

PATHWAY TO SURVIVAL

THE STORY OF BREAST CANCER IN PALESTINE

Analytical Mapping of Breast Cancer Care in Palestine:
Current services, challenges and recommendations for improvement

UNFPA

وزارة الصحة الفلسطينية
Ministry of Health

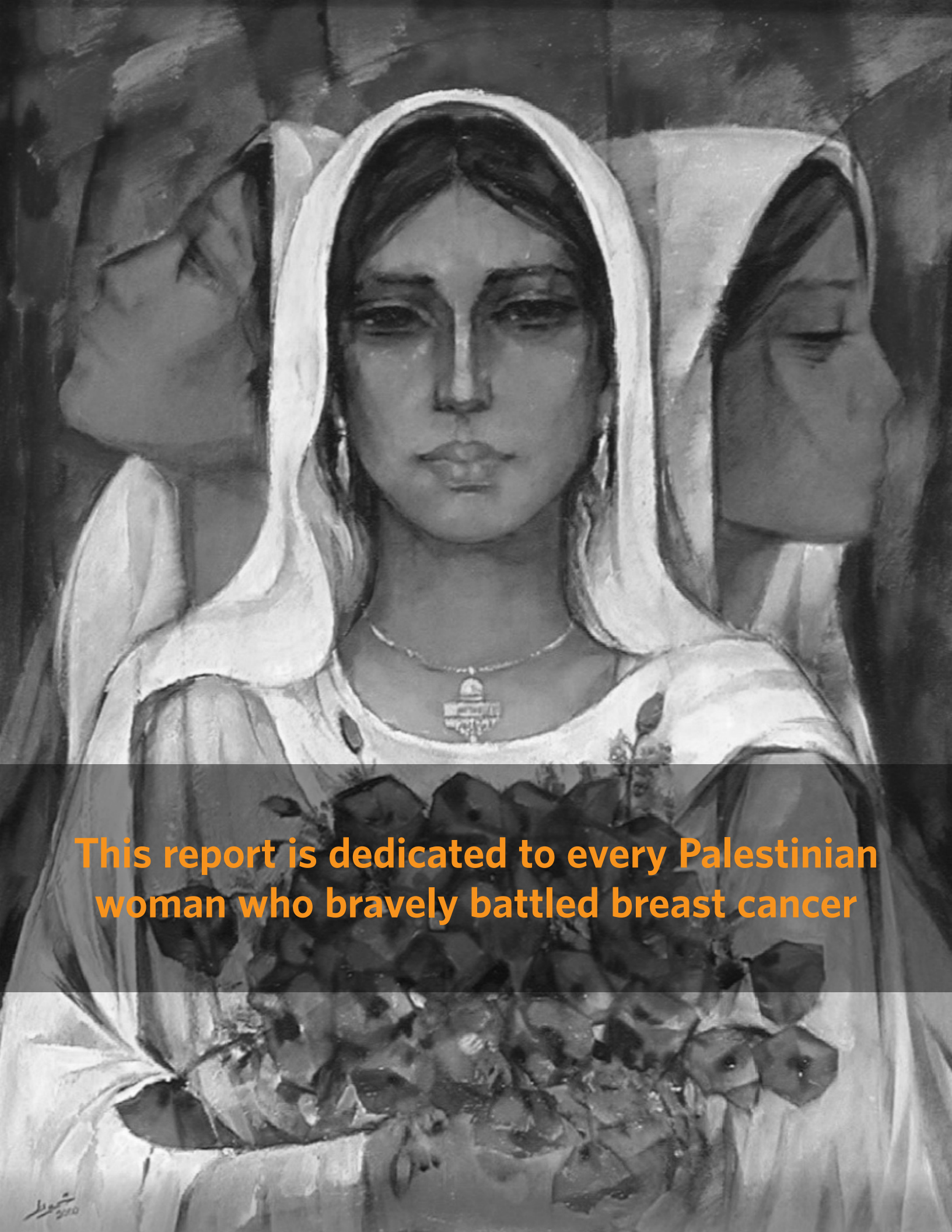
جمعية الإغاثة الطبية الفلسطينية
P.M.R.S
Palestinian Medical Relief Society

من الشعب الياباني
From the People of Japan

PATHWAY TO SURVIVAL:
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Current services, challenges and recommendations for improvement

January 2018



This report is dedicated to every Palestinian woman who bravely battled breast cancer

FOREWORD

The Palestinian Ministry of Health leads a nation-wide effort in fighting breast cancer, the number one cancer causing premature death for women in the country. Working on prevention, early detection and treatment of cases form a critical technical, operational and financial challenge to the Palestinian Authority and civil society organizations.

Denial of access to care from Gaza and West Bank forms a remarkable obstacle and leads to death and suffering of women trying to access care in Jerusalem institutions. The overall burden of disease on women and their families extends beyond its physical impact to seriously affect psychological, social and quality of life of women living with the disease and their surrounding.

The Palestinian Ministry of Health is proud to present the first of its kid report on breast cancer and is looking forward to using its findings and recommendations for support of a coherent, high quality early detection and care programs at the national level.

In this respect, the Ministry of Health extends its thanks to the research team, who worked hard to cover the whole country and mapping all providers to allow comprehensive coverage of care within the continuum from early detection to treatment. Covering both public and private providers in this mapping will allow building a comprehensive knowledge base and service delivery network in favor of efficient and cost effective system of care.

The Ministry of Health in Palestine extends its thanks and gratitude to our national partner Palestinian Medical Relief Society (PMRS) for dedicated and fruitful partnership on the way to fight the disease and its consequences.

It is our honor to extend our thanks and gratitude to our international partner, UNFPA and the Government of Japan for providing the financial and technical support to the Ministry of Health in this important public health Endeavour.

Last, but not least, it is our pleasure to extend thanks to the Ministry of Health professional experts, who dedicated effort and time in producing this important and strategic document.

State Of Palestine - Ministry Of Health

Dr. Asad Ramlawi
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Pathway to Survival: The Story of Breast Cancer in Palestine

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ACKNOWLEDGMENTS

UNFPA, the United Nations Population Fund and PMRS, the Palestinian Medical Relief Society gratefully acknowledge the contribution of all organizations that participated in the survey and interviews. Particular thanks go to Dr. Assad Ramlawi, the Palestinian Deputy Minister of Health who was instrumental in enlisting support for this research and whose vision and overall supervision led to its genesis.

We extend our gratitude to directors and heads of departments at the Ministry of Health, particularly the Women's Health Department, the Primary Health Care Directorate, the Nursing Department, the Palestinian Health Information Centre, the Public Health Department, the Community Health Department and the Referral Unit.

We would like also to express special thanks to Augusta Victoria Hospital, An-Najah Hospital, Al-Watani Nablus Hospital and Beit Jala Hospital, for contributing with vital information to this report and for giving us the opportunity to meet women with breast cancer enabling the report to bring the real face of the issue of breast cancer.

We would also like to extend our deep appreciation to the data collection team, who demonstrated an unprecedented level of dedication and high level of quality and professional work.

Furthermore, the contribution of several organizations deserve special mention for their enriching input, expertise and support, particularly the Institute of Community and Public Health at Birzeit University, Juzoor for Health and Social Development, the Palestinian National Institute of Public Health, and the Family Planning and Protection Association.

Many thanks go also to OCHA for their technical support in providing the Geographic Information System (GIS) map products and spatial analysis ensuring the best possible functionality and usability for this particular research.

We are also proud to acknowledge the continued support and generosity of the Japanese Government and people.

Last but not least, our greatest thanks go to every Palestinian woman and her family members, who participated actively and openly in this study. Without their sincere voices and opinions, the production of this research would not have been possible.

ACRONYMS

CR	Computed Radiology
DR	Digital Radiology
FNA	Fine Needle Aspiration
MRI	Magnetic Resonance Imaging
MoH	Palestinian Ministry of Health
NGOs	Non-Governmental Organizations
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
oPt	occupied Palestinian territory
PHC	Primary Health Care
PMRS	Palestinian Medical Relief Society
PNIPH	Palestinian National Institute of Public Health
TCB	Tru Cut Biopsy
UNFPA	United Nations Population Fund
WHO	World Health Organization

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الملخص التنفيذي

طوال السبع عشر سنوات الماضية، شهد الفلسطينيون زيادة ملحوظة في حالات السرطان، حيث تضاعفت من 1073 حالة عام 2000 لتصل إلى 2536 حالة عام 2016 في الضفة الغربية وحدها. وشهد العام 2016 زيادة في حالات السرطان بنسبة 5.8% مقارنة مع العام 2015. فقد كان السرطان السبب الثاني الرئيسي للوفيات بنسبة 14% من حالات الوفاة بعد أمراض القلب والأوعية الدموية (30.6%)

في جميع أنحاء العالم، يقتل سرطان الثدي امرأة كل 15 دقيقة. وفي فلسطين، يمثل سرطان الثدي 15% من حالات السرطان.

هدف الدراسة

باعتبارها دراسة مشتركة بين وزارة الصحة، وصندوق الأمم المتحدة للسكان، وجمعية الإغاثة الطبية الفلسطينية، فإن رسم الخرائط التحليلية يطمح إلى توفير فهم شامل لنظام رعاية النساء ووصولهن إلى خدمات الكشف المبكر والعلاج، وما بعد العلاج.

منهجية الدراسة

اعتمدت المنهجية المستخدمة في هذا البحث على مسح استقصائي اعدتها وزارة الصحة والتي حددت خدمات الكشف عن سرطان الثدي وعلاجه والخدمات المقدمة ما بعد المعالجة في الضفة الغربية وقطاع غزة. وشمل المسح 98 من مقدمي الخدمات (34 في قطاع غزة و 64 في الضفة الغربية). وتم تعزيز المنهجية بإجراء 32 مقابلة شبه منظمة مع مقدمي الرعاية الصحية والخبراء. إضافة إلى ذلك، تم اجراء مقابلات مع 40 امرأة مصابة بسرطان الثدي وأهاليهم، حيث كانت النساء تتلقى الخدمات في مستشفى أوغستا فيكتوريا في القدس، ومستشفى بيت جالا الحكومي في بيت لحم، والمستشفى الوطني ومستشفى النجاح في نابلس. وجاءت النساء من مواقع مختلفة في الضفة الغربية وقطاع غزة، بما في ذلك القرى والمدن ومخيمات اللاجئين، من محافظات بيت لحم والخليل ورام الله وطولكرم ونابلس وجنين وقلقيلية وخان يونس وغزة.

النتائج الرئيسية

خلصت الدراسة الى وجود مجموعة متنوعة من البيئات التنظيمية لرعاية سرطان الثدي في فلسطين، حيث يتم تقديم الرعاية الصحية للنساء من قبل المؤسسات الحكومية والأهلية والقطاع الخاص. وعلى الرغم من وجود مستويات مختلفة من الاتصال والاستمرارية والجودة، فإن العديد من عناصر وخدمات الكشف عن سرطان الثدي والخدمات التأكيدية والعلاجية متوفرة في فلسطين.

ركزت وزارة الصحة طوال السنوات السبع الماضية على تعزيز الخدمات المقدمة للنساء والمرتبطة بسرطان الثدي، لا سيما تشجيع الكشف المبكر عنه. فمنذ عام 2008، تم توفير خدمة فحص الثدي بالأشعة (الماموجرام) مجاناً للنساء. والتي تم تعميمها الأن في جميع مناطق الضفة الغربية وقطاع غزة. علاوة على ذلك، وبالتعاون مع التعاون الإيطالي وصندوق الأمم المتحدة للسكان، تخطط وزارة الصحة لإنشاء نماذج لمراكز خدمات شاملة لرعاية النساء اللواتي يعانيين من سرطان الثدي والتي من شأنها معالجة بعض الحواجز التي تعيق النساء من الوصول والحصول على الرعاية المثلى. واعترافاً بالفحص والتشخيص والعلاج كمكونات رئيسية لعلاج سرطان الثدي، سيتم إنشاء المركز الأول في رام الله، كمرجع للنساء في وسط الضفة الغربية. كما سيتم إنشاء مركزين آخرين في جنوب وشمال الضفة الغربية. ومن المقرر أن يشمل كل مركز التصوير الثدي بالأشعة، أخذ خزعات للخلايا بالإبرة الرفيعة وعينات قطعية بالإبرة العريضة وفحوصات التصوير من خلال الموجات فوق الصوتية، بالاضافة الى تدريب الأطباء والجراحين وأخصائيي الأشعة. ومن المتوقع أن يتم متابعة كل حالة لسرطان الثدي ابتداء من مرحلة الرعاية الصحية الأولية إلى الثانوية وحتى العلاج في المستشفيات. سيتم اعتماد نهج متعدد التخصصات للعلاج، وتحسين التواصل بين مسارات الإحالة المختلفة حيث يعتبر هذا برنامج طويل الأمد و تود وزارة الصحة تطويره وتقويته وتكراره في قطاع غزة أيضاً.

من حيث توفر الخدمات الحالية، يتم تقديم خدمات تصوير الثدي بالأشعة مجاناً في القطاع الحكومي وهو متوفر في مختلف محافظات الضفة الغربية وقطاع غزة. علاوة على ذلك، تقدم هذه الخدمة بأسعار مقبولة داخل المؤسسات الأهلية والقطاع الخاص. ومع ذلك، يبدو أن الفحوصات المتوفرة في القطاع

الحكومي في الضفة الغربية للتأكد من وجود المرض محدودة، حيث تقدم الفحوصات بالموجات فوق الصوتية في خمس محافظات فقط (رام الله ونابلس والخليل وجنين وسلفيت)، كما أن فحوصات الخزعات بالإبرة الرفيعة متوفرة في رام الله وبيت لحم فقط، بينما تتوفر الفحوصات بالرنين المغناطيس في رام الله والخليل فقط. وتتوفر فحوصات الخزعةبالإبرة العريضة في بيت لحم فقط، وفحوصات الأنسجة المخبرية تقدم في بيت لحم ونابلس. وبالإضافة إلى ذلك، فإن العلاج الجراحي (استئصال الثدي أو الورم) داخل القطاع الحكومي في الضفة الغربية متاح في بيت لحم والخليل ونابلس وطولكرم.

بشكل عام، تعتبر التغطية الجغرافية لهذه الخدمات في القطاع الحكومي أفضل في قطاع غزة من الضفة الغربية.مما يؤدي الى حدوث تأخيرات في حصول النساء على مواعيد أو نتائج الفحوصات، أو تكبد تكاليفاً وجهوداً إضافية للسفر للحصول على هذه الخدمات.

جدول رقم 1: عدد المؤسسات التي تقدم خدمات رعاية سرطان الثدي، موزعة حسب القطاع والمنطقة الجغرافية

عدد المراكز التي تقدم خدمات لرعاية سرطان الثدي	القطاع الحكومي		القطاع الأهلي		القطاع الخاص		الوكالة		المجموع
	الضفة الغربية	قطاع غزة	الضفة الغربية	قطاع غزة	الضفة الغربية	قطاع غزة	الضفة الغربية	قطاع غزة	
فحص الثدي بالأشعة	14	5	4	8	5	7	0	0	39
فحوصات الثدي بالأشعة فوق الصوتية	5	7	7	9	25	7	0	1	61
فحوصات الثدي بالرنين المغناطيسي	2	2	1	5	2	2	0	0	14
فحوصات الخزعة بالإبرة الرفيعة	2	4	3	6	13	9	0	0	27
فحوصات الخزعة بالإبرة العريضة	1	4	2	7	9	6	0	0	29
فحوصات الأنسجة	2	4	3	4	9	7	0	0	29
علاج جراحي للثدي	5	6	4	4	3	1	0	0	23
العلاج الكيميائي للسرطان	4	2	2	0	0	0	0	0	8
علاج السرطان بالأشعة	0	0	1	0	0	0	0	0	1

وأشارت النساء اللواتي تم مقابلتهن بأنهن بالغالب يتجهن إلى المؤسسات الأهلية والقطاع الخاص للحصول على خدمات تشخيصية وتأكيد للمرض وخدمات الجراحة، الأمر الذي يمكن أن يعرقل الاستخدام ويؤثر سلباً على الحالة الاقتصادية للنساء، نظراً لارتفاع تكلفة هذه الخدمات في المؤسسات الأهلية والقطاع الخاص.

في الواقع، فإن حركة النساء في مسار رعاية سرطان الثدي، وخاصة للفحص والتأكيد والجراحة داخل القطاع الخاص اكبر من القطاع الحكومي والذي يبدو أنه يشجع العلاج الجراحي بشكل كبير، وخصوصاً استئصال الثدي، كالأسلوب الأكثر استخداماً في علاج سرطان الثدي. والأمر الرئيسي الآخر الذي يشغل بال صناع السياسات هو ما إذا كانت هذه العمليات الجراحية تتم بطريقة سليمة تلتزم ببروتوكولات الأورام. لم تفحص الدراسة هذا الجانب، لكن كشفت المقابلات أن النهج المتعدد التخصصات في علاج سرطان الثدي غالباً ما يكون مفتقراً أيضاً في القطاع الحكومي، ولا تزال قنوات الاتصال لإحالة الحالات بين مختلف مقدمي الرعاية الصحية ضعيفة، مما يعني ضعف متابعة النساء بعد العلاج. ومما يحد من هذه العملية أيضاً محدودية عدد مختصي الأورام العاملين في القطاع الحكومي وارتفاع عبء العمل عليهم حيث يتابع كل مختص حوالي 70 - 80 حالة يومياً.

كشفت الدراسة أيضاً تجزؤ النظام الصحي والمسارات المعقدة التي يجب على النساء المصابات بسرطان الثدي أن تمر من خلالها. ويشكل ذلك عائقاً رئيسياً أمام تلقي رعاية سرطان الثدي في الوقت المناسب وبجودة عالية. فعلى الرغم من توفر الخدمات من قبل مختلف مقدمي الخدمات، فإن عدم وجود صلات ممأسسة بينهم، وبين مختلف المرافق، يزيد ذلك من تحديات تلقي النساء لرعاية سرطان الثدي المعقدة أصلاً، والتي تشمل العلاج والدعم وتقديم الخدمات من مختلف مقدمي الخدمات. ويمكن أن تؤدي الخدمات المتكاملة والمتواجدة في الموقع إلى تحسين توقيت الرعاية وإتمامها بشكل عالي الجودة.

كشفت الدراسة عن عدم الاستفادة الكاملة من جميع الخدمات المقدمة عبر القطاعات المختلفة، مما يشير إلى أن النظام الصحي الفلسطيني الحالي قادر على توفير خدمات الفحص المبكر وفحوصات تأكيد المرض لعدد أكبر من النساء اللواتي لا يستخدمن هذه الخدمات المتوفرة، مما يدل على فرصة ضائعة.

ومن المسائل الأخرى التي أثيرت خلال هذا البحث هو استخدام فحوصات عينات الإبرة الدقيقة في فلسطين كخدمة مؤكدة لسرطان الثدي. أشار بعض الخبراء الفلسطينيين إلى أن الأدبيات الدولية تتساءل عن دقة هذا الفحص للكشف عن سرطان الثدي. وبالتالي، على صانعي السياسات الفلسطينين أن يفكروا أيضاً فيما اذا كان فحص الإبرة الدقيقة في فلسطين هو إجراء يجب الترويج له أم لا.

