香港乳癌資料庫
Hong Kong Breast Cancer Registry
An initiative of HK Breast Cancer Foundation
由香港乳癌基金會策動

Hong Kong Breast Cancer Registry Report No. 11

香港乳癌資料庫第十一號報告

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CONTENTS

FOREWORD 4
ABOUT THE HONG KONG BREAST CANCER FOUNDATION 6
ABOUT THE HONG KONG BREAST CANCER REGISTRY 8
AN OVERVIEW OF THE HONG KONG BREAST CANCER REGISTRY'S WORK 10
ABOUT THE PATIENT COHORT OF REPORT NO. 11 14
EXECUTIVE SUMMARY 16

CHAPTER 1 PREVENTION AND EARLY DETECTION OF BREAST CANCER 21
I. Introduction 22
II. Demographics 23
III. Risk Factors and Health Background 28
IV. Breast Screening Habits 37

CHAPTER 2 DISEASE PATTERN, TREATMENT TREND AND CLINICAL OUTCOME OF BREAST CANCER IN HONG KONG 43
I. Introduction 44
II. Clinical Presentation 46
III. Cancer Characteristics 51
IV. Histological and Biological Characteristics 61
V. Treatment Methods 66
VI. Patient Status 94

CHAPTER 3 PHYSICAL AND PSYCHOSOCIAL IMPACT OF BREAST CANCER AND ITS TREATMENT 99
I. Introduction 100
II. Physical Discomfort after Treatment 101
III. Psychosocial Impact and Adjustments after Diagnosis and Treatment 105

APPENDICES 197
APPENDIX I GLOSSARY 198
APPENDIX II AJCC CANCER STAGING SYSTEM (8th Edition) 205
APPENDIX III LIST OF TABLES AND FIGURES 210
APPENDIX IV REFERENCES 218
APPENDIX V HONG KONG BREAST CANCER REGISTRY STEERING COMMITTEE 221
APPENDIX VI HONG KONG BREAST CANCER REGISTRY'S PUBLICATIONS AND PRESENTATIONS 223
APPENDIX VII ABSTRACTS OF REPORTS NOS. 1-10 226
APPENDIX VIII HOW TO GET INVOLVED AND BREAST CANCER HK ONLINE 246
APPENDIX IX ACKNOWLEDGEMENTS 249

目錄

前言 5

關於香港乳癌基金會 7

關於香港乳癌資料庫 9

香港乳癌資料庫工作概覽 12

關於香港乳癌資料庫第十一號報告受訪群組 15

報告總結 18

第1章　預防和及早發現乳癌 109

I. 簡介 110

II. 患者人口統計資料 111

III. 風險因素及健康背景 116

IV. 乳房檢查習慣 125

第2章　香港乳癌病況、治療趨勢及臨床結果 131

I. 簡介 132

II. 臨床表現 134

III. 癌症特徵 139

IV. 組織學及生物學特徵 149

V. 治療方法 154

VI. 患者現況 182

第3章　乳癌及其診治對患者身心的影響 187

I. 簡介 188

II. 治療後的身體不適 189

III. 確診及治療後的心理影響及調節 193

附錄 197

附錄I 詞彙 202

附錄II 美國癌症聯合委員會（AJCC）第8版的乳癌分期 205

附錄III 圖表索引 214

附錄IV 參考資料 218

附錄V 香港乳癌資料庫督導委員會 221

附錄VI 香港乳癌資料庫發表的刊物及簡報資料 223

附錄VII 第一至十號報告摘要 236

附錄VIII 參與香港乳癌資料庫及乳癌在線 246

附錄IX 鳴謝 249

FOREWORD

I am pleased to present Report No. 11 of the Hong Kong Breast Cancer Registry (HKBCR).

Since its establishment in 2007, the HKBCR has consistently performed as a reliable platform for consolidating breast cancer related information and presenting meaningful findings in the hope of improving breast health care in Hong Kong.

Over 22,000 breast cancer patients have registered with the HKBCR (figure as of February 2019), making it the most comprehensive data collection and monitoring system for breast cancer in Hong Kong. The HKBCR covers almost 40% of all local breast cancer patients diagnosed annually and among them, 75% of the cases are reported from public sector. These achievements could not be attained without the generous participation of 61 private and public hospitals or clinics located in different districts in Hong Kong. More importantly, the HKBCR would not have existed without the medical information provided by these breast cancer patients and survivors. I wish to thank each and every one of them for their courage to be involved and their trust in our work.

