	Includes secondary cancer, i.e. primary cancer that comes back with local, regional, or distant recurrence - e.g. secondary breast cancer in liver.
	5. Multiple cancers	Includes multifocal, multicentric, or multiple primaries.
	6. Increased size	Includes T3 and T4 tumours.
	7. Nodes affected	Includes N1 and N2 tumours, but also lymphovascular invasion.
	8. Metastases	Includes local or distant metastases.
	9. Advanced stage, progressive	Extensive disease, late stage with tumour increasing in size and spreading.
	10. Unusual or rare tumour type	It is not a classic picture of cancer. Unusual pathological presentation, complex, or rare tumour that is either malignant or has potential for malignancy. Unknown primary is also included.
PATIENT FACTORS	11. Previous history of cancer	Includes either distant (i.e., 10 years ago) or more recent history
	12. Previous oncological treatments	Includes either distant (i.e., 10 years ago) or more recent history of chemotherapy or radiotherapy.
	13. Significant surgical history	Includes either distant (i.e., 10 years ago) or more recent surgery that may affect treatment options.
	14. Significant physical comorbidity	Patient is immunocompromised, or has poor performance status (PS), or has any other physical comorbidity that may affect treatment options, such as for e.g., diabetes, congestive heart failure, kidney or vascular disease, frail, nutritionally compromised, needs assistance with mobility, not fit for surgery, doesn't tolerate chemotherapy, renal failure, cardiac bypass, pregnancy, clinical obesity or BMI >30, exercise intolerance.
	15. Mental health and cognitive comorbidity	Any such comorbidities that may affect treatment options, for e.g., dementia, schizophrenia, anxiety, depression, or being sanctioned under the Mental Health Act.
	16. Socio-economic issues	Any socio-economic difficulties that may affect treatment options, such as for e.g., being a sole parent with young children, lack of social / family / financial support, or housing issues.
	17. Lifestyle risks	Any lifestyle risks that may affect treatment options, such as for e.g., substance abuse, smoking.
	18. Patient choice and family opinion	Includes refusal of certain treatment or procedure, non-compliance and DNA (do-not-attend) appointments, family dynamics and opinion that may impact treatment options

MDT-MeDiC (V1.0)

Measure of case-Discussion Complexity for cancer MDT meetings: MDT-MeDiC (V1.0)

#	Complexity Item	Description
19.	Diagnostic uncertainty & inconclusiveness of diagnostic tests	Lack of definitive diagnosis, pathology or radiology results are inconclusive, for e.g., there is either nothing to biopsy or tumour is too small/ undetectable on imaging, but also sample for pathology analysis is suboptimal.
20.	Further tests and patient assessment needed	Includes further or repeat tests such as imaging, biopsy, clinical examination or review before treatment plan can be formulated.
TREATMENT FACTORS	21. Further input needed from other specialties	Further input is needed before a treatment plan can be formulated, for e.g. colorectal cancer team is requiring urological or gynaecological input, or patient has to be referred to a specialist unit for treatment, multiple primaries so patient needs to be treated at different centre/s.
	22. Unusual anatomy/ distribution of tumour	Unusual / difficult anatomical positioning of cancer for e.g. close to aorta, blood vessels, or other critical structures / unresectable or inoperable tumour.
	23. Guidelines/ pathway do not account for patients specific situation	An exceptional case.
	24. Conflict of opinions	There are differences in opinion or difficulties in agreeing on the best treatment option, clinical staging or follow-up, either between team members, or between sites / teams / specialties / disciplines.
	25. Treatment toxicity and contraindications	Patient is experiencing treatment toxicity and contraindication to standard treatment.
26.	Trial eligibility	Patient is eligible for trial and this is discussed in the meeting.

TOTAL CLINICAL COMPLEXITY SCORE (the sum of items 1 to 26):

27	Previous oncological treatments	Includes counts of various admin errors and process issues, as well as issues with attendance and meeting equipment (the examples of logistical complexities from the data are provided below).
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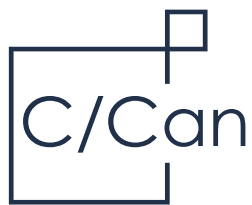
TOTAL LOGISTICAL COMPLEXITY SCORE (the sum of tallies for item 27):

TOTAL COMPLEXITY SCORE (the sum of items 1 to 27, i.e., clinical and logistical items):

Please reference the MeDiC tool as follows:

Soukup, T., Morby, A., Lamb, B.W., Gandamihardja, T., Hogben, K., Noyes, K., Skolarus, T.A., Darzi, A., Green, J., Sevdalis, N. (2019). A measure of case complexity for cancer multidisciplinary teams: Development and early validation of the MeDiC tool. *PsyArXiv*. [10.31234/osf.io/qzwf8](https://doi.org/10.31234/osf.io/qzwf8)

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