يلعب اختيار النساء ومعرفتهم وموقفهم بشأن سرطان الثدي والخدمات المتوفرة دوراً رئيسياً آخر في كيفية تنقلهن ضمن المسارات المختلفة. وغالباً ما تفضل النساء الرجوع إلى القطاع الخاص، كما أعربن في المقابلات، بسبب توفر الخصوصية والسرية حول حالتهن، فضلا عن سرعة الحصول على نتائجهن ومعالجة حالتهن. وبالنظر إلى توفر العلاج الكيميائي إلى حد كبير داخل القطاع الحكومي، وعدم توفره في القطاع الخاص أو الأهلي (باستثناء مستشفى النجاح ومستشفى أوغستا فيكتوريا)، فإن النساء في هذه المرحلة يتجهن إلى أخصائيي الأورام الحكوميين. وبحلول ذلك الوقت، فإن معظم حالات سرطان الثدي التي تصل إلى المستشفيات الحكومية تكون في مراحل متأخرة.

أظهرت الدراسات السابقة ونتائج المقابلات التي أجريت ضمن هذه الدراسة بأن العديد من النساء لا يعرفن كيفية إجراء الفحص الذاتي للثدي، ولم يكن على دراية بضرورة إجراءه من خلال الأشعة، ولم يخضعن لأي فحص، ولم يعرفن عن توفر مثل هذه الخدمات، أو حتى الخدمات التأكيدية (الفحوصات) والعلاجية. وتميل النساء أيضاً إلى تأخير زيارة الطبيب بعد الاكتشاف الذاتي للأعراض الأولى. ومن بين الأسباب الرئيسية للتأخر في التماس خدمات الكشف المبكر ومعالجة سرطان الثدي نقص المعرفة والخوف والوصمة الاجتماعية. كما أن تصور المجتمع حول المرض يلعب دوراً رئيسياً في التأثير على تصرف النساء عند اكتشاف إصابتهن بسرطان الثدي.

وأخيراً، فإن عرقلة وصول مرضى قطاع غزة للعلاج في الضفة الغربية أو القدس، وحرمان السلطات الإسرائيلية من التصاريح أو تأخيرها، لا يزال يشكل التحدي الأكبر بالنسبة للنساء الغزيات المصابات بسرطان الثدي. ويتأخر علاجهن لعدة أشهر أو توقفه في عدة مناسبات لعدم القدرة على الحصول على تصاريح. وهذا يؤثر على النتائج الصحية للمرأة. وعلى الرغم من الجهود التي تبذلها وزارة الصحة والمنظمات الاهلية لتسهيل عملية معالجة النساء من غزة، من خلال توفير أماكن إقامة مجانية للمرضى والمرافقين أثناء تلقي العلاج في مستشفى النجاح في نابلس ومستشفى أوغستا فيكتوريا في القدس، يواجه هؤلاء المرضى والمرافقون تحديات كبيرة لها تشعبات خطيرة على اسرهم ولا يتم معالجتها في الوقت الحاضر.

التوصيات: ما هي المجالات ذات الأولوية لتعزيز نظام الرعاية المتكامل؟

حددت الدراسة خمسة مجالات ذات أولوية ينبغي على صانعي السياسات ومقدمي الخدمات أخذها بعين الاعتبار من أجل تعزيز تقديم خدمات كشف مبكر ورعاية تتعلق بسرطان الثدي ذات نوعية عالية للنساء في فلسطين.

مجال الأولوية 1: وضع استراتيجية مشتركة لرعاية سرطان الثدي بين جميع مقدمي الرعاية الصحية. بما في ذلك تطوير ورفع كفاءة البنية التحتية والتجهيزات لخدمات الكشف المبكر، التاكيد والعلاج وما بعد العلاج.

مجال الأولوية 2: تعزيز واسع النطاق للتوعية حول سرطان الثدي من خلال الترويج المستهدف لفحص الثدي الذاتي، وبرامج الفحص الانتقائي والفعال، ومعالجة الوصمة الاجتماعية، وسوء الفهم والمعتقدات المغلوطة السائدة.

مجال الأولوية 3: تعزيز التنسيق بين الرعاية وشبكات التحويل ومساراته بما يخدم نجاعة وسهولة انتقال السيدات بين المستويات االمختلفة للخدمة.

مجال الأولوية رقم 4: تعزيز إنتاج المعارف وتشاركها بشأن وبائيات سرطان الثدي بما في ذلك تفعيل العمل بالراصد الوطني للسرطان.

مجال الأولوية 5: تعزيز الدعم النفسي وتلبية الاحتياجات غير الملباه للنساءالمصابات والمتعايشات مع سرطان الثدي وأسرهن.

EXECUTIVE SUMMARY

Throughout the last seventeen years, Palestinians have been experiencing a remarkable increase in cancer cases that doubled from 1,073 cases in 2000 to reach 2536 cases in 2016 in the West Bank alone. The year 2016 witnessed an increase of 5.8% in cancer cases in comparison with 2015, and cancer was the second leading cause of mortality as 14% of mortality cases were caused by cancer, after cardiovascular diseases (30.6%). Worldwide, breast cancer kills a woman every 15 minutes. In Palestine, breast cancer affecting Palestinian women represents 15% of cancer cases.

Purpose of the Analytical Mapping

As a collaborative research jointly undertaken by the Ministry of Health (MoH), the United Nations Population Fund (UNFPA) and the Palestinian Medical Relief Society (PMRS), the analytical mapping aspires to provide a comprehensive understanding of the system's function and flow for women in need for breast cancer detection, treatment and post-treatment services

Methodology of the Analytical Mapping

The methodology used in this research entailed undertaking a survey conducted by MoH that mapped available breast cancer detection, treatment and post-treatment care services in the West Bank and the Gaza Strip, and that included 98 service providers (34 in the Gaza Strip and 64 in the West Bank). The survey was complimented with 32 semi-structured interviews with health care providers and experts, as well as 40 women with breast cancer and their family members that were receiving services at August Victoria Hospital in Jerusalem, Beit Jala Governmental Hospital in Bethlehem, as well as in Al-Watani Nablus Hospital and An-Najah Hospital in Nablus. Women came from different locations in the West Bank and the Gaza Strip, including villages, cities and refugee camps, covering the districts of Bethlehem, Hebron, Ramallah, Tulkarem, Nablus, Jenin, Qalqiliya, Khan Younis and Gaza mainly.

Key findings of the Analytical Mapping

The Analytical Mapping have revealed a diversity of organizational settings for breast cancer care in Palestine, as health care is provided to women by governmental, NGO and private sector organizations. While at different levels of connectivity, continuity and quality, many elements of breast cancer detection, confirmation and treatment services are available in Palestine.

Throughout the last seven years, the MoH has been focusing on enhancing services for women with breast cancer, particularly encouraging the early detection of breast cancer as free mammogram screening for women was introduced in 2008 and is now covered in all districts in the West Bank and the Gaza Strip. Furthermore, in cooperation with the Italian Cooperation and UNFPA, MoH is planning to establish models for a one-stop center for breast cancer care that will address some of the barriers that hinder women from accessing and

receiving quality care. Recognizing screening, diagnosis, and treatment as key components of breast cancer treatment, the first center will be established in Ramallah, as a reference for women within the center of the West Bank. Another two centers will be established in the south and the North of the West Bank. It is planned that each center will include mammography, fine needle aspiration, tru cut biopsy and ultrasound services. General practitioners, surgeons and radiology specialists will be also trained. It is expected that the case will be followed up from the primary to secondary to tertiary care, a multidisciplinary approach to treatment will be adopted, and communication between the different referral pathways enhanced. This is a long-term program that the MoH would like to develop, strengthen and duplicate in the Gaza Strip as well.

In terms of availability of services, mammography, as a screening procedure, is provided free of charge at the governmental sector and is available within the different governorates of the West Bank and the Gaza Strip. Furthermore, mammography services are provided at acceptable prices within the NGO and private sector. However, confirmatory services within the governmental sector in the West Bank seems to be limited as ultrasound services are provided in five districts (Ramallah, Nablus, Hebron, Jenin and Salfit governorates), fine needle aspiration is only available in Ramallah and Bethlehem, MRI is covered in Ramallah and Hebron, tru cut biopsy services are found in Bethlehem only, and histopathology services in Bethlehem and Nablus. In addition, surgical treatment (mastectomy, lumpectomy) within the government sector in the West Bank is available in Bethlehem, Hebron, Nablus and Tulkarem. Geographical coverage of these services in the governmental sector is generally better in the Gaza Strip. Overall, this situation entails that women have to experience delays in getting appointments, or results of their tests, or incur additional costs and effort to travel to access these services.

Table 1: Number of organizations providing the different breast cancer care services, distributed by sector

Number of facilities providing breast cancer care service	Governmental		NGO		Private		UNRWA		Total
	West Bank	Gaza	West Bank	Gaza	West Bank	Gaza	West Bank	Gaza	
Mammography	14	5	4	8	5	7	0	0	39
Breast ultrasound	5	7	7	9	25	7	0	1	61
MRI	2	2	1	5	2	2	0	0	14
TCB	1	4	2	7	9	6	0	0	29
Histopathology	2	4	3	4	9	7	0	0	29
Breast surgical treatment	5	6	4	4	3	1	0	0	23
Chemotherapy	4	2	2	0	0	0	0	0	8
Radiotherapy	0	0	1	0	0	0	0	0	1

Interviews with women revealed that often they refer to the NGO and private sector to access confirmatory services and surgery, which could hinder utilization and negatively impact economic condition of women,

given that the cost of these services is much higher in the NGO and private sector. In fact, the movement of women within the pathway for breast cancer care, and particularly for screening, confirmation and surgery, is largely within the private sector, which seems to encourage massive surgical treatment, mostly mastectomy, as the most utilized mode of breast cancer treatment. Another key concern for policy makers is whether these surgeries are done in the proper manner following the oncology protocols. The Analytical Mapping didn't examine this aspect, but interviews revealed that often the multidisciplinary approach in the treatment of breast cancer is lacking also in the governmental sector, and communication channels for referral of cases between the different health care providers is still weak, which also implies weak follow up of women after treatment. The limited number of oncologist working at the governmental sector and their high overload of cases (70-80 cases per day) limits as well this process.

In fact, the Analytical Mapping have uncovered also a fragmentation of the health system and complex pathways that women with breast cancer care have to pass through during the various continuum of care phases. This constitutes a key barrier to the receipt of timely and high quality breast cancer care. Despite the availability of services across all sectors, the lack of connections between providers, and facilities add to the challenges of receiving breast cancer care that is already complex, involving treatment and support from multiple providers and services. Services that are integrated and co-located can lead to improved timeliness and completion of care.

At another level, the Analytical Mapping has revealed an underutilization of all services across sectors, which indicates that the current Palestinian health system is able to provide screening and confirmatory services to a larger number of women, who are not currently "outreached" by the system, indicating a lost opportunity. Another issue which was raised during this research was the use of fine needle aspiration in Palestine as a confirmatory service for breast cancer. Some Palestinian experts indicated that international literature questions the validity of fine needle aspiration to detect accurately breast cancer. Hence, policy makers need to reflect if in Palestine fine needle aspiration is a procedure to be promoted for or not.

Women's choice, knowledge and attitude about the diseases and existing services all play another key role in how women navigate through the different pathways. Women often choose to refer to the private sector, preferring, as they have expressed in interviews, the better privacy and confidentiality of their cases, as well as prompt time of feedback of their results and treatment of their case. And given the availability of chemotherapy is largely available within the governmental sector, being not provided at the private or the NGO sector (at the exception of An-Najah Hospital and Augusta Victoria Hospital), women at this stage defer to governmental oncologists. By then, most cases will have developed late stages of breast cancer.

Previous studies and results of interviews undertaken within this Analytical Mapping revealed that many women didn't know how to perform breast self-examination, they were unaware of the need to undergo a mammogram screening, didn't undergo any screening, and didn't know about the availability of such services, or even confirmatory and treatment services. Women also tend to delay visiting a doctor after self-discovery of first symptoms. Lack of knowledge, fear and social's stigma are among the main reasons for the delay in seeking early detection services and treatment of breast cancer. Also, the society's perception about the

disease plays a major role in influencing how women behave when discovering they have breast cancer.

Finally, access of Gaza patients to get treatment in the West Bank or Jerusalem and denial or delays of permits to patients and their companions by the Israeli authorities still remain the greatest challenge for Gazian women with breast cancer. Treatment is delayed for several months, and interrupted on several occasions due to inability to obtain permits. This affects the health outcomes on women. Also, despite the efforts of the MoH and NGOs to facilitate the process of treatment for women from Gaza, by providing free accommodation for patients and companions in Jerusalem and Nablus while getting their treatment at An-Najah Hospital and Augusta Victoria Hospital, many other socio-economic challenges are encountered by these patients and companions that are currently not being addressed but have serious ramification on their families.

Recommendations: What are the priority areas for enhancing pathways for survival?

The Analytical Mapping identified six priority areas that policy makers and service providers should consider to enhance the delivery of quality breast cancer care services for women.

- **Priority Area 1:** Developing a common breast cancer care strategy amongst all health care providers
- **Priority Area 2:** Enhance extensive promotion of breast awareness through targeted promotion of self-breast exam, selective and effective screening programs, and addressing stigma, misconception and myths.
- **Priority Area 3:** Enhancing coordination of care, referral networks and women navigation pathways and experiences.
- **Priority Area 4:** Enhancing knowledge production and sharing about the epidemiology of breast cancer and women's experiences.
- **Priority Area 5:** Strengthening psychological support to women and their families, as well as responding to unmet needs of women with breast cancer and their families.

1. INTRODUCTION

1.1. Importance and objectives of the analytical mapping

Breast cancer is the most common cancer occurring in Palestinian women and the third most common cause of cancer death in 2016, and leading to the death of 1072 Palestinian women and men and representing 10% of the total number of deaths in Palestine. Although figures about the survival rates were reported in 2011, the same trend is still valid and is estimated as low as 40% . Projecting this survivability rate into the number of women dying in 2016 due to breast cancer, it can be concluded that 643 of cases (60%) have actually died prematurely and could have been saved if effective screening, early detection and referral pathway was put in place.

BREAST CANCER DEATHS IN 2016



OUT OF THE 1072 BREAST CANCER DEATHS IN 2016, 643 HAVE DIED PREMATURELY AND COULD HAVE BEEN PREVENTED

Because breast cancer cases have been increasing over the last ten years, bringing with it significant burden on women and a severe impact on morbidity, mortality and the quality of life for women and their families, it is crucial to address this disease as a critical health issue for women in Palestine. Within this perspective, the Palestinian Ministry of Health (MoH) supported conducting a full mapping of existing services in the West Bank and the Gaza Strip for breast cancer survivors. As a collaborative research jointly undertaken by the MoH, the United Nations Population Fund (UNFPA), and the Palestinian Medical Relief Society (PMRS), the analytical mapping aspires to provide a comprehensive understanding of the system's function and flow for women in need for breast cancer detection, treatment and post-treatment services. More specifically, the mapping aims to:

- Provide an overview of existing services in terms of coverage, distribution and cost provided to women suffering from breast cancer;
- Highlight general challenges encountered by women along the pathway from detection to post-treatment care;
- Offer key recommendations for system improvement of existing services.

With recognition to the significant contribution of different health service providers and emphasizing that the Palestinian Ministry of Health has the leading role and responsibility in healthcare provision in the country, it is important to highlight that within the thematic area of breast cancer detection and treatment, Non-Governmental Organizations (NGOs), as well as the private sector play an important role that needs to be synergic and complementary to that of the government. This reality has been the reason why the current mapping exercise examined the availability of breast cancer services in the West Bank and the Gaza Strip within these three sectors (governmental, NGO and the private sector).

In addition to its value for policy and program development towards achieving higher coverage, complementarity and quality of services leading to early detection and higher survival rates, this mapping offers clear information for users on services, locations, time and cost of services within West Bank and Gaza. Hence, it is expected to provide easier access to these services for women and their families when needed or requested. The analytical mapping aspires to provide an in-depth and multi-stakeholder view of the status of breast cancer care services provided for women in Palestine, and the corresponding vision to enhance women's access to such services.

Finally the study and the analytical mapping described within this report do not constitute an evaluation of existing services and interventions, neither has it generated an exhaustive list of all existing interventions in breast cancer care.

1.2. Conceptual framework and methodology

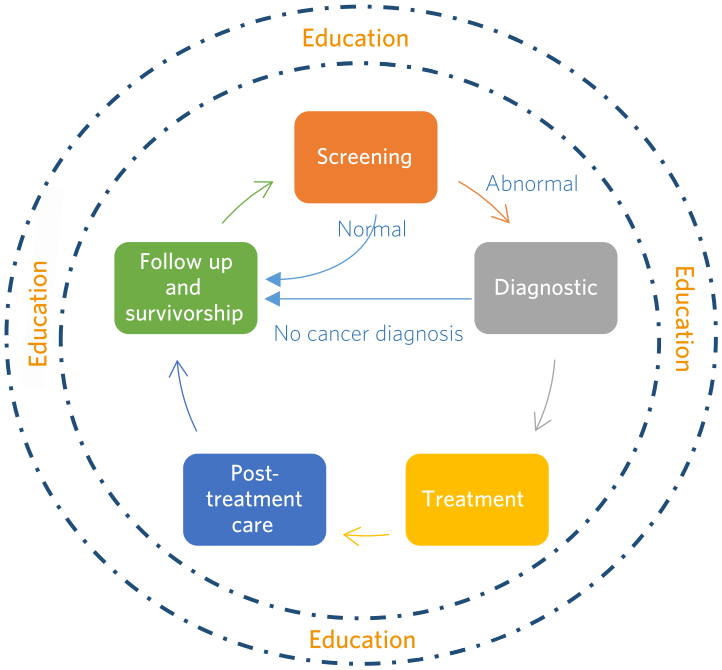
The conceptual framework of the mapping study was developed based on the breast cancer continuum of care model (see Figure 1), which demonstrates how a woman or man typically navigates through the health care system for breast cancer- related care.

Typically, a woman enters into the continuum of care cycle by getting screened for breast cancer through a clinical breast exam and/or a screening mammogram. In case of normal screen test results, she would loop back into follow-up care to get another screening exam at the recommended interval. On the other hand, in case of abnormal screening test results, the woman is referred to further diagnostic confirmation services that could include MRI, ultrasound, Fine Needle Aspiration, Tru Cut Biopsy, and histopathology. If confirmed with breast cancer, then treatment process would start if needed (surgical (mastectomy, lumpectomy) and/or chemotherapy). Post-treatment care could include physiotherapy and psychological support.

Education about breast cancer is perceived as an overarching component, included at the peripheral level of the continuum of care. Awareness and practice of self-breast exam forms the basis for health promotion activities at the community level. While health promotion and education on breast cancer form an essential and central function within the continuum of care, it was not explored within this mapping and further research might be needed to cover this area.