The HKBCR, through its annual reports and bulletins, shares with medical professionals, patients, policy makers and the wider public, the results of its data analysis is recognised as an important source of information on breast cancer in Hong Kong. This year, Report No. 11 aims to examine the changes in the risk exposures, detection and treatment pattern of breast cancer in Hong Kong over time. According to their year of cancer diagnosis, the registered breast cancer patients are divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately. The results of our analysis indicated that while there were substantial changes in cancer treatment to improve patients' quality of life and overall survival, no significant improvement, however, could be observed in patients' breast screening habits over the years. Screening helps detect cancer early and early detection saves lives. These findings further highlighted the importance of increasing awareness of breast health and regular breast screening among women in Hong Kong.

A lot of work has gone into preparing this report. I wish to take this opportunity to express my sincerest gratitude to the guidance of the HKBCR Steering Committee, the efforts of our research team and the generosity of our sponsors and supporters. The HKBCR will continue to enhance its data analysis and conduct research studies with a view to identifying measures to improve breast health and cancer care for the benefit of the community of Hong Kong.

Dr. Polly Cheung
Chairman, Hong Kong Breast Cancer Registry Steering Committee
Founder, Hong Kong Breast Cancer Foundation

前言

我們誠意呈獻《香港乳癌資料庫第十一號報告》。

香港乳癌資料庫自2007年成立以來，持續提供一個可靠的平台，集合本地乳癌病例的數據，並在加以統計及分析後發佈重大的研究發現，藉以推動改善本港乳房健康政策及協助提升乳癌治療方案的發展。

登記加入資料庫的乳癌患者已有逾二萬二千名（數據截至2019年2月），使其保持為香港最全面的乳癌數據收集及監控系統。資料庫每年在本地確診的乳癌病例中覆蓋率可達至四成，其中有75%的患者個案在公立醫院收集。能成就此舉，全賴香港各區合共61間已加盟的公私營醫院和診所的踴躍參與。對香港乳癌資料庫而言，得以成立和發展全賴乳癌患者和康復者提供病歷資料。我懇切感恩每一位香港乳癌資料庫的參加者，為她們勇於投身的精神和對我們工作的信任頗為感動。

透過發表年度報告書和簡報，香港乳癌資料庫得以將數據分析的結果，分享予醫護專業人員、患者、政策制定者和廣大受眾，資料庫的數據分析結果亦有幸被廣泛認可為香港乳癌資訊的重要來源。今年第十一號報告書的目標為探究長久以來，乳癌的風險因素、檢測技術和治療方案的改變。已登記的乳癌患者將根據她們的確診年份分為三個受訪群組（即2006至2010年確診受訪群組、2011至2015年確診受訪群組和2016年至目前確診受訪群組）以作個別分析。我們的分析結果揭示，儘管為著提高患者生活質素和整體存活率，癌症治療已有不少的變化，但經年累月下來，仍未見患者的乳房檢查習慣有明顯的改善。而檢測有助及早發現乳癌，進而能拯救更多的生命。這些發現進一步強調了在本港婦女中，提高乳房健康意識和定期檢查乳房的重要性。

本報告書在籌備和編撰的過程中，凝聚了團隊的心血和多方的支持。為此，我希望籍此機會對他們致以最真誠的感謝，包括以遠見卓識引導我們的香港乳癌資料庫督導委員會，努力不懈的研究團隊，以及慷慨襄助的善長仁翁。香港乳癌資料庫將繼續加強對數據的分析和進行專題研究，冀望尋求改善乳房健康和癌症治理的有效措施，以此造福社群。

張淑儀醫生
香港乳癌資料庫督導委員會主席
香港乳癌基金會創會人

ABOUT THE HONG KONG BREAST CANCER FOUNDATION

The Hong Kong Breast Cancer Foundation (HKBCF), founded on 8 March 2005, is the first non-profit charitable organisation in Hong Kong dedicated to mitigating the threat of breast cancer to the local community through education, patient support, research and advocacy. The HKBCF is operated by Hong Kong Breast Cancer Foundation Limited.