The domains of mapping of the aforementioned services focused on the availability and functionality of medical technology and staff to operate respective service. Operational capacity (theoretical capacity (perceived by operator) versus actual daily number of tests provided, monthly number of patients, etc.) was explored to examine the extent to which services are being utilized and to which extent existing infrastructure can cover the ultimate demand. The study also explored the availability of qualified medical staff (nurses, technicians, doctors, etc.), cost of services, feedback time required to provide results to women, referral destination point for further services if needed, and follow up procedures. These factors form both an access and quality aspect that the study tried to explore.

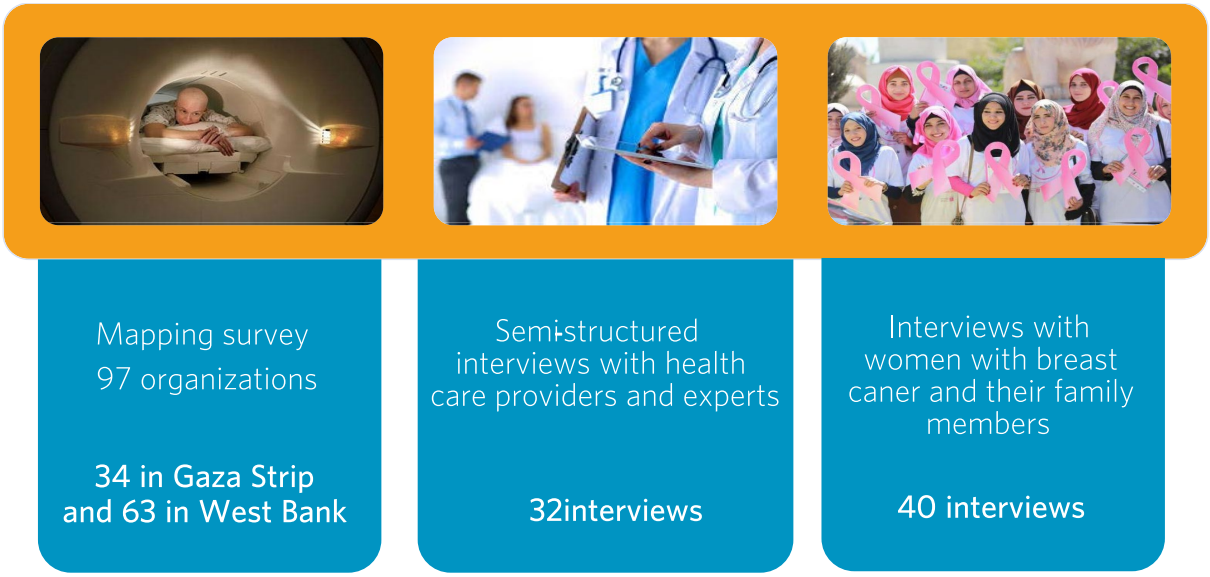
Figure 1: Breast cancer continuum of care cycle



To emphasize the importance of complementarity among the three main sectors providing breast cancer-related services, the study examined services present at the governmental, non-governmental and private sectors.

Within this conceptual framework, a multi-phase approach was used to conduct the mapping utilizing four mixed data collection and analysis methods (see Figure 2). A survey to map available breast cancer detection, treatment and post-treatment care services in the West Bank and the Gaza Strip was conducted by MoH. A total of 98 service providers were mapped (see Figure 3), to include 34 in the Gaza Strip and 64 in the West Bank (see Annex 2).

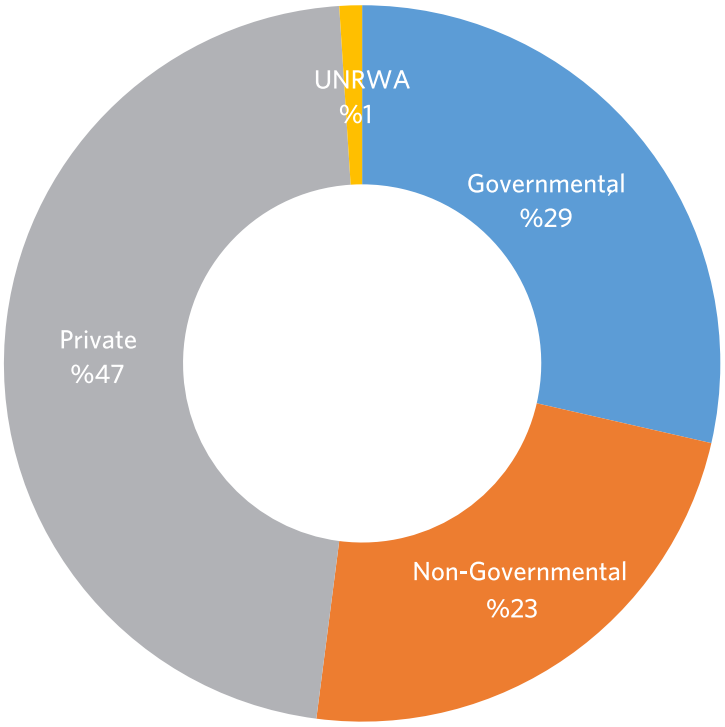
Figure 2: Key data collection and analysis methods employed in the analytical mapping



Particular attention was given to assessing the functionality of medical technology ad machines available per service, operational capacities, availability of medical staff, cost of services, feedback time required to provide results to women, referral destination point for further services if needed, and follow up procedures.

The survey tool was transformed into electronic files and data collectors from the MoH were provided with tablets to enable the Global Positioning System (GPS)-based location of services. Three researchers were deployed in the West Bank and one researcher in the Gaza Strip. A special training on data collection was provided by UNFPA and United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in the occupied Palestinian territory (oPt). Data collection for services in the Gaza Strip was conducted throughout February – April 2017, and from April-September 2017 in the West Bank. All service delivery points were visited and data entered into GPS via tablets at the location of service. All providers were included and all the Gaza Strip and West Bank governorates were covered by field work.

Figure 3: Service providers mapped by type of organization



The survey was complimented with semi-structured interviews with health care providers, experts, women with breast cancer and their family members. A total of 32 interviews were conducted with experts and health care providers covering the governmental, non-governmental and private sector (see Annex 1). These interviews aimed at assessing key challenges faced in providing services to women with breast cancer and recommendations for improvement.

On the other hand, a total of 40 interviews were conducted with women with breast cancer and their family members that were receiving services at August Victoria Hospital in Jerusalem, Beit Jala Governmental

Hospital in Bethlehem, as well as in Al-Watani Nablus Hospital and An-Najah Hospital in Nablus (see Table 2). Women came from different locations in the West Bank and the Gaza Strip, including villages, cities and refugee camps, covering the districts of Bethlehem, Hebron, Ramallah, Tulkarem, Nablus, Jenin, Qalqiliya, Khan Younis and Gaza mainly. Interviews with women aimed at identifying the socio-economic challenges they faced when accessing services, their perception of services received and their unmet needs, as well as the impact of the illness on their families and social dynamics.

Table 2: Women with breast cancer and their family members interviewed

Hospital	Governorate	# of people interviewed	Women's place of residence (governorate level)
Augusta Victoria Hospital	Jerusalem	12	Khan Younis, Gaza, Jenin, Bethlehem and Hebron
Beit Jala National Governmental Hospital	Beit Jala	9	Hebron and Bethlehem
An-Najah Hospital	Nablus	11	Ramallah, Salfit, Qalqiliya, Gaza
Al-Watani Nablus Hospital	Nablus	8	Jenin, Tulkarem, Nablus, Qalqiliya, Salfit

As a way of complementing the findings of the survey and interviews, as well as to triangulate the information obtained, a desk review of secondary sources was undertaken. This included the review of relevant studies and reports relating to breast cancer in Palestine and evaluations of national programs.

It is important to note here that there were some field work limitation in covering all actors and facilities providing breast care services. Furthermore, because data collection in the Gaza Strip ended in April 2017, some new services could have been established after the data collection period, and hence excluded from this mapping. Even if the results of this analytical mapping do not cover all available services, the high response rate can be considered as highly satisfactory and can, consequently, draw a reliable picture and demonstrate key trends of the current situation in terms of the organization of breast cancer care amongst the different health care providers. In fact, the current mapped data provide strong evidence and a spotlight about availability, continuity, cost and general overview of existing services.

2. BACKGROUND

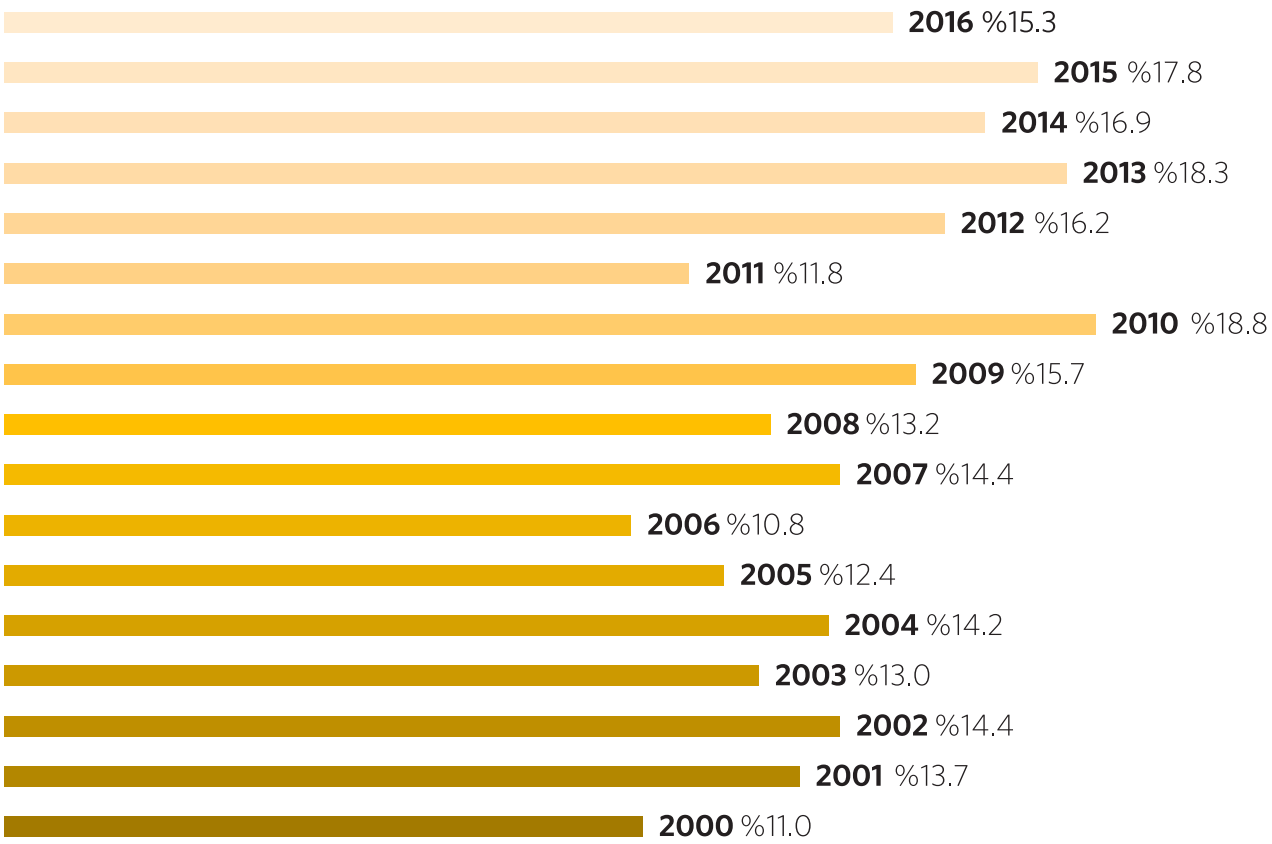
Epidemiology of breast cancer in Palestine

Throughout the last seventeen years, Palestinians have been experiencing a remarkable increase in cancer cases that doubled from 1,073 cases in 2000 to reach 2536 cases in 2016 in the West Bank alone. The year 2016 witnessed an increase of 5.8% in cancer cases in comparison with 2015, and cancer was the second leading cause of mortality as 14% of mortality cases were caused by cancer, after cardiovascular diseases (30.6%). Worldwide, breast cancer kills a woman every 15 minutes. In Palestine, breast cancer affecting Palestinian women represents 15% of cancer cases.

Increasing number of reported breast cancer cases over the last seventeen years

While cancer cases were almost evenly distributed between males and females, breast cancer ranked first in occurrence (15.3%) among all types of cancer cases with 388 cases reported in 2016, out of which three cases only were reported among males. Throughout 2000-2016, there has been a noticeable increase in the number of breast cancer cases reported in the West Bank (see Figure 4).

Figure 4: Percentage of breast cancer reported cases during 2000 – 2016 in the West Bank, Palestine



Among cancers affecting women in Palestine, breast cancer again ranked first in the West Bank comprising 29% of women cancers. In the Gaza Strip and throughout 2011-2015, breast cancer was also the most common type of cancer reported among women and men (20%), and the first type of female cancers (35%).[1] Mortality due to cancer in the Gaza Strip also witnessed an increase from 10.3% in 2007 to 14.2% in 2014. Breast cancer was the third leading cause of cancer mortality in 2015 at 11.2%, after lung cancer (17.5%) and colon cancer (12.4%).

Most breast cancer cases occur in women after the age of 45

The overall incidence of breast cancer is 13.2/100.000, given that for males it is approximately 1/100th that of the rate in females. The age-dependence differs also, in that breast cancer occurs at older ages in males, with two out of three cases reported in 2016 in men occurring after the age of 65 years. However, of all cancers diagnosed among women, more than 69% is breast cancer after the age of 45, 23% between the age of 35 and 44, and 6% between the age of 25 and 34 (see Table 3).

Table 3: Reported breast cancer cases, aggregated by sex and age group, West Bank, Palestine (2016)

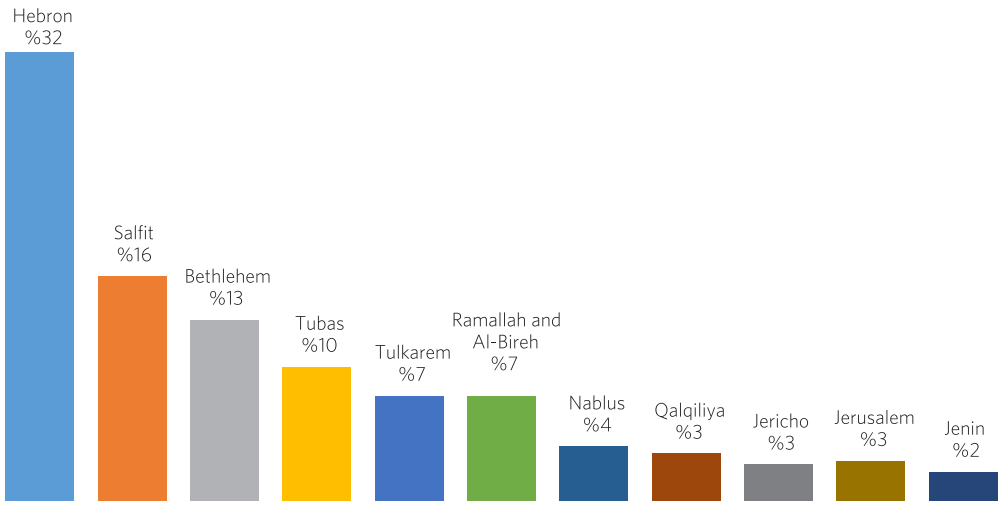
Age group	Males		Females	
	# of cases	% among males	# of cases	% among female
18 - 24	0	0%	7	2%
25 - 34	0	0%	24	6%
35 - 44	1	33%	89	23%
45 - 54	0	0%	93	24%
55 - 64	0	0%	77	20%
65+	2	67%	95	25%
Total	**3**	**1%**	**385**	**100%**

Hebron has the highest incidents of reported breast cancer cases

It seems that the southern governorates of the West Bank are amongst the governorates with the highest occurrence of reported breast cancer, as 32% of cases were reported in Hebron, and 13% in Bethlehem governorate. Salfit governorate had the second highest incidence of reported breast cancer cases (16%). Furthermore, the governorates of Nablus, Qalqiliya, Jericho, Jerusalem and Jenin had the lowest occurrence of breast cancer cases (see Figure 5).

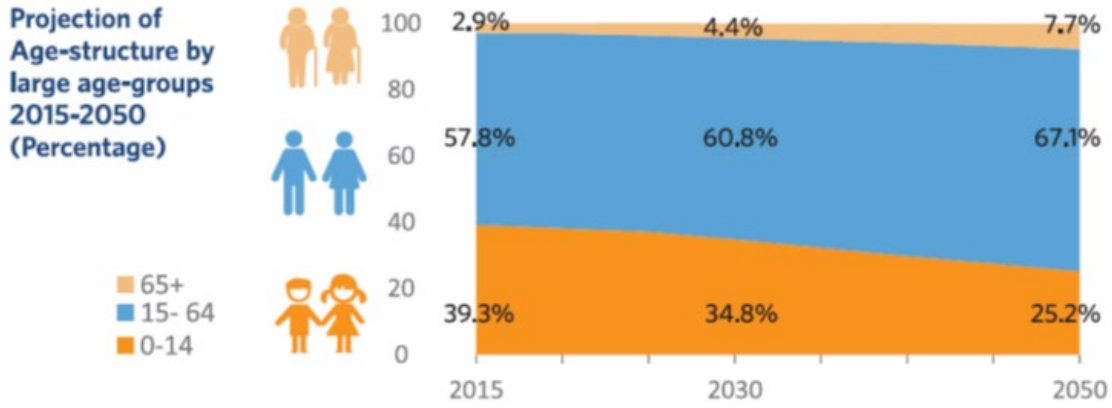
1 Ministry of Health, Cancer Report in the Gaza Strip (2011-2015), 2017.

Figure 5: Percentage of breast cancer reported cases by governorate, West Bank, Palestine



Demographic changes in Palestine will possibly create an epidemiological transition, as according to the demographic projection, the population is expected to double within 35 years, from 4.75 million in 2015 to 6.9 million in 2030 and more than 9.5 million in 2050; which means that Gaza Strip has to accommodate 1.3 additional Palestinians in 2030 and more than double of that number in 2050, whereas, these figures are a little higher than the West Bank.

Figure 6: Projection of age structure by large age-groups (2015-2050)[2]



This increase will take place in spite of the expected decline in fertility rate, thus, a demographic change will take place on population age structure, where there will be a significant decrease in the percentage of youngsters (0-14 years) declining from 39% in 2016, to 35% in 2030 and 25% in 2050. On the other hand, there will be doubling in the percentages of elderly, increasing from 2.9% to 4.4% in 2030 and 7.7% in 2050 (see Figure 6).[3] These trends will also imply that the number of women aged 60 and older will double by 2030, thus significantly increasing the number of cases of breast cancer.

2 Ibid, p.10.
3 State of Palestine Prime Minister Office, UNFPA, Palestine 2030: Demographic Change: Opportunities for Development, December 2016, Pp.7-10.

3. CURRENT STATUS OF BREAST CANCER SERVICES

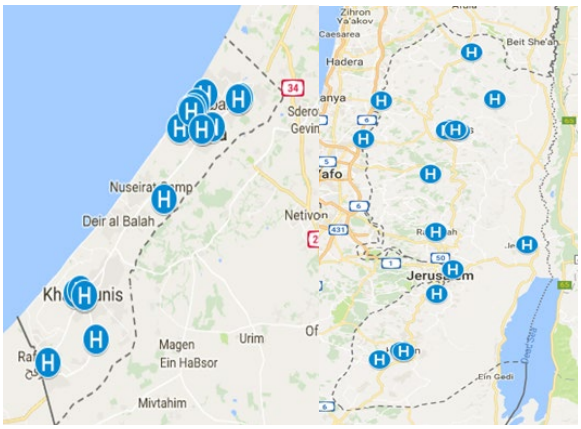
Over the last ten years, breast cancer has increasingly been a public health and policy concern, as more Palestinian women were diagnosed and died from breast cancer. To combat breast cancer and as in all cases of cancer, the MoH by the public health law ensures free of charge access to treatment, as stipulated in the Council of Ministers' Decision Number 113, of the year 2004, regarding the Governmental Health Insurance System.[4] While at different levels of connectivity, continuity and quality, many elements of breast cancer detection, confirmation and treatment services are available in Palestine. In case of unavailability of certain services within MoH facilities, breast cancer patients are referred to facilities run by non-governmental and private health care providers, based on clinical protocols for referrals and a decision made by the Oncology Referral Committee.[5] It is worth notion that the Palestinian Ministry of Health grants free of charge detection and treatment services to all affected by cancer regardless of their enrollment status in the national health insurance scheme.

3.1. Early detection services: Mammography services

In spite of the extensive efforts exerted by the Palestinian Ministry of Health and its partners in detecting and treating cancer, more than 60% of breast cancer cases get detected in the third stage of disease leaving very little room for effective treatment and long-term survival. Recent data from the Augusta Victoria Hospital – one of the main cancer treatment centers in Palestine and the only Palestinian centre in East Jerusalem- reveals that around 80% of breast cancer cases reach the hospital already at the palliative stage.

Over the past seven years, several studies confirmed these findings. The most recent study done in 2016 in Beit Jala Governmental Hospital revealed that 47% of women with breast cancer who were treated at the hospital had advanced-stage (stage 3 and 4).[6] So why are breast cancer cases detected in their late stages? Are early detection services available and accessible by women?

Map 1: Mammography distribution of services in the West Bank and the Gaza Strip



4 State of Palestine, Council Of Ministers' Decision Number 113, Year 2004, Regarding the Governmental Health Insurance System, 9 August 2004, p.41.
5 State of Palestine, Ministry Of Health, Referral Protocol 1: Oncology, pp.7-11.
6 Abdel Naser Mahmoud Badawi, Factors Associated With Delay Of Breast Cancer Diagnosis Among Palestinian Women Who Are Treated At Beit Jala Governmental Hospital, 2016, p.65.

Since 2008, the MoH started encouraging the early detection of breast cancer as free mammogram screening for women aged 40 and above and for younger women at high risk of breast cancer was introduced in 2008-2009 in 12 governorates in the West Bank. Later on in 2010, free mammogram screening for every other year was introduced for women between the age of 40-50 in the Gaza Strip and screening once a year for those over the age of 50.[7]

Currently, free mammography services are provided by the MoH in 19 governorates in the West Bank (14) and the Gaza Strip (5). These services are available at governmental hospitals and the Ministry's primary health care directorate centers. In 2016, a total of 8,412 mammograms were done in governmental facilities; out of which 73% of cases were normal (6,137 cases) and 27% had abnormal results (2,275 cases).[8] In Gaza, an additional mammogram was procured and installed at the MOH (Al-Rimal Clinic) in October 2017. It is expected that this digital mammogram will increase MOH capacity to deliver quality mammography and reduce coverage gap by more than 3,000 tests per year.



Picture from inauguration of the digital mammogram at Al -Rimal clinic, Gaza Strip

7 WHO, The Palestinian National Institute Of Public Health, Performance of Mammography Screening in the National Breast Cancer Screening Program: A Retrospective Cohort Study, March 2014, pp.5-10.
8 State of Palestine, Ministry Of Health, Primary Health Care Annual Report, 2016, p.39.

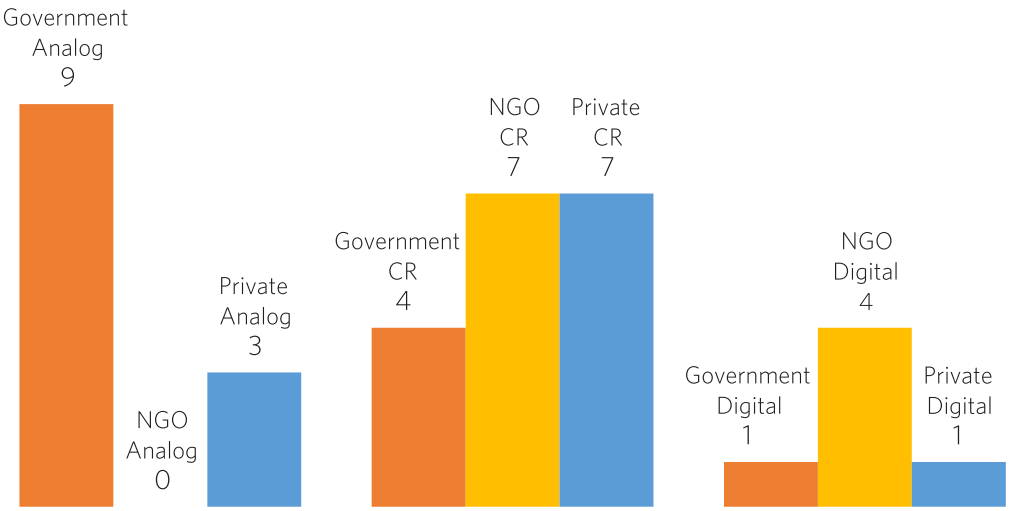
Table 4: Mammography machines and cost of service, distributed by sector

Sector	Total # of machines	West Bank			Gaza		
		Number of machines	Minimum cost (NIS)	Maximum cost (NIS)	Number of machines	Minimum cost (NIS)	Maximum cost (NIS)
Governmental	**19**	14	0	0	5	0	0
NGO	**12**	4	80	90	8	60	80
Private	**12**	5	150	160	7	60	100
Total	**43**	**19**			**20**		

In addition to the 15 available mammography machines at governmental facilities, the NGO sector operates 12 machines (4 in the West Bank and 8 in the Gaza Strip), and the private sector runs another 12 machines (4 in the West Bank and 8 in the Gaza Strip) (see Table 4). A total of 12 machines are analog (x-ray film), mostly found in governmental facilities (9), while 18 are Computed Radiology (CR) systems (4 in governmental facilities, 7 in NGOs and 7 in private facilities) and 6 are Digital Radiology (DR) machines (Digital) (see Figure 7).

The geographic distribution of mammography machines demonstrate some maldistribution, particularly in the Gaza Strip with Gaza city being a crowded place for machines and hence services, in comparison to the middle and south areas that have very few available machines. In total, 16 machines are located in Gaza city and nearby areas with some machines being 100 meters apart as shown in the map, while others are located in the southern Gaza governorate of Khan Younis and Rafah. At the exception of one machine in Bureij, the middle area obviously stands as a weak-service zone when it comes to mammography leading potentially to significant deprivation and poor utilization patterns, particularly for women livening in rural areas.

Figure 7: Type of mammography machines across sectors



In the West Bank, three out of four mammography machines located in the governorate of Hebron are available in the city of Hebron, while the remaining one is located in Dura. In fact, the majority of machines are located in big cities. It is also worth noting that governmental mammography services are widespread across the West Bank and the Gaza Strip governorates, while NGOs and the private sector focus on much or less similar districts (see Table 5), given that NGOs have outreach mobile screening programs, but with little documented information about the national geographical coverage and duration of such programs.

Table 5: Distribution of mammography machines across governorates and sectors

West Bank and the Gaza Strip areas	Governorate	Sectors		
		Government	NGOs	Private
North of the West Bank	Nablus	•	•	•
	Qalqiliya	•		
	Tulkarem	•		
	Tubas	•		
	Jenin	•		
	Salfit	•		
Middle of the West Bank	East Jerusalem		•	
	Ramallah	•	•	•
	Jericho	•		
South of the West Bank	Bethlehem	•		•
	Hebron	•	•	
North of the Gaza Strip	North Gaza	•		
	Gaza	•	•	•
Center of the Gaza Strip	Deir Al-Balah	•		
South of the Gaza Strip	Rafah	•		
	Khan Younis	•		

Coupled with dire economic situation of households, cultural barriers impeding women's ease of and prompt movement to cities, where majority of mammography services are available, as well as the limited outreach programs, maldistribution of machines could be in such a context an additional barrier to utilization of services especially for poor households in remote areas. This is particularly true for Bedouin communities in Area (C), as well as rural areas far away from cities.

Cost of mammography service at the NGO sector in the West Bank ranges from a minimum of 80 NIS to 90 NIS, and 60 NIS to 80 NIS in the Gaza Strip. Cost is often higher in the private sector and averages 100 NIS, ranging from a minimum of 150 to 160 NIS in the West Bank, and 60 to 100 NIS in the Gaza Strip.

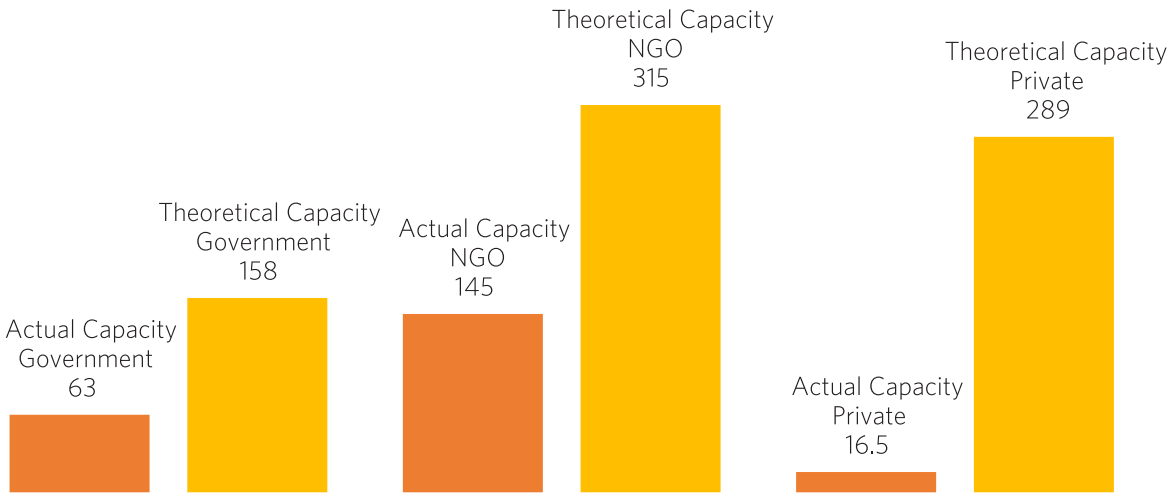
In terms of functionality, and while 100 per cent of NGO and private sector machines in the West Bank and Gaza functioned well, 4 out of 14 machines available at the governmental facilities were reported to be poorly functional or nonfunctional. These are machines located in Nablus, Tubas, Gaza city and Jabaliya.

Table 6: Functionality of Mammography services in Palestine

Sector	Current functionality status		
	Good	Poor	Nonfunctional
Government	10	2	2
NGO	11	0	0
Private	11	0	1
Total (37)	**32 (86%)**	**2 (5%)**	**3 (8%)**

Furthermore, out of 34 Palestinian facilities in the West Bank and Gaza that provide functioning (good or poor) mammography service (see Table 6), only two undertake a number of daily tests that commensurate to their reported theoretical capacity (see Figure 8). Ninety percent of the mammography machines within all sectors show significant underutilization suggestive for a realistic opportunity to fill the coverage gap in screening and diagnostic services through well-defined referral system.

Figure 8: Total actual versus theoretical capacity of mammography services across sectors



The private facilities had the highest reported theoretical capacity to provide mammography services. Nonetheless, they performed less actual daily tests than NGO and governmental facilities. The Ministry of Health, the largest health care provider has 15 machines of which only two are nonfunctional providing a total of 63 daily test comprising 40% of its reported capacity of 14 per machine per day (see Table 7). The NGO sector with 12 machines provides a total of 145 tests per day comprising 46% of its reported theoretical capacity of 315 tests per day. The private sector works with also 12 machines and is producing only 145 tests per day comprising only 46% of its capacity reported at 315 tests per machine per day. The private sector is being far from efficient in utilizing existing resources whether in screening or diagnosis. On the other hand, the NGO sector acts as a contractor to screening-requesting agencies with significant fluctuation of activity in line with availability of projects subsidizing for testing.

Table 7: Actual versus theoretical capacity of Mammography services in Palestine

Capacity of machines	Government	NGO	Private
Total number of actual tests	63	145	145
Total number of theoretical capacity	158	315	315
Current operational capacity	40%	46%	46%

In 2014, the study conducted by the World Health Organization (WHO) and the Palestinian National Institute of Public Health (PNIPH) revealed that there were several gaps that hindered an effective delivery of the national mammography screening programs in the West Bank and the Gaza Strip. Some of the gaps revolving around the low quality of films and their unavailability at clinics, the poor infrastructure of clinics, and the lack of physicians specialized in mammography reading, were immediately addressed by the MoH at that time. Since 2015, the MoH has started incrementally digitalizing its analogical devices for mammography to improve the quality of reading (low dose, double reading, remote learning), reduce recurrent costs, and assure sustainability of the service. Currently, there are five digital machines in Hebron, Tubas and Gaza.

By the end of 2017, the Ministry plans to transform all of the remaining nine machines to digital. Furthermore, through the support of the Italian Cooperation, a total of 18 general physicians (5 males and 13 females) were trained on reading mammograms. In addition, and supported by PNIPH, an electronic mammography screening appointment system has been installed at Primary Health Care (PHC) level in five districts in the West Bank (Jericho, Jerusalem, Salfit, Ramallah and Nablus). Also, the MoH is developing screening protocols. These significant improvements solved some of the main challenges encountered in the national mammography screening programs.

Some NGOs also run mobile mammography clinics that outreach rural communities and offer women scans and awareness raising sessions, teaching them how to examine themselves for breast cancer and provide them with information about the disease and importance of early detection. Some of these mobile clinics are project based and hence stop with the end of funding. Only Augusta Victoria Hospital has been providing a regular mobile mammography clinic since 2010. The Hospital reports that as a result of this mobile clinic, the number of breast cancer referrals for palliative care had shrunk to 52% in 2014, in comparison to 70% in 2010.



A mobile mammography clinic located in the West Bank, provided by Augusta Victoria Hospital with funds from the People of Japan.

Despite these efforts and interventions implemented by the different health care providers, interviews with stakeholders revealed that there remain other challenges related to system factors that need to be addressed and include essentially the following:

- **Some MoH facilities where mammography services are delivered still need rehabilitation**, particularly in Tulkarem and South of Hebron.

- **Some governmental facilities that have film screening mammography face regular shortages in the provision of films**, which could consequently explain the underutilization of this service in some facilities.

- **Limited number of available and qualified physicians in the governmental sector**, who are able to read mammograms promptly. Despite the training of physicians on reading mammograms, some of these physicians are unavailable to provide prompt readings, as they have other responsibilities, particularly with the overload they have. Consequently, there are still delays in reading mammogram results, particularly in Gaza, Hebron, Tulkarem and Salfit. According to the mapping survey, mammography reading results in Hebron, Tubas and Salfit average around 7 days, and 10 days in Tulkarem.

- **Lack of updated and followed screening protocols at PHC level**, which renders the implementation of outreach screening programs based on the individual practices of each directorate.

- **Limited number of radiologists (43 only in the West Bank from all sectors)**, particularly female radiologists. In the absence of mammography technicians, nurses often perform this task, despite their inadequate training in this area, which consequently could affect the quality of results.

- **Targeting of governmental outreach programs in Gaza mainly focuses on teachers**, while NGO outreach programs are project based and are hence highly dependent on the availability of funding, despite their great importance in the early detection of breast cancer.

- **The study conducted by WHO and PNIPH in 2014 revealed that there was a high rate of false-positive cases among women with abnormal screening results** reaching 85.4% (240/281) in the West Bank and 76.5% in the Gaza Strip. There is no research that investigates the proportion of false-negative results that could partially imply a shortage of the current screening program in reaching high-risk women groups[9]. Further research is still needed to follow up women with negative screening results in order to examine the proportion of false-negative results.

- **Low operational capacity of mammography services:** The reported low operational capacity of mammography services could be due to the limited outreach screening programs, lack of screening protocols, as well as other socio-cultural and economic factors related to women's reluctance to access services, as will be further discussed.

9 WHO, The Palestinian National Institute Of Public Health, Performance Of Mammography Screening In The National Breast Cancer Screening Program: A Retrospective Cohort Study, March 2014, Pp.19-20.

3.2. Confirmation services

If women receive abnormal results from a clinical breast examination or mammogram, they are referred for further confirmation services to better identify the nature of the abnormality. These procedures include Magnetic Resonance Imaging (MRI), ultrasound, Fine Needle Aspiration (FNA), Tru Cut Biopsy (TCB) and histopathology.

3.2.1. Breast ultrasound

A total of 61 breast ultrasound machines are currently available (see Table 8 and Map 2); 37 are located in the West Bank and 24 in the Gaza Strip. Twelve are operated by the governmental sector, while 16 by NGOs and 32 by the private sector. The number of machines, distribution and cost for ultrasound breast testing in the governmental sector in Gaza seems favorable with clear lack in the West Bank with machines only present in Ramallah, Nablus, Hebron, Jenin and Salfit governorates, only in hospitals in cities, while seven machines in Gaza distributed among all Gaza districts. High number of machines is available within the private and NGO sector in both the West Bank and the Gaza Strip making service available based on self-payment or subsidized payment though projects, especially in Gaza.