Mission

- Promote public awareness of breast cancer and the importance of breast health
- Support breast cancer patients on their road to recovery
- Advocate better breast health and breast cancer care in Hong Kong

Work

- Provides breast health education, risk assessment, breast screening and diagnostic services, including mammography and ultrasound screening, needle biopsy and consultation with surgeons, through its two **Breast Health Centres**
- Provides holistic breast cancer care for patients and their families including peer emotional support, professional counselling, paramedical care such as lymphoedema prevention and treatment, drug assistance and other support services through its two **Breast Cancer Support Centres**
- Collects data on local breast cancer cases, monitors its changes and publishes findings and analyses through the **Hong Kong Breast Cancer Registry** of its **Breast Cancer Research Centre (BCRC)**; the BCRC also undertakes other breast cancer researches to facilitate the development and advocacy of better treatment and care for breast cancer and more appropriate healthcare control policies in Hong Kong

關於香港乳癌基金會

香港乳癌基金會於2005年3月8日成立，是本港首間專注乳健教育、患者支援、研究及倡議的非牟利慈善組織，致力減低乳癌在本地的威脅，該基金會由香港乳癌基金會有限公司營運。

使命

- 提高公眾對乳癌的認識及推廣乳房健康的重要性。
- 支援乳癌患者踏上康復之路。
- 倡議改善本港乳健及乳癌防控和醫護方案。

工作

- 透過轄下的兩間**乳健中心**：提供乳健教育，罹患乳癌的風險評估和乳房檢查及診斷服務，包括乳房X光造影檢查、超聲波檢查、抽針活組織檢查和醫生諮詢服務等。
- 透過轄下的兩間**乳癌支援中心**：為乳癌患者和其家人提供全面的乳癌治理，包括同路人情緒支緩，專業輔導，護理支援如淋巴水腫護理服務，藥物資助和其他支援服務。
- 透過轄下的**乳癌研究中心**：屬下的**香港乳癌資料庫**收集及監察本地乳癌個案數據，定期發表分析和研究結果。乳癌研究中心亦進行其他乳癌研究以推動有關改進香港乳癌醫護及制訂更適切的醫療政策的倡議和發展。

ABOUT THE HONG KONG BREAST CANCER REGISTRY

The Hong Kong Breast Cancer Registry (HKBCR) was established in 2007 by the Hong Kong Breast Cancer Foundation (HKBCF) and has since grown to become the most comprehensive and representative data collection and monitoring system for breast cancer in Hong Kong.

The HKBCR aims to collect and conduct analyses on data from local breast cancer cases to provide comprehensive reports on patient demographics, risk exposures, clinical examinations, treatments, clinical outcomes and psychosocial impact on patients. These reports allow patients, medical professionals and public health policy makers to better understand breast cancer in Hong Kong and be informed of up-to-date facts regarding the disease. These reports also provide insights and evidence to support the HKBCF's advocacy for better prevention, detection and treatment of breast cancer.

The HKBCR's work is guided by a committee, the Hong Kong Breast Cancer Registry Steering Committee, consisting of doctors, professionals from the legal, business management and public health fields, and breast cancer patients.

The HKBCF launched Breast Cancer HK Online (BRCA Online, http://brcaonline.hkbcf.org/) in May 2014. It is a virtual platform which enables easy access by registered medical professionals to the valuable data collected and analysed by the HKBCR.

Data analyses and study findings by the HKBCR are published annually in the ***Hong Kong Breast Cancer Registry Report*** and ***HKBCR Bulletin***.

Information about the HKBCR as well as research reports and bulletins are available online:
https://www.hkbcf.org/en/our_research/main/32/

The HKBCR is a member of the International Association of Cancer Registries (IACR).