Map 2: Breast ultrasound distribution of services in the West Bank and the Gaza Strip

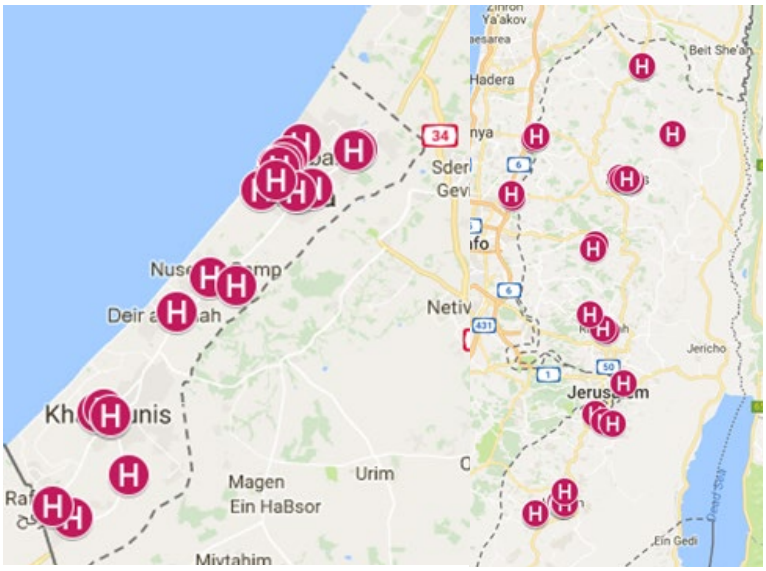


Table 8: Availability and cost of ultrasound services in Palestine

Sector	West Bank (Average cost NIS)	Gaza (Average cost (NIS)	Total per sector
Governmental	5 (10)	7 (0)	12
NGO	7 (72)	9 (36)	16
Private	25 (75)	7 (50)	32
UNRWA	0	1 (22)	1
Total	**37**	**24**	**61**

While at lower cost, NGO sector provides services to beneficiaries based on subsidy program or clients need to pay for service. While distribution of ultrasounds is fairly good among governorates, cost of service forms a barrier to care as this service if offered by the NGO sector will cost up to around an average of 72 NIS per test in the West Bank and 36 NIS in the Gaza Strip, compared to only 10 NIS in the West Bank and free of charge in Gaza within the governmental sector. Prices in the private sector are not much higher than at NGOs, as the breast ultrasound in the private sector costs on average 75 NIS in the West Bank and 50 NIS in the Gaza Strip, knowing that it could also amount to 100 NIS and 150 NIS in some private facilities.

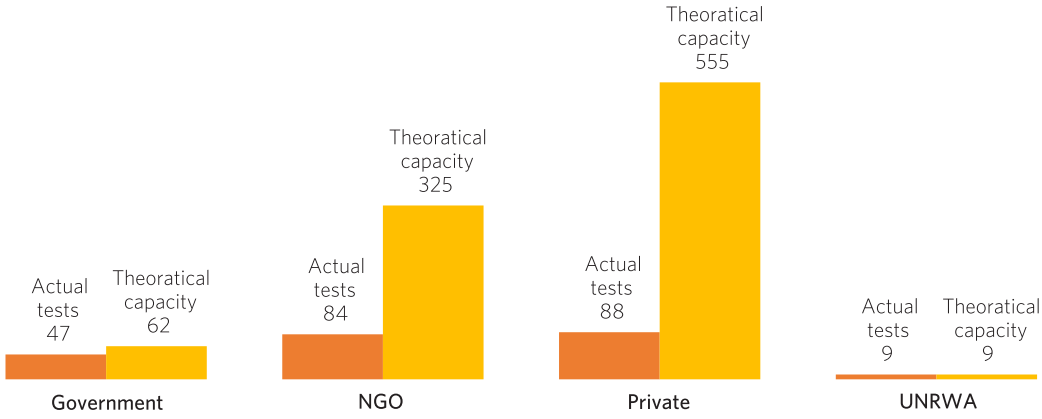
In 2015, a total of 1,778 breast ultrasounds in MoH facilities were performed; 57% had abnormal results.[10] Fifty-seven reported ultrasound machines at Palestinian hospitals and mapped in the survey were found to function in good conditions (see Table 9). Only four out of 51 facilities undertook a daily number of ultrasound tests in line with their theoretical capacity. Significant underutilization of ultrasound breast testing should be further examined in line with actual need and referral flow between different levels of care through the continuum.

Table 9: Functionality of breast ultrasound services in Palestine

Sector	Current functionality status		
	Good	Poor	Nonfunctional
Government	10	0	0
NGO	15	0	0
Private	32	0	0
Total	**57 (2 unreported)**	**0**	**0**

Fifty-nine specialized ultrasound machines in the West Bank and the Gaza Strip offer a total of 228 tests per day comprising only 24% of its capacity (see Figure 9). Again, the private sector is only working at 16% of its capacity offering a total of 88 tests daily, in comparison to its daily theoretical capacity that could accommodate up to 555 tests, while the NGO sector operates at 26% and MoH at 75% of its capacity. The feedback time to provide patients with results is quick, as readings are immediately provided after check-up.

Figure 9: Total actual versus theoretical capacity of breast ultrasound services across sectors

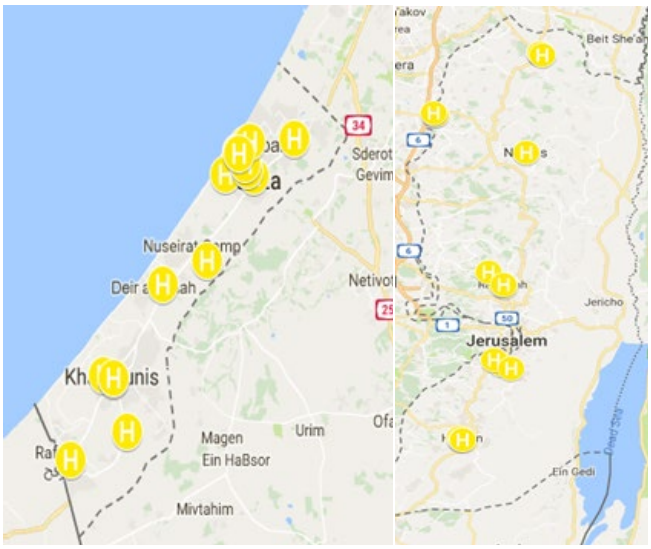


10 State of Palestine, Ministry Of Health, Health Annual Report Palestine 2015, October 2016, P.88.

3.2.2. Fine Needle Aspiration

A total of 37 fine needle aspiration tests are provided daily within the MoH, NGO and private sector. Clear variation is observed in reported capacity to conduct fine needle aspiration among providers with private sector reporting high capacity, but still providing the least of service comprising only 11% of capacity. Both reported capacity and actual delivery at MoH facilities seem to be very low with only two fine needle aspiration stations operate at the governmental sector in the West Bank and four in the Gaza Strip (see Table 10).

Map 3: Fine Needle Aspiration services in the West Bank and the Gaza Strip



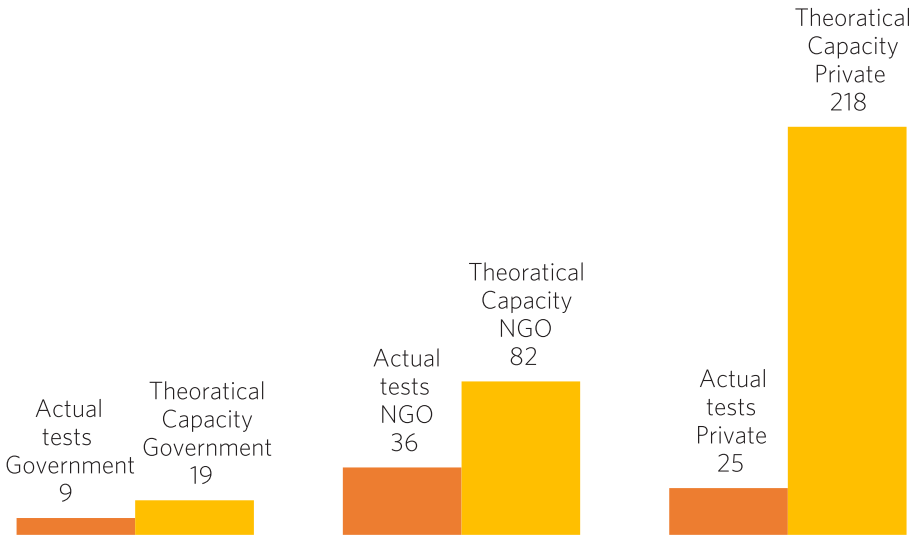
If functional, the Gaza situation seems adequate to cover needs in the area, as services are located in Gaza city, Rafah, Khan Younis and Deir Al-Balah. However, it should be noted that in Gaza and Deir Al-Balah, fine needle aspiration samples are only taken once or twice a week. In the West Bank, fine needle aspiration services are present only in Ramallah and Beit Jala. Focus group discussion with women highlighted that often they refer to the NGO or private sector for such service, as it is not available in governmental facilities.

Table 10: Availability and cost of fine needle aspiration services in Palestine

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost NIS)	Total per sector
Governmental	2 (20)	4 (10)	6
NGO	3 (200)	6 (200)	9
Private	13 (300)	9 (250)	22
Total	**18**	**19**	**37**

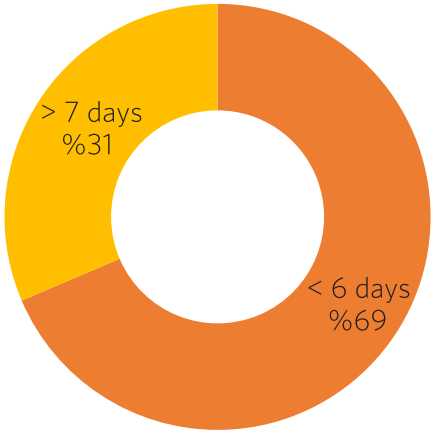
As in mammography, NGOs provide testing to women, who are subsidized through projects or to women, who can access and afford services in NGO sector against a payment of up to 320 NIS. These amounts are very close to the average cost of fine needle aspiration in the private sector that reaches 300 in the West Bank and 259 in the Gaza Strip. Cost and quality aspects are expected to guide women's decision to access the NGO sector and cost is thought to discourage women from accessing the private sector.

Figure 10: Total actual versus theoretical capacity of fine needle aspiration services across sectors



No hospital or health centre across the government, NGO and private sectors was able to deliver fine needle aspiration services according to their theoretical capacity (see Figure 10). While private hospitals had the largest theoretical capacity to deliver fine needle aspiration services, their efficiency was very low operating at 11% only of their theoretical capacity. On the other hand, governmental and NGO facilities had higher rate of 49% and 44%, respectively, According to interviews with health care providers, this general low operational capacity of fine needle aspiration services could be attributed to several reasons, one of which is the late detection of breast cancer stages. In addition, few health professionals indicated that fine needle aspiration should be avoided as a procedure in detecting breast cancer, and instead use Tru Cut Biopsy for better results. As such, some surgeons and oncologists opt for Tru Cut Biopsy instead of FNA.

Figure 11: Feedback time of FNA results



On the other hand, the average feedback time needed for patients to receive their results is 6 days (see Figure 11), with around 69% of organizations providing test results in less than 6 days, while 31% provide results in more than 7 days that could reach to 10 and 14 days in some facilities.

3.2.3. MRI with breast coil

There are 14 operating MRI machines; nine of which are located in the Gaza Strip and five in the West Bank (see Table 11). Four of these machines are operated by the MoH, six by NGOs and four by the private sector. In the West Bank, MRI services in the governmental sector is provided in Ramallah Hospital serving the population of the middle and northern West Bank, while Palestinians in the south of the West Bank are served by Hebron Governmental Hospital. So it is estimated that two MRIs serve the whole population the West Bank, creating a great load on this service. As such one of the key challenges women face when receiving this service in the governmental sector is the long delays in getting appoints that could extend from 10 to 22 days. To accelerate this process, often oncologists at governmental hospitals interfere at an individual level to get earlier appointments for their patients.

Table 11: Availability and cost of MRI with breast coil services in Palestine

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost (NIS)	Total per sector
Governmental	2 (120-150)	2 (100 in Gaza city only, others are free of charge)	4
NGO	1	5	6
Private	2	2	4
Total	**5**	**9**	**14**

Nine of the reported MRI machines surveyed in this mapping are in good condition. However, across all sectors, many of these machines are never used for breast imaging leaving this as a lost, under-utilized confirmatory service. In addition, the cost of this service ranges from 100 NIS to 1800 NIS. Within the NGO sector, the average cost reaches 1000 NIS, with a minimum of 500 NIS and a maximum of 1800 NIS, while an average of 950 NIS in the private sector.

3.2.4. Tru cut biopsy

With 29 institutions (see Table 12) offering tru-cut biopsy service (12 in the West Bank and 17 in the Gaza Strip), distributed among the three providers, still the capacity of these providers is utilized only at 18% on average and the private sector is only providing 14 tests per day in spite of its capacity to do 78 tests per day (see Figure 12). Similarly, NGOs are providing five tests per day, in spite of their capacity to perform 50 tests per day. Only the Governmental Gaza European Hospital in Rafah was able to provide such service in line with its theoretical capacity, but which also didn't exceed two tests per day.

Map 4: Tru cut biopsy services in the West Bank and the Gaza Strip

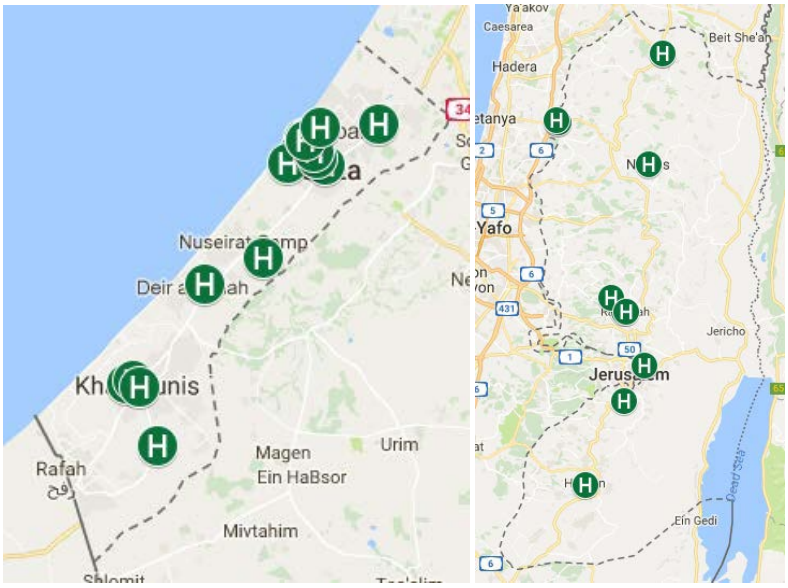
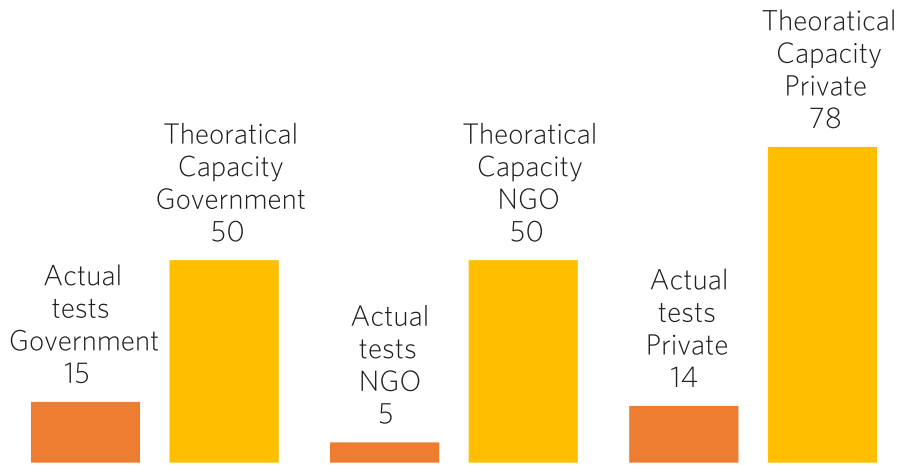


Table 12: Availability and cost of tru cut biopsy services in Palestine

Sector	West Bank/Number of facilities (cost NIS)	Gaza/Number of facilities (cost NIS)
Governmental	1 (20)	4 (0)
NGO	2 (700)	7 (300)
Private	9 (300)	6 (300)
Total	**12**	**17**

Figure 12: Total actual versus theoretical capacity of tru cut biopsy service across sectors



Again, West Bank facilities suffer from shortages in true cut biopsy capacity within the governmental sector with only one facility offering the service in Beit Jala Hospital. The situation in the Gaza Strip is a little bit better, as two facilities (1 in Rafah, and 1 in Gaza city) offer such service. At the exception of Dunya Women's Cancer Center in Ramallah and Augusta Victoria Hospital in East Jerusalem that offer this service in the West Bank, the private sector (mainly medical laboratories) dominates the delivery of Tru Cut Biopsy, which could be a hindering factor for the accessibility of poor and vulnerable women in the West Bank, given the availability of such service only in Beit Jala Hospital. Because needles are disposable and expensive (each 100 NIS), FNA is done in the beginning, although TCB is considered to be more accurate.

The high cost of performing true cut biopsy at the NGO and private sector is another challenge for women's accessibility to this service. While at lower cost, TCB is offered by the NGO sector at an average cost of 260 NIS per test, compared to only 20 NIS in the governmental sector for insured patients, while uninsured clients pay 60 NIS. Prices in the private sector are similar to rates at NGOs facilities, and range from 150 NIS to 350 NIS, given that prices are higher in the West Bank, ranging from 200 NIS – 350 NIS), in comparison to 150 NIS-350 NIS in the Gaza Strip.

3.2.5. Histopathology

Histopathology testing is provided by 29 institutions (see Table 13) across all sectors (14 in the West Bank and 15 in the Gaza Strip). The governorates of Tubas, Salfit, Qalqiliya, Jericho, Hebron and Deir Al-Balah have no health care provider covering such service (see Table 13), and patients from these areas often travel to the health facilities in the nearest governorate providing such services.

Map 5: Histopathology services in the West Bank and the Gaza Strip

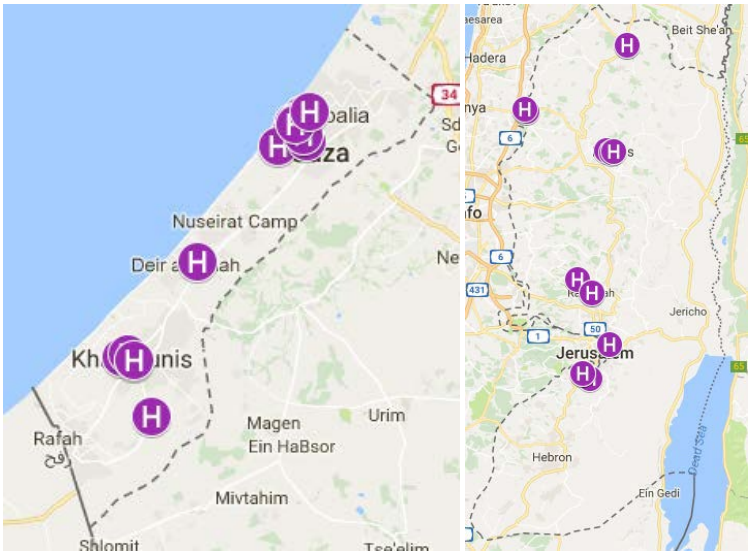
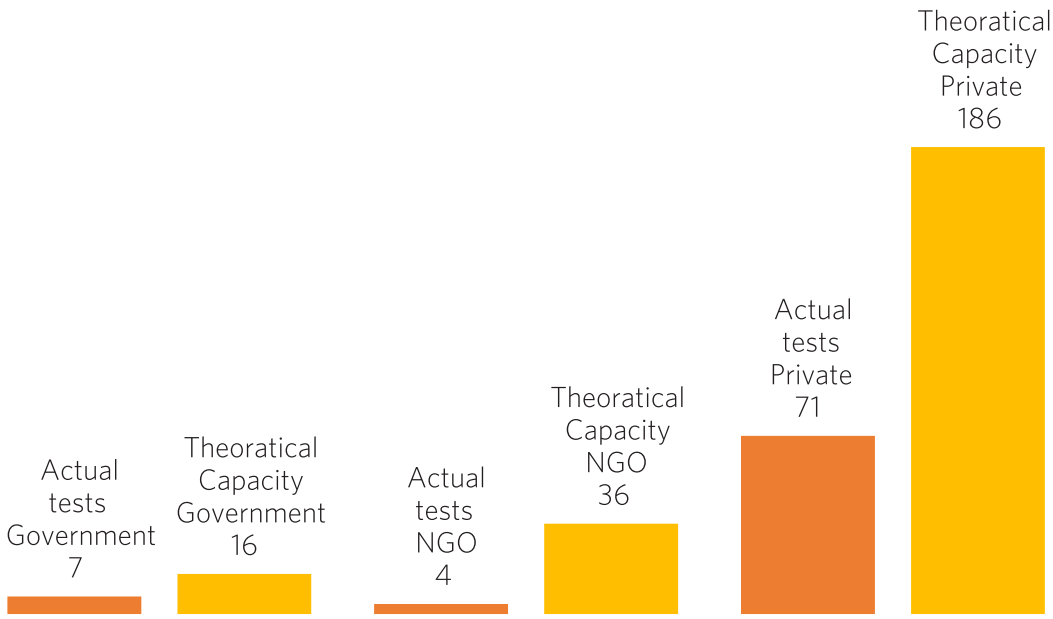


Table 13: Availability and cost of histopathology services in Palestine

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost NIS)
Governmental	2 (20)	4 (0)
NGO	3 (200)	4 (350)
Private	9 (300)	7 (500)
Total	**14**	**15**

In the West Bank, Rafidia Governmental Hospital in Nablus covers insured patients from the northern area of the West Bank and Ramallah, while Beit Jala Governmental hospital covers insured patients from the southern area of the West Bank. This widespread coverage of both hospitals entails performing large number of tests (covering all types of diseases), with limited human resources, and consequently leading to accumulation of tests and delays in providing results to patients, which negatively impacts cancer patients. Interviews indicated a delay in providing feedback to breast cancer patients that could range from three to seven weeks, and in some cases exceeding eight weeks.

Figure 13: Total actual versus theoretical capacity of histopathology service across sectors



Only two out of 24 recorded health facilities operated at full capacity. While 44% of their capacity, and private hospitals and centers at 38% of their capacity (see Figure 13), NGOs operated less efficiently (at 11% of their capacity). Private sector facilities cover areas with no other health provider delivering such service, such as in Tulkarem and Ramallah (see Table 14). It should be noted that Qalqiliya, Tubas, Salfit, Jericho and Hebron lack histopathology services, which implies that often women refer to nearby districts.

Table 14: Distribution of histopathology across governorates and sectors

West Bank and the Gaza Strip areas	Governorate	Sectors		
		Government	NGOs	Private
North of the West Bank	Nablus	•		•
	Qalqiliya			
	Tulkarem			•
	Tubas			
	Jenin		•	•
	Salfit			
Middle of the West Bank	Ramallah			•
	Jericho			
South of the West Bank	Bethlehem	•		
	Hebron			
North of the Gaza Strip	North Gaza			
	Gaza	•	•	•
Center of the Gaza Strip	Deir Al-Balah	•		
South of the Gaza Strip	Rafah	•		
	Khan Younis	•		

In the private sector, the cost of histopathology tests ranges from a minimum of 200 NIS to a maximum of 650 NIS, while at NGOs cost ranges from 200 NIS to 300 NIS. Because histopathology results in the governmental sector experience delays, many women indicated their preference to refer to the private sector despite the high costs. They explain that in the case of cancer, it's a life or death situation and even if they have to borrow money for tests and treatment, women prefer getting results quickly to start their treatment as soon as possible.

3.3. Treatment

3.3.1. Surgical (mastectomy, lumpectomy)

A total of 23 health facilities provide surgical (mastectomy and lumpectomy) services in Palestine. In the West Bank, these services are mainly located in the northern and southern areas, specifically in the districts of Jenin, Nablus and Tulkarem in the north, while located in the districts of Hebron, and Bethlehem in the south (see Map 6). Augusta Victoria Hospital in East Jerusalem provides also this service.

Although surgical treatment for breast cancer is under debate concerning the protocol followed in the country, distribution of facilities offering the service within the governmental sector seems to be more adequate in the Gaza Strip than the West Bank, as six health facilities in the Gaza provide surgical treatment for breast cancer, while five in the West Bank, covering the districts of Hebron, Jenin and Tulkarem. The ability to pay for this service within the private sector would pose serious challenge on people in both areas, as costs in the NGO sector averages 5000 NIS in the West Bank and 1000 NIS in the Gaza Strip, while 4500 NIS in the West Bank and 1600 in the Gaza Strip within the private sector (see Table 15).

Map 6: Surgical (mastectomy and lumpectomy) services in the West Bank and the Gaza Strip

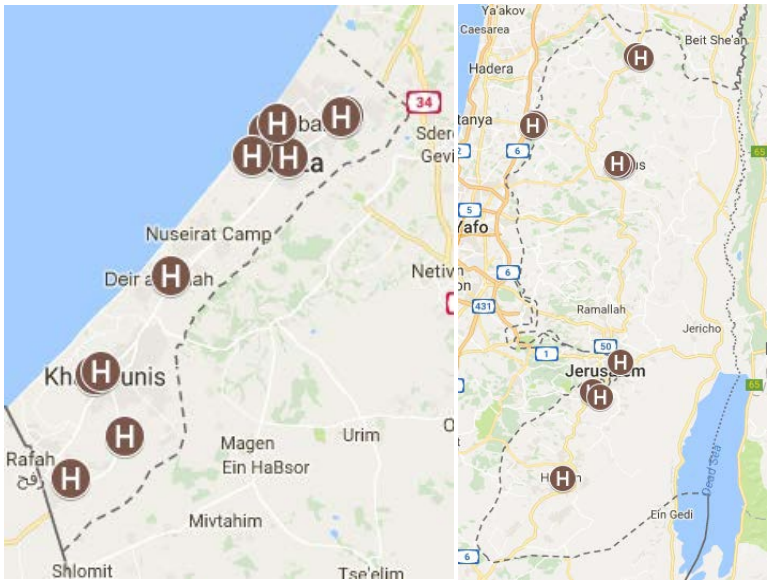


Table 15: Availability and cost of surgical treatment (mastectomy and lumpectomy) across sectors

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost (NIS)
Governmental	5 (0)	6(0)
NGO	4(5000)	4 (1000)
Private	3 (4500)	1 (1600)
Total	**12**	**11**

3.3.2. Chemotherapy and radiation therapy

Chemotherapy is provided at August Victoria Hospital in East Jerusalem, An-Najah Hospital in Nablus, and in six governmental hospitals in the West Bank and the Gaza Strip (see Table 16). Distribution in the West Bank to include Nablus, Tulkarm, Jenin and Bethlehem illustrates deficit in the southern areas. Distribution in Gaza, if capacity is adequate to number of clients seems good in general. However, governmental hospitals often face shortages in chemotherapy drugs (such as Letrozole), which consequently implies the referral of patients to other NGO run facilities (An-Najah Hospital in Nablus and Augusta Victoria Hospital in East Jerusalem). Patients referred from Gaza face additional challenges in obtaining permits from the Israeli occupation to leave the Strip. Many are obliged to wait for months to receive their permits, which consequently influences their health situation and ability to start or continue treatment, as will be further elaborated in the report.

Map 7: Chemotherapy services in the West Bank and the Gaza Strip

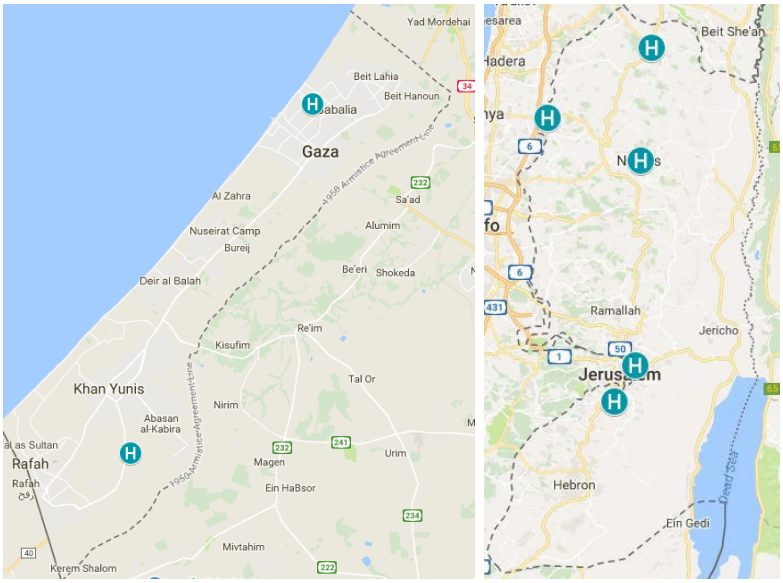


Table 16: Availability and cost of chemotherapy treatment across sectors

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost (NIS)
Governmental	4 (0)	2 (0)
NGO	2 (400)	0
Total	**6**	**2**

Furthermore, in case of shortages of hormonal drugs, patients are obliged to buy the drugs at their own costs. If referred outside MoH for chemotherapy treatment, an average breast cancer case could cost from 200,000 NIS to 300,000 NIS given that this cost will include other required services needed during the treatment process (tests, in patient stay, ultrasound, MRIs, etc.), while if treated at MoH the cost will only reach 150,000 NIS.

Despite an estimated population of 4.88 million (2.97 million in the West Bank and 1.91 million in the Gaza Strip)[11], radiation therapy, which is crucial in cancer therapy, is completely unavailable in the West Bank and the Gaza Strip, except for the radiotherapy services provided by Augusta Victoria Hospital in East Jerusalem[12]. At Augusta Victoria, two linear accelerators are available to serve the oncologic needs (1/1,000,000 inhabitants) of Palestinians referred from the West Bank and Gaza. Currently, the MoH has plans to build an oncology hospital (Khaled Al-Hassan Oncology Hospital) in Ramallah, but it is still not yet clear whether it will provide, or will be allowed by the Israeli occupation to provide, radiation therapy.[13]

11 State Of Palestine, PCBS, Palestinians At The End Of 2016, December 2016, P.10.
12 Michael Silbermann, Cancer Care In Countries And Societies In Transition: Individualized Care In Focus, Springer, Feb 2, 2016, P.83.
13 Maurizio Portaluri, Niveen Abu-Rmeileh, And Emilio Gianicolo, Radiation Therapy In Palestine: Not Only Money, But Also Real Accessibility Maurizio Portaluri, International Journal Of Radiation Oncology Biol Phys, Vol. 98, No. 3, Pp. 504-505, Mar 22, 2017.

3.4. Post-treatment care

Post-treatment care includes physiotherapy and psychological support. Both services are not covered in the governmental health insurance, nor are they provided in a systematic manner for breast cancer patients. Survivors of breast cancer, especially those undergoing surgical treatment suffer from physical and psychological problems from the complications associated with removal of one or more breasts including sever edema caused by removal of the lymphatic nodes and drainage system, loss of hair due to chemotherapy and social exclusion resulting from family and partner (avoidance). Eight NGOs included in the mapping survey reported having psychological support services for women with breast cancer. Seven were found to be in Gaza. Nevertheless, these services are temporary and project based provided to women throughout short-term periods depending on the availability of funding. In fact, interviews with stakeholders and women have revealed that despite the importance of these services, they are often restricted within donor funded projects that stop with the completion of the project. Often these projects include psychosocial support through the provision of group and individual counseling sessions and events, as well as establishing support groups of breast cancer survivors that participate in social and recreational activities with the aim of enhancing women's self-esteem, and active social participation.



Distribution of wigs (Gaza, 2016)



Social and recreational activity (Gaza, 2017)

In terms of the provision of physiotherapy after surgery, fifteen institutions (seven governmental, seven NGOs and one private) included in the mapping reported providing such services (see Table 17). In most reported cases, physiotherapy is provided over a limited number of sessions or a period of one month only. In governmental hospitals, the MoH pays the costs of treatment for some cases, but the annual number of cases that receive such services is only limited to four cases per year, whereas most patients are served in the NGO (from 14 to 50 women annually) and private sector (300 women annually), where women cover the cost of such services.

Table 17: Availability and cost of physiotherapy treatment across sectors

Sector	West Bank Number of facilities (cost NIS)	Gaza Number of facilities (cost (NIS)
Governmental	2 (0)	5 (0)
NGO	2 (25)	5 (20)
Private	0	1 (30)
Total	**4**	**12**

While present in Gaza within all sectors, West Bank facilities clearly lack this important service in all sectors. Low number of facilities reporting offering this service in West Bank in particular indicates the urgent need to address this issue at the education and service delivery levels.

4. BARRIERS TO TIMELY AND EQUITABLE ACCESS TO QUALITY BREAST HEALTH CARE

While breast cancer is the most common female cancer in Palestine, women often tend to delay seeking medical care. Due to the lack of accurate population based data from the cancer registry, it is difficult to get the rate of presentation for treatment by stage. However, in 2011, a study indicated that 42% of breast cancer cases were reported at stage III and 18% were stage IV, for a total of 60% non-early cancer cases.[14] Interviews with stakeholders reveal that there are still high rates of late presentation and as a result breast cancer is typically diagnosed at a more advanced stage of disease.

A key contributor to the diagnosis of the more advanced stage on breast cancer is partially attributed to be the *low involvement of women in screening programs*. There is a lack of regular national updated information obtained from all service providers regarding the percentages of women that had undergone clinical breast examination or a screening mammogram. But in 2016, MoH indicated that a total of 17,495 clinical breast examinations[15] and 8412 screening mammograms were performed at MoH facilities in the West Bank[16]. Despite the increasing number of women undergoing clinical breast examination and mammograms, these numbers are still deemed as low, particularly given that there are around 360,000 women in the West Bank and Gaza between the age of 40 and 64 that need to be targeted by national screening programs. This entails that annually around 180,000 Palestinian women should undergo mammography screening.

A study of Palestinian women from the West Bank conducted in 2013 revealed that over 60% of women over the age of 50 have never attended a mammography.[17] And often when breast cancer is detected, this is usually done by physical examination, rather than by the widely screening mammography, as evidenced by women participating in this analytical mapping, as well as highlighted in previous studies[18]. In a study conducted in Beit Jala Governmental Hospital, 67% of surveyed women discovered the first symptoms of the disease themselves, in comparison to 26% of women only indicating the discovery of the disease by their doctors, and 7% by mammography examination.[19] The majority of women interviewed in this analytical mapping indicated suspecting themselves of the presence of a breast lump by accident, as they noticed changes in their breast structure. A study conducted in 2011 about the barriers and opportunities for early detection of breast cancer in Gaza women revealed that although the majority of Palestinian women from Gaza surveyed (97%) were willing to undergo medical evaluation for a breast complaint including a diagnostic mammogram, only 35% of them were willing to have a screening mammogram.[20]

Numerous barriers to timely and equitable access to quality breast health care exist across the cancer care continuum, negatively impacting cancer outcomes. Improving access to care and reducing disparities in outcomes require identifying, understanding and addressing these barriers that can generally be characterized as structural, political, sociocultural and personal factors as indicated below.

14 Saca-Hazboun H, Glennon CA. Cultural Influences On Health Care In Palestine. Clin J Oncol Nurs 2011 Jun; 15(3):281-6.
15 State of Palestine, Ministry Of Health, Primary Health Care Annual Report 2016, P.38.
16 State of Palestine, Ministry Of Health, Primary Health Care Annual Report, 2016, P.39.
17 Abdel Nasser Badawi, Factors Associated With Delay Of Breast Cancer Diagnosis Among Palestinian Women Who Are Treated At Beit Jala Governmental Hospital , Masters Thesis, Al-Quds University, P.2.
18 El Saghir N., Khalil M. Eid T., El Kinge A., Charafeddine M., Geara F., Seoud M., Shamseddine A., (2007). Trends In Epidemiology And Management Of Breast Cancer In Developing Arab Countries. International Journal Of Surgery, (5):225-233.
19 Abdel Nasser Badawi, p.56.
20 R. Shaheen, P.J. Slanetz, S. Raza, M.P. Rosen, Barriers And Opportunities For Early Detection of Breast Cancer In Gaza Women, Article In Breast (Edinburgh, Scotland) · February 2011,P.S32.

4.1. Structural factors related to the nature of current services and their delivery

Allocation of the majority of services in urban areas

The majority of screening, treatment and post-treatment services are located in cities. Women in rural areas are more inclined to travel to access these services due to social and economic barriers (cost of transportation, needing permission of their family members, etc.).

Delays in providing some services

All women interviewed indicated a prompt approval of their cases into the governmental health insurance system (if they didn't have one before), which is highly commendable. They have also indicated a quick approval for referral to other Palestinian non-MoH hospitals, if needed. However, the main delays experienced by breast cancer patients were voiced around their ability to get quick appointments for MRIs, as well as in receiving promptly their pathology and mammography results. Scheduling an MRI in governmental hospitals could take from three to six weeks. Women with breast cancer are usually responsible to schedule an appointment themselves, like any other patient. When needed and in case of several cancer case, some oncologists interfere to facilitate this process. However, this is often done based on their individual initiative and time availability, as well as their personal relations with hospitals. Currently, there are no systematic procedures between oncology departments and the different hospitals to facilitate this process.

In mammography services in particular, some equipment are still outdated. The quality of mammograms is still low in Tulkarem and Nablus, which affects the ability to effectively detect breast cancer. Furthermore, there is a lack of specialists in reading mammograms, which delays in some locations the ability to obtain quick results and start treatment.

The lack of well-defined protocols and facilities for confirmation of diagnosis and unclear pathway for referral of patients for treatment consume precious time and regularly result in 4-6 months delay in starting the treatment. Mastectomy surgery at Al-Shifa hospital for example can take between 3 to 9 months of waiting putting life of women with breast cancer in great danger and significantly compromising their survival. Lost time at all levels is the main factor reducing survival chances for women with breast cancer in Palestine.

Lack of some drugs at MoH facilities

Some women and family members highlighted the lack of some hormonal and pain relief drugs in some governmental hospitals, which obliges them to pay such costs themselves. It is estimated that governmental hospitals lack approximately 100 of 522 registered essential drugs. For example, Trastuzumab, known as Herceptin, which is a drug used in the treatment of breast cancer is often in shortage. Consequently, around 15-20 of breast cancer cases a week are being referred to non-MoH hospitals for treatment. Other drugs that cause referral of cases include Rituximab, which is used in the treatment of some autoimmune diseases and cancers, and methotrexate, which interferes with the abnormal growth of certain body cells; used in the treatment of cancers and some rheumatologic diseases.[21]

21 USAID, Intrahealth, Palestinian Health Capacity Project (PHCP), Assessment Of System Bottlenecks In Palestinian Ministry Of Health Hospitals That Result In Referrals To Non-Pmoh Hospitals, June 2017, Pp.20-21.