Objectives

- Empower those affected by breast cancer with information about local breast cancer and the treatment paths of fellow patients
- Facilitate medical professionals' decision making process on the treatment and care for breast cancer patients
- Inspire policy changes for better prevention, detection, diagnosis and treatment of breast cancer and rehabilitation of patients

關於香港乳癌資料庫

香港乳癌資料庫由香港乳癌基金會於2007年創立，迄今已發展為本港最全面及最有代表性的乳癌資料庫及監察系統。

香港乳癌資料庫旨在收集全港乳癌個案的數據，包括患者統計資料、罹患乳癌的高危因素、臨床病徵、治療方法、成效及對患者的身心影響等。這些數據的分析及研究結果將有助患者、醫護人員及公共衛生政策制定者進一步了解本港乳癌的實況及掌握最新資訊。同時，亦為我們在改善乳癌防控、檢測及治療方面提供寶貴的參考。

香港乳癌資料庫由醫生、法律界、管理專業、公共衛生專業人士及乳癌患者代表組成的委員會督導。

香港乳癌基金會於2014年5月推出「乳癌在線」網上平台（http://brcaonline.hkbcf.org/），讓醫護人員可以充分利用香港乳癌資料庫搜集及分析的數據結果，作為參考資料。

香港乳癌資料庫每年都會出版***香港乳癌資料庫報告***及***香港乳癌資料庫簡報***。

詳情請瀏覽以下網址：https://www.hkbcf.org/zh/our_research/main/32/

香港乳癌資料庫是國際腫瘤登記協會的成員。

宗旨

- 為乳癌患者及康復者提供有關本地乳癌個案的資訊及其他患者的治療選擇，增強他們對抗乳癌的能力。
- 為醫護人員提供參考，以助他們為病人作出適當的治療及護理決定。
- 促進政策或制度的改變，改善本港乳癌防控、檢查、診斷、治療及護理的方案。

AN OVERVIEW OF THE HONG KONG BREAST CANCER REGISTRY'S WORK

Breast cancer in Hong Kong

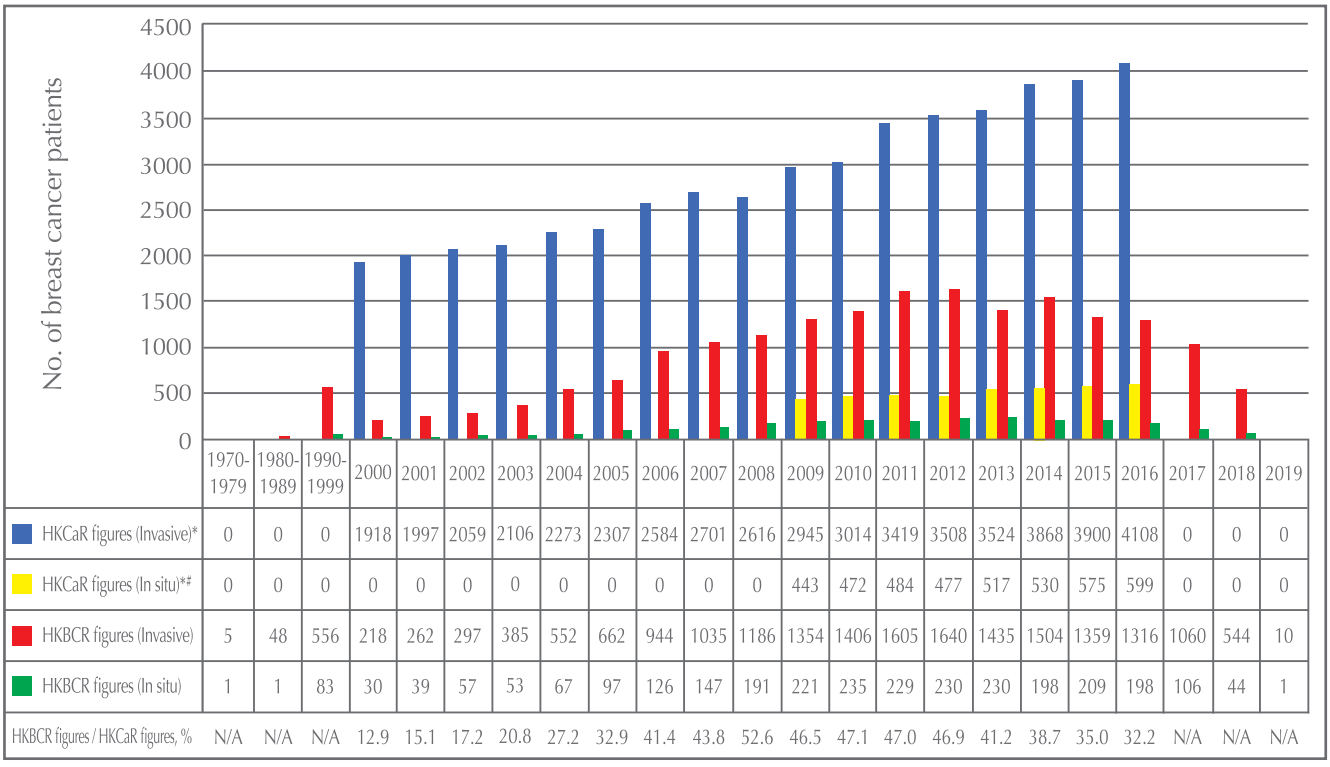
Breast cancer is the most common cancer among women in Hong Kong. In 1994, 1,266 women in Hong Kong were diagnosed with invasive breast cancer. The figure tripled to 4,108 women in 2016, accounting for 26.6% of all new female cancer cases in that year. The cumulative lifetime risk of developing breast cancer is also on the increase: from one in 21 women in 2008 to one in 15 women in 2016.[1]