Interviews with officials from the MoH explained that the problem in the lack of medication is due to various reasons, including the long procurement process, refusal of companies to sell MoH medication as a result of large amount of debts which haven't been paid for almost three years. The large debts resulted in the hesitance of MoH doctors to recommend or order new medications that are effective in cancer treatment but costly.

Limited multidisciplinary case management approach in the treatment of breast cancer cases

At the exception of some NGO hospitals, there is limited multidisciplinary case management approach in the treatment of breast cancer cases. In governmental facilities, there is weak communication between surgeons and oncology specialists in some hospitals. Cases are not studied by a multidisciplinary team (surgeons, oncologists, psychologists, physiotherapists, etc.). Furthermore, the follow up of breast cancer cases after surgery depends on the patient herself. There are currently no systematic procedures to link primary health care facilities with the follow up of breast cancer patients.

Lack of oncology specialists at national level and high workload on available oncologist in governmental hospitals

In Jenin and Tulkarem governmental hospitals, one oncologist is only available. In Ramallah, there is no oncology specialist. And in general, there are no female oncologists. Doctors are not encouraged to specialize in oncology due to the long years of specialization and weak incentives in terms of salaries, continuous education, financial incentives, and extremely high work load. In Beit Jala and Al-Watani hospital, oncologists receive from 70-80 cases per day, which consequently implies that oncologists only provide patients with the most important information about their cases and treatment. There is little time to provide women with psychological support, or explain comprehensively the whole process of treatment, pros and cons of the different options, and potential effects, or provide information on nutritional and life style changes that women need to follow, etc.

Weak follow up of oncology protocols across the sectors

Despite the availability of oncology protocols, their effective implementation and follow-up depends on the experience and choice of surgeons and doctors. Some surgeons perform unnecessary surgeries. Due to many cultural, system and access challenges, radical mastectomy is the most utilized mode of breast cancer treatment. Such mode of treatment not only endangers women through the fear of leaving out some remaining tumor that will grow and metastases again, but is observed to be associated with serious psychological and social distress. Such distress was observed to be associated also with reluctance of women to go for screening and tests.

Weak referral pathway among the different stages within the continuum of care and across different sectors

Referral pathway among different stages within the continuum seem to be fragmented and of poor quality resulting in loss of cases and in many situations absence of confirmed cases from the cancer registry. In summary, prevention, early detection, verification of diagnosis and ultimately treatment programs for breast cancer are lacking systematic connectivity and quality resulting in scattered efforts and reduced chances for timely detection and effective treatment.

In a recent study that specifically examined the "Appropriateness of Referrals to Palestinian Non-MoH Hospitals", it was concluded that the communication process inside and outside the MoH that contributes to referrals is weak, as discharge reports issued by non-MoH hospitals never reach any governmental hospital referring. There is a lack of established feedback mechanisms, which consequently limits the follow up of cases.[22]

Some unmet needs of women with breast cancer

Despite the availability of various services across the continuum of care, women still feel that there are crucial services that they need. Many of them highlighted that breast reconstruction is not covered by health insurance, although they believe it should be a key service for women. There is also a lack of psychological support to patients and their families. There are no support groups from women who survived cancer, despite their importance in guiding women through this process and providing psychological support. In addition, breast prosthesis options are not available for women, either by the governmental health insurance or NGO support programs.

4.2. Socio-cultural and personal factors related to knowledge and attitude towards breast cancer

Knowledge of women about techniques for self-examination, importance of screening and available services for breast cancer care

In a study conducted in 2016 on 100 women with breast cancer being treated at Beit Jala Governmental Hospital, it was found that 59% of cases didn't know how to perform breast self-examination. And 63% of those who knew received this information via awareness sessions provided by the medical staff in clinics. The study concludes that while family members have very limited role in raising awareness about breast cancer, medical staff has an important role in this domain.

> *"After obtaining my test results that positively indicated I have breast cancer, I delayed going to the doctor for several months because I had a newborn child. I wanted to take care of her as much as I can and before starting the treatment until she's a bit older"*
>
> Ghousoun, 30, from Khan Younis

In addition, a small number of women (11%) had previous knowledge about mammography for breasts, and only 10% of women with breast cancer have had mammography before the discovery of the disease.[23] This is also confirmed by our interviews with women participating in the analytical mapping, as the majority of women interviewed indicated that they were not aware that after 40 they should have undergone a

22 USAID, Intrahealth, Palestinian Health Capacity Project (PHCP), Appropriateness of Referrals to Palestinian Non-PMoH Hospitals: Baseline Assessment, January – June 2016, March 2017, pp.20-21.

23 Abdel Nasser Badawi, Factors Associated With Delay Of Breast Cancer Diagnosis Among Palestinian Women Who Are Treated At Beit Jala Governmental Hospital, Masters Thesis, Al-Quds University, p.2.

mammogram screening, and only few cases out of the 40 interviewed had previously done a mammogram before the discovery of breast cancer. Most of them have discovered it by chance, as they noticed lumps or change in their breasts, and they have, consequently, suspected it was cancer.

Furthermore, interviews with women revealed that many of them didn't know what services were available throughout the continuum of care, as well as how and where to go when suspecting having breast cancer. The private doctor is the main reference and entry point for women when suspecting breast cancer. The way they navigate through the various services of the continuum of care depends on this first experience (refer to section From Diagnostic to Treatment: Journey of Women with Breast Cancer). Experiences of women narrated in interviews revealed that some private doctors don't fully adhere to the oncology protocol, and often mislead women, or do not provide comprehensive and full information to women, until they would need chemotherapy or radiotherapy, where patients at this moment will have to go through governmental services, and the governmental health insurance. Some women have highlighted that they didn't know before that breast cancer care was free and offered by the government. Because of this lack of knowledge about the available services, some women would refer to the private sector and pay considerable amounts, while others indicated the lack of trust and confidence with the governmental services, leading them to choose the private or NGO sector.

Women delay visiting a doctor after discovery of first symptoms, due to personal and social factors

Women also tend to delay visiting a doctor after self-discovery of first symptoms. Some of the women interviewed neglected following up with a physician until the lump grew and became more painful. The interval between the first symptoms and visiting a doctor could extend from one week to six months. Badawi indicates that 46% of the cases studied visit the doctor in less than a month period since the emergence of symptoms of breast cancer, while 54% of cases delay visiting the doctor for a period that could extend from one to more than three months from the emergence of signs of illness.[24]

> *"In 2015, I discovered by chance a lump, and immediately went to a private doctor that referred me to further confirmation services (mammography, ultrasound, and TCB). Although I have health insurance, I went to a private doctor because I wanted the results quickly. It took a week between the time I first discovered the symptoms and until it was confirmed I have breast cancer. Immediately, the doctor scheduled a surgery, which I refused to have because I was very afraid. My husband and daughters tried to convince me for more than six months, but I kept refusing, until my situation got worse. After a year, the cancer developed to stage III and I started chemotherapy sessions in 2016.*
>
> Yousra, 52, from Hebron

24 Abdel Nasser Badawi, Factors Associated With Delay Of Breast Cancer Diagnosis Among Palestinian Women Who Are Treated At Beit Jala Governmental Hospital , Masters Thesis, Al-Quds University, p.57.

Interviews with women indicate that this delay is strongly linked with a variety of social and personal factors: Women are afraid of being diagnosed with breast cancer, or undergoing a surgery, or losing their breasts or part of it, and of eventually dying. They are embarrassed of breast examination, or by being examined by a male doctor. Some even consider the society's perception of the disease on their family status, particularly the inability of their daughters to get married if it is known that their mother has breast cancer. Some indicate the lack of support from their family members, particularly their husbands, and fear of the impact of breast cancer on their marriage and social status.

Society's perception about the disease and how many think it is associated with death strongly influences women's decisions to discuss their case with their partners, friends and family members or even undergo treatment. In the study conducted in Beit-Jala Hospital, 50% of women surveyed didn't tell anybody about detecting signs of the disease and only 35.9% told their husbands about these signs, and 12% told one of their family members. The study further highlights that 98% of surveyed women didn't take their discovered symptoms seriously, believing that these will disappear eventually, while 94% were embarrassed to visit the doctor and undergo a breast examination, and 93% didn't receive any support from their spouse. In addition, 91% were afraid of diagnosis of breast cancer, and 87% were afraid of surgery.[25] Women are afraid of sexual relation disturbances with husband and fear of being abandoned by their spouse, as a result of the disease and mastectomy. In fact, interviews with women revealed few cases of women being abandoned by their husbands because of the disease, and men's marriage of another wife. Breast cancer disease cannot be seen as only a medical condition that affects women, but it has also socio-economic components that affect women and their families. But most importantly having breast cancer could have negative gender implications on women's life (abandonment, economic distress, being a second wife, etc.).

Lack of knowledge, fear and social's stigma are among the main reasons for the delay in seeking early detection services and treatment of breast cancer. Treatment resulting in the loss of one or both breasts, hair loss caused by chemotherapy and major general changes resulting from exposure to radiotherapy leave large scares on women`s body and psychic. There is a pressing need for both social and psychological support programs for both women living with breast cancer and their families to improve their coping, survival and quality of life.



"Open day" during Breast Cancer Awareness Month together with the Japanese Representative to Palestine (Gaza, October 2016)



Awareness seminar, hosted by UNFPA and CCP/Japan (Gaza, 2016)

25 Ibid.

4.3. Political factors: Israeli denying access of patients to treatment

Closures, road blocks and restricted movement imposed on Palestinians especially in the Gaza Strip forms a special environmental context that complicates the picture and even prolongs the time needed in between different steps in the process from detection to treatment. According to information from the Ministry of Health in Gaza, the annual increase of breast cancer cases in the Gaza Strip is 4%, which is in the range comparable to other neighboring countries. Referral of Gaza cancer patients outside the Gaza Strip is mainly due to the lack of needed radiotherapy and specialized chemotherapies in the Ministry of Health hospitals. Access to treatment outside the Gaza Strip is, however, limited to certain cases and it involves complex administrative processes that deprive around 20% of patients from accessing healthcare in specialized hospitals in Jerusalem or the West Bank. Overall, the year 2016 witnessed a lower permit approval rates for patients and companions for both the West Bank and the Gaza Strip, being more pronounced in Gaza.
Out of a total of 26,282 applications for permits to exit Gaza, 16,314 (62.07%) were approved by Israel, 1,726 (6.57%) were denied, and 8,242 (31.36%) were delayed. WHO report indicates that one-fourth of patients who needed permits were seeking medical treatment for cancer. Cancer patients were the most frequently delayed. Furthermore, additional security checks have been imposed patients' companions from Gaza up to the age of 55 years that need to undergo intensive security investigation in order to receive their permits. This situation consequently increases the rate of denials and processing times.[26]

Interviews with women from Gaza have revealed a consistent tendency of patients' delays as a result of the Israeli permit process that could exceed one or two months. Several cases of patients denial of permits were also documented, which consequently implied a delay around 14-21 days between one chemotherapy session and the other.

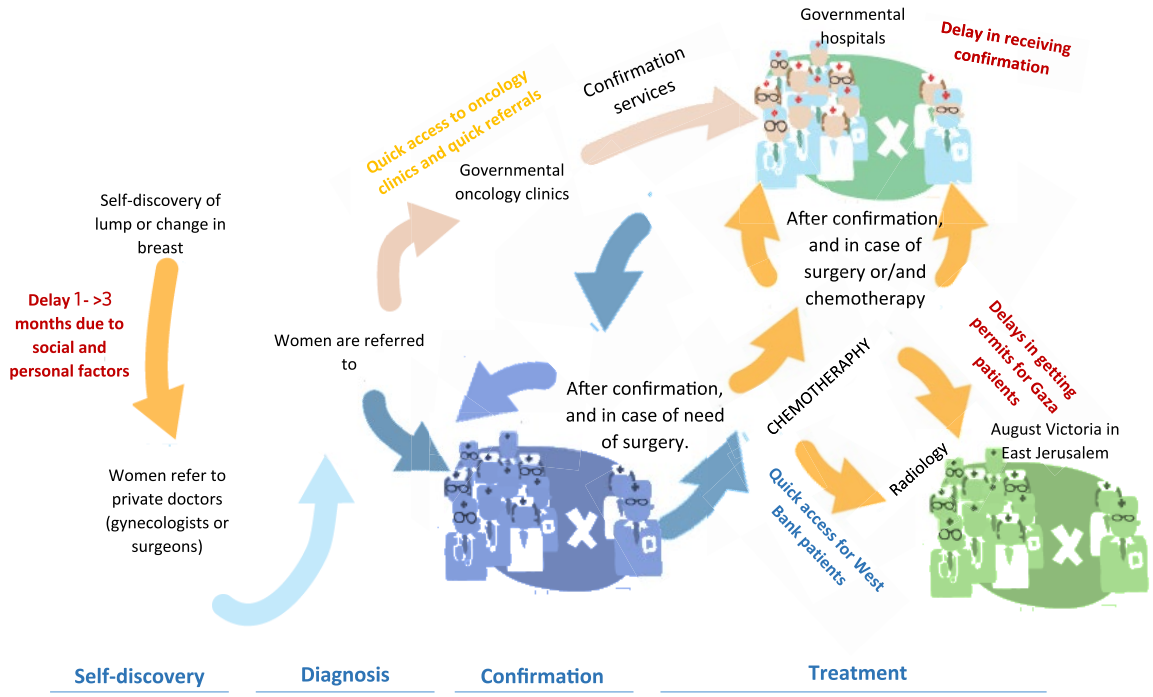


Access restrictions, Gaza

26 World Health Organizations (WHO), Right to health: Crossing barriers to access health in the occupied Palestinian territory, 2016, pp.20.

5. FROM DIAGNOSTIC TO TREATMENT:
JOURNEY OF WOMEN WITH BREAST CANCER

Women often self-discover lump, or change in breast. Some women delay referring to a physician for diagnosis due to social factors. When they decide to visit a doctor, the majority of women interviewed visited private doctors (gynecologists or surgeons), who either refer them to governmental oncology clinics or private or NGO health facilities for further confirmation. Women referred to governmental services often reported delay in receiving confirmation, particularly in getting appointments for MRI scans and getting histopathology results, which in some cases a delay of 30 days was reported. Furthermore, fine needle aspiration and tru cut biopsy are often unavailable at governmental facilities, which oblige women consequently to refer to private and non-governmental services. Overall, it seems that even when women have governmental insurance, there are some significant costs incurred during the confirmation stage that could range between 1200 NIS to 2500 NIS, depending on the source of service provision (i.e. private or non-governmental).



After the confirmation stage, women interviewed reported often performing surgery (usually mastectomy) in private and NGO hospitals. Despite the availability of free services at governmental facilities, women's choice often depends on two factors. First, some of them didn't know that services are available free of charge in governmental hospitals, while others who knew preferred the private or non-governmental sector for their enhanced privacy, and their perception of better quality services provided there, and despite the higher costs incurred. Surgery could cost between 450 to 2000 NIS. After this stage, and in case of chemotherapy, usually women are referred to governmental facilities. In case of unavailability of chemotherapy drugs patients are referred to Augusta Victoria and An-Najah Hospital in the West Bank, and in case of radiotherapy treatment all West Bank and Gaza patients are referred to Augusta Victoria hospital.

6. KEY CONCLUSIONS

The Analytical Mapping have revealed a diversity of organizational settings for breast cancer care in Palestine, as health care is provided to women by governmental, NGO and private sector organizations. The MoH by the Public Health Law ensures free of charge access to detection and treatment of breast cancer to all women. The government is responsible for the whole breast cancer care process, cooperating with other providers and covering all together the various stages of the breast cancer continuum of care. While at different levels of connectivity, continuity and quality, many elements of breast cancer detection, confirmation and treatment services are available in Palestine. In case of unavailability of certain services within MoH facilities, breast cancer patients are referred to facilities run by non-governmental and private health care providers, based on clinical protocols for referrals and a decision made by the Oncology Referral Committee.[27]

Throughout the last seven years, the MoH has been focusing on enhancing services for women with breast cancer, particularly on encouraging the early detection of breast cancer as free mammogram screening for women was introduced in 2008 and is now covered in all districts in the West Bank and the Gaza Strip. Furthermore, in cooperation with the Italian Cooperation and UNFPA, MoH is planning to establish models for a ***one-stop center for breast cancer care*** that will address some of the barriers that hinder women from accessing and receiving quality care. Recognizing screening, diagnosis, and treatment as key components of breast cancer treatment, the first center will be established in Ramallah, as a reference for women within the center of the West Bank. Another two centers will be established in the south and the North of the West Bank. It is planned that each center will include mammography, fine needle aspiration, tru cut biopsy and ultrasound services. General practitioners, surgeons and radiology specialists will be also trained. It is expected that the case will be followed up from the primary to secondary to tertiary care, a multidisciplinary approach to treatment will be adopted, and communication between the different referral pathways enhanced. This is a long-term program that the MoH would like to develop, strengthen and duplicate in the Gaza Strip as well. Furthermore, the MoH is currently preparing for the future establishment of a governmental Hospital for Cancer Treatment and Bone Marrow Transplantation.

In terms of availability of services, mammography, as a screening procedure, is provided free of charge at the governmental sector and is available within the different governorates of the West Bank and the Gaza Strip. Furthermore, mammography services are provided at acceptable prices within the NGO and private sector. However, confirmatory services within the governmental sector in the West Bank seems to be limited as ultrasound services are provided in five districts (Ramallah, Nablus, Hebron, Jenin and Salfit governorates), fine needle aspiration is only available in Ramallah and Bethlehem, MRI is covered in Ramallah and Hebron, tru cut biopsy services are found in Bethlehem only, and histopathology services in Bethlehem and Nablus. In addition, surgical treatment (mastectomy, lumpectomy) within the government sector in the West Bank is available in Bethlehem, Hebron, Nablus and Tulkarem. Geographical coverage of these services is better in the Gaza Strip. This situation entails that women have to experience delays in getting appointments, or results of their tests, or incur additional costs and effort to travel to access these services.

27 State of Palestine, Ministry of Health, Referral Protocol 1: Oncology, pp.7-11.

Interviews with women also revealed that often they refer to the NGO and private sector to access confirmatory services and surgery, which could hinder utilization and negatively impact economic condition of women, given that the cost of these services are much higher in the NGO and private sector. In fact, the movement of women within the pathway for breast cancer care is largely within the private sector, which seems to encourage massive surgical treatment, mostly mastectomy, as the most utilized mode of breast cancer treatment. Another key concern for policy makers is whether these surgeries are done in the proper manner following the oncology protocols. The Analytical Mapping didn't examine this aspect, but interviews revealed that often the multidisciplinary approach in the treatment of breast cancer is lacking also in the governmental sector, and communication channels for referral of cases between the different health care providers is still weak, which also implies weak follow up of women after treatment. The limited number of oncologist working at the governmental sector and their high overload of cases (70-80 cases per day) limits as well this process.

In fact, the Analytical Mapping have uncovered also a ***fragmentation of the health system and complex pathways that women with breast cancer care have to pass through during the various continuum of care phases.*** This constitutes a key barrier to the receipt of timely and high quality breast cancer care. Despite the availability of services across all sectors, the lack of connections between providers, and facilities add to the challenges of receiving breast cancer care that is already complex, involving treatment and support from multiple providers and services. Services that are integrated and co-located can lead to improved timeliness and completion of care.

At another level, the Analytical Mapping has revealed an ***underutilization of all services across sectors,*** which indicates that the current Palestinian health system is able to provide screening and confirmatory services to a larger number of women, who are not currently "outreached" by the system, indicating a lost opportunity. Another issue which was raised during this research was the use of fine needle aspiration in Palestine as a confirmatory service for breast cancer. Some Palestinian experts indicated that international literature questions the validity of fine needle aspiration to detect accurately breast cancer. Hence, policy makers need to reflect if in Palestine fine needle aspiration is a procedure to be promoted for or not.

Women's choice, knowledge and attitude about the diseases and existing services all play another key role in how women navigate through the different pathways. Women often choose to refer to the private sector, preferring, as they have expressed in interviews, the better privacy and confidentiality of their cases, as well as prompt time of feedback of their results and treatment of their case. And given the availability of chemotherapy is largely available within the governmental sector, being not provided at the private or the NGO sector (at the exception of An-Najah Hospital and Augusta Victoria Hospital), women at this stage defer to governmental oncologists. By then, most cases will have developed late stages of breast cancer.

Previous studies and results of interviews undertaken within this Analytical Mapping revealed that many women didn't know how to perform breast self-examination, they were unaware of the need to undergo a mammogram screening, didn't undergo any screening, and didn't know about the availability of such services, or even confirmatory and treatment services. Women also tend to delay visiting a doctor after self-discovery

of first symptoms. Lack of knowledge, fear and social's stigma are among the main reasons for the delay in seeking early detection services and treatment of breast cancer. Also, the society's perception about the disease plays a major role in influencing how women behave when discovering they have breast cancer.

Finally, ***access of Gaza patients to get treatment in the West Bank or Jerusalem and denial or delays of permits to patients and their companions by the Israeli authorities*** still remain the greatest challenge for Gazian women with breast cancer. Treatment is delayed for several months, and interrupted on several occasions due to inability to obtain permits. This affects the health outcomes on women. Also, despite the efforts of the MoH and NGOs to facilitate the process of treatment for women from Gaza, by providing free accommodation for patients and companions in Jerusalem and Nablus while getting their treatment at An-Najah Hospital and Augusta Victoria Hospital, many other socio-economic challenges are encountered by these patients and companions that are currently not being addressed but have serious ramification on their families.

7. GENERAL RECOMMENDATIONS

What are the priority areas for enhancing pathways for survival?

Improving access to and utilization of breast care services and programs can improve early breast cancer detection, enhance health outcomes, as well as increase survival and quality of life for affected women. However, designing of and the implementation of programs to improve breast cancer care in a context like the occupied Palestinian territory (oPt) is extremely challenging, not only because of the limited resources and wide population needs, but also of the political context within which the Palestinian health system is operating. The Israeli occupation still restricts radiation treatment within the oPt.[28] Access to health care facilities in Jerusalem are for most women difficult and only after a long application process for travel permits to enter from the West Bank and the Gaza Strip to East Jerusalem. Gaza patients seeking medical care outside the Strip are being denied permits or delayed from getting the prompt care. As a result of the Israeli movement restrictions, this fragmentation of territories has been long disruptive for the continuum of care, particularly for cancer patients.[29]

This context needs to be taken into consideration when setting a vision and strategies for enhancing breast cancer care in Palestine. As such, policy makers and international community need to engage in advocacy work to mitigate the restrictions on movement imposed by the Israeli authorities on people from West Bank and Gaza in order to enhance equitable access to quality breast cancer care.

Priority Area 1: Developing a common breast cancer care strategy amongst all health care providers

In cooperation with all stakeholders (Palestinian health care providers, international organizations and donors), it is recommended to develop a common and unified vision and breast cancer care strategy to unify joint efforts towards enhancing outcomes that the Palestinian health care delivers for women affected by breast cancer. The strategy should include areas of change over the next five years across the care pathway, and emphasizing the importance of awareness raising, effective prevention, prompting accurate diagnosis and screening, as well as enhancing treatment and post-treatment services.

At its heart, it should set out a vision for what breast cancer patients should expect from the Palestinian health services, and key priorities for improvement of services, given the available financial and human resources, as well as the role of different stakeholders in this process.

Priority Area 2: Enhance extensive promotion of breast awareness through targeted promotion of self-breast exam, selective and effective screening programs, and addressing stigma, misconception and myths

Many factors of how women access services for breast cancer care is highly interlinked with their own

28 Weeam Hammoudeh, Dennis Hogan, and Rita Giacaman, From a Death Sentence to a Disrupted Life: Palestinian Women's Experiences and Coping With Breast Cancer, Sage Publication, 2016.

29 WHO, Regional Office for the Eastern Mediterranean, Right to health: Crossing barriers to access health in the occupied Palestinian territory 2016, Cairo, 2017, pp.5-20.

perception, knowledge, attitudes and practices. Hence, breast cancer awareness campaigns are crucial to emphasize the benefits of early detection by overcoming stigmas and spreading awareness about breast cancer.

Campaigns should be directed towards women, as well as husbands and family members, who should be motivated to encourage women to enroll in screening campaigns. Campaigns should also involve survivor groups and change perception of society about the disease. They should also aim to inform women about existing services and where they can refer to the different screening, confirmation and treatment across sectors. It is important to note here that awareness campaigns are most successful when screening and referral to confirmation and treatment services are incorporated as a key component. Incorporation of awareness campaigns within outreach mobile clinics has been a successful approach that should be further encouraged and maintained.

Particularly in terms of screening programs and because of the limited resources, within both the governmental and NGO sector, it is recommended that screening outreach programs target the high risk groups, identifying criteria for targeting based on age, family history of cancer, obesity, late menopause, exposure to radiation, etc.

It is also important to advocate for the development of screening protocols that could match between the availability of resources and the need. In addition, medical staff from all sectors should be trained on these protocols, as well as follow up systems implemented within the primary health care facilitates to ensure the implementation of screening protocols.

Priority Area 3: Enhancing coordination of care, referral networks and women navigation pathways and experiences

Breast cancer care is complex and can last long periods requiring series of test and various treatment and follow-up. Navigating this process can be sometimes challenging for patients and their families, especially when referral and services are not coordinated or patients face delays, or lack information about their treatment, or must travel long distances and incur additional costs (for travel, and accommodation, such as in the case of patients from Gaza). As such, it is important to enhance women's navigation pathways; i.e. how women, their families and caregivers access and navigate available breast care health services.

At the patient navigator level (health professionals), it is recommended to ensure adherence to the oncology protocols across sectors, through training of nurses, physicians, social workers, surgeons, etc. In addition, it is recommended to enhance the multidisciplinary approach and procedures in the treatment of cases through integrating institutionalized systems for case management within the governmental sector and the different departments, hospitals, etc., as well as with other health care providers in case of referrals.

Furthermore, it is also important to facilitate communication and coordination between the different providers and improve contracting modalities between the government and the NGO and private sectors, including agreement on fair prices, what area to purchase services, and how.

More sophisticated patient navigation services may include arranging financial support for particular cases

of patients (from Gaza, poor women, etc.). Information packages and orientation sessions about existing pathways and how to navigate through them in case of breast cancer should be disseminated to women and families, at primary, secondary and tertiary levels.

Priority Area 4: Enhancing knowledge production and sharing about the epidemiology of breast cancer and women's experiences

Although financial constraints are one barrier to improving breast cancer outcomes, there are other various barriers, including a lack of scientific and comprehensive epidemiologic information to guide resource planning for breast health care.

The Palestinian Cancer Registry (PCR) is a population-based registry established in 1996 under the umbrella of the Ministry of Health and started its regular work in 1998. The main purpose of the PCR is to define the size of the cancer problem and pattern of its occurrence.[30] Hence, the current cancer registry provides a great window of opportunity to generate knowledge on the epidemiology of breast cancer. But, incentive and follow up systems need to be established to encourage oncologists and hospitals to fill in the information needed to generate this knowledge.

At policy level, joint national analysis and knowledge sharing platforms need to be established in cooperation amongst all health care providers to reflect on challenges and opportunities for improvement of current services, as well as enhancing women's experiences when accessing care. Further research on breast cancer is also needed to feed into these national platforms, and provide entry points for future strategic planning and design of programs for breast cancer care.

Priority Area 5: Strengthening psychological support to women and their families, as well as responding to unmet needs of women with breast cancer and their families

Health providers need to expand their consideration of breast cancer, not only as a medical disease, but also highly interlinked with physical and psychosocial health issues that places women with other physical and psychological needs.

Women and their family members are at significantly increased risk for psychological symptoms. Women in focus groups often referred to going through distressful emotions, depression and anxiety. Similarly, children are influenced as well by the disease. Some women highlighted their sons and daughters going into depression, suffering from low academic performance in their education, as well as negative behavioral changes. Women often reiterated that psychological distress does not exist independently of social circumstances.

As complimentary services to women with breast cancer, health care providers need to reflect on how to integrate clinical assessment tools and protocols for the treatment of depression and anxiety for women with breast cancer, as well as provide supportive treatment services for women and their families in the form of individual and group counseling. Encouraging the establishment of forums and groups of women survivors could also be another component.

30 WHO, Health Inforum, Health Inforum Newsletter, Volume 1, No.15, 15 November 2002, pp.2-3.

Through cooperation between MoH and NGOs, it is also important to design programs that provide complimentary services for women and include breast reconstruction and prosthesis, as well as guidance on life style options and nutrition.

Particular attention should be given to patients from Gaza, their families and patients' companions, through supporting their accommodation, living, transportation and communication costs, as well as health and social needs of companions.

Action-oriented recommendations:

1- Immediate, short-term actions

a- support national capacity to provide holistic screening and confirmation services within the continuum of care frame in both West Bank and Gaza;

b- ensure availability of skilled practitioners within primary and secondary care facilities;

c- formally endorse and operartionalize a national screening protocol and guidelines that both respond to needs and capacity of health care providing institutions;

d- support treatment and post treatment programs in terms of availability and quality at the national level.

2- Mid-term actions:

a. develop a national strategy on breast cancer early detection and treatment involving public and private actors;

b. update evidence-based protocols for comprehensive treatment of cases including post-treatment care;

c. implement comprehensive capacity building program targeting national care providers;

d. establish treatment centers capable of providing care for all affected women through nationalization of care.

3- Long-term actions:

a. advocate for free movement of breast cancer patients towards treatment services;

b. support community action towards prevention and early detection;

c. enhance efforts addressing peer support in an effort to improve quality of life of those affected by the disease.

Annex 1: Experts interviewed

Organization	Contact person	Position
Ministry of Health	1. Dr. Asad Ramlawi	Deputy Minister
Primary Health Care Directorate	2. Dr. Kamal Al-Shakhra	Director General
Nursing Department	3. Dr. Aydda Zawaher	Director
Health Information System	4. Dr. Jawad Al-Bittar	Director
Public Health Department	5. Dr. Yasser Buzzieh	Director General PH
Community Health Department	6. Dr. Sawsan Abu Sharia	Director CHD
	7. Huda Laham	National Focal Point for Cancer
Service Purchase Unit	8. Dr. Amira Al-Hindi	Director General
Women Health Department/West Bank	9. Dr. Maha Awwad	Director
Women Health Department/Gaza	10. Dr. Sawsan Hammad	Director
Beit Jala Governmental Hospital	11. Dr. Ahmad Qurei	Oncologist, Head of Oncology
	12. Abeer Habbash	Public relation officer
	13. Salam Al-Qurta	Psychosocial Specialist, volunteer
	14. Khouloud Jawabreh	Nurse at oncology section
An-Najah Hospital	15. Dr. Ahmad Dalnah	Surgeon
	16. Dr. Hussam Salameh	Oncologist, Head of Oncology
Al-Watani Nablus Hospital	17. Dr. Mahmoud Nasoura	Oncologist, Head of Department
The Palestinian National Institute of Public Health	18. Dr. Izzat Rayyan	Public Health Officer
IntraHealth	19. Dr. Jihad Mashal	Deputy COP
Institute of Community and Public Health, Birzeit University	20. Dr. Rita Giacaman	Professor of public health
Juzour	21. Dr. Salwa Najjab	Director
Public Health institute	22. Dr. Salwa Massad	Researcher
UNFPA	23. Dr. Ali Nashat Shaar	Program Specialist/ SRH
PMRS	24. Dr. Khadija Jarrar	Director, Women's Health Program
Augusta Victoria Hospital	25. Dr. Walid Nammour	General Director
	26. Dr. Yousef Hamamreh	Director of Oncology Department
	27. Yahiya Khanafshe	Director of Chemotherapy Section
	28. Ahmad Abu Halaweh	Director of Community Programs
Family Planning Association Nablus	29. Dr. Ayman Darak	Director, surgeon
	30. Reem Barakat	Administrator
	31. Dr. Lordos	Mammography technician

Annex 2: List of organizations participating in the mapping survey

Institution	Governorate	Sector
1. Ramallah Governmental Hospital (Palestinian Medical Complex)	Ramallah	Governmental
2. Beit Jala Governmental Hospital	Bethlehem	Governmental
3. Palestinian Ministry of Health in Jericho (The Health Directorate)	Jericho	Governmental
4. Hebron Governmental Hospital	Hebron	Governmental
5. Palestinian Ministry of Health in Hebron (The Health Directorate)	Hebron	Governmental
6. Southern Hebron Health Directorate	Hebron	Governmental
7. Al-Watani Nablus Hospital	Nablus	Governmental
8. Rafidia Hospital	Nablus	Governmental
9. Nablus Primary Health Center	Nablus	Governmental
10. Al Rimal midical center	Gaza	Governmental
11. shifa hospital	Gaza	Governmental
12. Alranntissi Hospital	Gaza	Governmental
13. shiekh radwan medical centre	Gaza	Governmental
14. Indonisia hospital gaza	North Gaza	Governmental
15. Gaza Europian Hospital	Rafah	Governmental
16. Nasser Medical Complex	Khan Younis	Governmental
17. Abu Yousef Ennajjar	Gaza	Governmental
18. Al Aqsa Martyers hospital	Gaza	Governmental
19. Qalqilia health directorate	Qaliqilia	Governmental
20. Qalqilia Hospital	Qaliqilia	Governmental
21. Tulkarem Hospital (Thabet Thabet Hospital)	Tulkarem	Governmental
22. Jenin Hospital (Dr. Khalil Suliman)	Tulkarem	Governmental
23. Tubas Health Diroctirate PHC	Tubas	Governmental
24. Tulkarem Health Diroctorate PHC	Tubas	Governmental
25. Jenin Health Diroctorate PHC	Jenin	Governmental
26. Tubas Turkish Hospital	Jenin	Governmental
27. Salfit Ministry of Health	Salfit	Governmental
28. Salfit Governmental Hospital	Salfit	Governmental
29. Augusta Victoria Hospital	East Jerusalem	NGO

Institution	Governorate	Sector
30. Dunya Women's Cancer Center	Ramallah	NGO
31. Palestinian Red Crescect Hospital (Society)	Hebron	NGO
32. Pathology mamography center (family planning and protection society).	Nablus	NGO
33. Patient's Friend Society	Nablus	NGO
34. St. Luke's Hospital	Nablus	NGO
35. PRC al helal haider	Gaza	NGO
36. ahhli arabi	Gaza	NGO
37. Al Awda hospital	Gaza	NGO
38. Al Quds hospital PRCS	Gaza	NGO
39. RC Jabalia	Gaza	NGO
40. UHWC Al Awda Spcialist Health Center	Gaza	NGO
41. PRCS Palestine Red Crecent Society Al Amal Khanyounis Hospital	Gaza	NGO
42. Al Razi medical complex	Gaza	NGO
43. Culture and Free thoughts Association Women Health Center	Gaza	NGO
44. the center for mind and body medicine	Gaza	NGO
45. smile of hope for cancer	Gaza	NGO
46. aid and hope	Gaza	NGO
47. Hayfa charitable medical center association	Gaza	NGO
48. public aid society hospital	Gaza	NGO
49. Patient's friend Society / Tulkarem	Tulkarem	NGO
50. Al-Razi Hospital	Jenin	NGO
51. Azakah Hospital / Tulkarem	Tulkarem	NGO
52. Al-Shefaa Center / Tubas	Nablus	Private
53. Bethlehem Arab Society for Rehabilitation	Bethlehem	Private
54. Radiology Medical Center - Bethlehem	Bethlehem	Private
55. Istishari Arab Hospital	Ramallah	Private
56. Holy Family Hospital	Bethlehem	Private
57. Professional Lab	Ramallah	Private
58. Medi Care Pathology Consultants	Ramallah	Private
59. Palestine Center for Radiology	Hebron	Private

Institution	Governorate	Sector
60. Ttaybba Center for Radiology	Hebron	Private
61. Shaheen Radiology Center	Hebron	Private
62. Al- Hussein Center for Radiology	Hebron	Private
63. Beit Sahur cooperative society for health welfare - shepherd's field hospital	Bethlehem	Private
64. Al - Mizzan Hospital	Hebron	Private
65. Palestine Digital Radiology Center	Hebron	Private
66. Al- Quds Radiology Center	Hebron	Private
67. City Center Radiology Center	Hebron	Private
68. Nablus Speciality Hospital	Nablus	Private
69. Barham center for Radiology	Nablus	Private
70. Medicare / Nablus	Nablus	Private
71. Al Qasem center for radiology	Nablus	Private
72. Al Adham center for radiology	Nablus	Private
73. Haya Specialized Hospital Zant	Gaza	Private
74. Al Helou International Hospital	Gaza	Private
75. Gaza Diagnostic Center	Gaza	Private
76. Jaber Radilogy Center	Gaza	Private
77. Ajjour diagnostic center	Gaza	Private
78. Dar Alasheaah	Gaza	Private
79. Palestine Specialist Center	Gaza	Private
80. Dr.Husam Hamada	Gaza	Private
81. Specialised medical center Dr. abd el monem lubbad	Gaza	Private
82. Allaa Al Bayouk	Gaza	Private
83. Ashefaa Medical Center	Qaliqilia	Private
84. Alhaya Medical Center	Tulkarem	Private
85. Tulkarem Radiology Center	Tulkarem	Private
86. Alquds Radiology Center	Tulkarem	Private
87. Medicare Tulkarem / Al-Ashqar Mall	Tulkarem	Private
88. Medicare Tulkarem	Tulkarem	Private

Institution	Governorate	Sector
89. Digital Imaging Center	Jenin	Private
90. Alaqsa radiology center	Jenin	Private
91. Jenin Radiology Center	Jenin	Private
92. Medicare Jenin / Al-Shefaa Hospital	Jenin	Private
93.Medicare Jenin	Jenin	Private
94. Al-Itehad Hospital	Jenin	Private
95. Specialized Arab Hospital	Nablus	Private
96. Dr.Fayek Abu Rouk	Tulkarem	Private
97. Salfit Medical Lab	Salfit	Private
98. UNRWA	Gaza	UNRWA

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