Breast cancer has the third highest mortality rate among all female cancer deaths. In 2016, 702 women died of breast cancer.[1]

About 22,000 patients registered with the Hong Kong Breast Cancer Registry

Between 2008 and February 2019, about 22,000 breast cancer patients have registered with the Hong Kong Breast Cancer Registry (HKBCR) and participated in the data collection and analyses of the HKBCR.

Figure I: Distribution of year of diagnosis of HKBCR participants



	1970-1979	1980-1989	1990-1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HKCaR figures (Invasive)*	0	0	0	1918	1997	2059	2106	2273	2307	2584	2701	2616	2945	3014	3419	3508	3524	3868	3900	4108	0	0	0
HKCaR figures (In situ)*#	0	0	0	0	0	0	0	0	0	0	0	0	443	472	484	477	517	530	575	599	0	0	0
HKBCR figures (Invasive)	5	48	556	218	262	297	385	552	662	944	1035	1186	1354	1406	1605	1640	1435	1504	1359	1316	1060	544	10
HKBCR figures (In situ)	1	1	83	30	39	57	53	67	97	126	147	191	221	235	229	230	230	198	209	198	106	44	1
HKBCR figures / HKCaR figures, %	N/A	N/A	N/A	12.9	15.1	17.2	20.8	27.2	32.9	41.4	43.8	52.6	46.5	47.1	47.0	46.9	41.2	38.7	35.0	32.2	N/A	N/A	N/A

HKCaR figures: cases of breast cancer recorded by the Hong Kong Cancer Registry, Hospital Authority
HKBCR figures: the number of patients/survivors who have registered with the Hong Kong Breast Cancer Registry, Hong Kong Breast Cancer Foundation
* Data for years marked with "0" are not publicly available or not published by the Hong Kong Cancer Registry, Hospital Authority
# For the number of in situ cancer cases, only data for 2009-2016 are publicly available and published by the Hong Kong Cancer Registry, Hospital Authority

Participating hospitals and clinics

The HKBCR aims to collect data on as many breast cancer cases as possible so as to present comprehensive reports on breast cancer in Hong Kong. The success of the HKBCR relies heavily on the participation of breast cancer patients and the support of medical and healthcare professionals. At present, 61 public and private hospitals and clinics have joined as participating sites of the HKBCR. They include:

- Hong Kong Adventist Hospital*
- Hong Kong Baptist Hospital*
- Hong Kong Sanatorium and Hospital*
- Kwong Wah Hospital
- North District Hospital
- Our Lady of Maryknoll Hospital
- Pamela Youde Nethersole Eastern Hospital
- Pok Oi Hospital
- Prince of Wales Hospital
- Princess Margaret Hospital*
- Queen Elizabeth Hospital
- Queen Mary Hospital*
- Ruttonjee Hospital
- St. Paul's Hospital
- Tseung Kwan O Hospital
- Tsuen Wan Adventist Hospital
- Tuen Mun Hospital
- Union Hospital
- United Christian Hospital
- Yan Chai Hospital

  and
- 36 Private clinics

* With multiple participating sites

香港乳癌資料庫工作概覽

香港乳癌概況

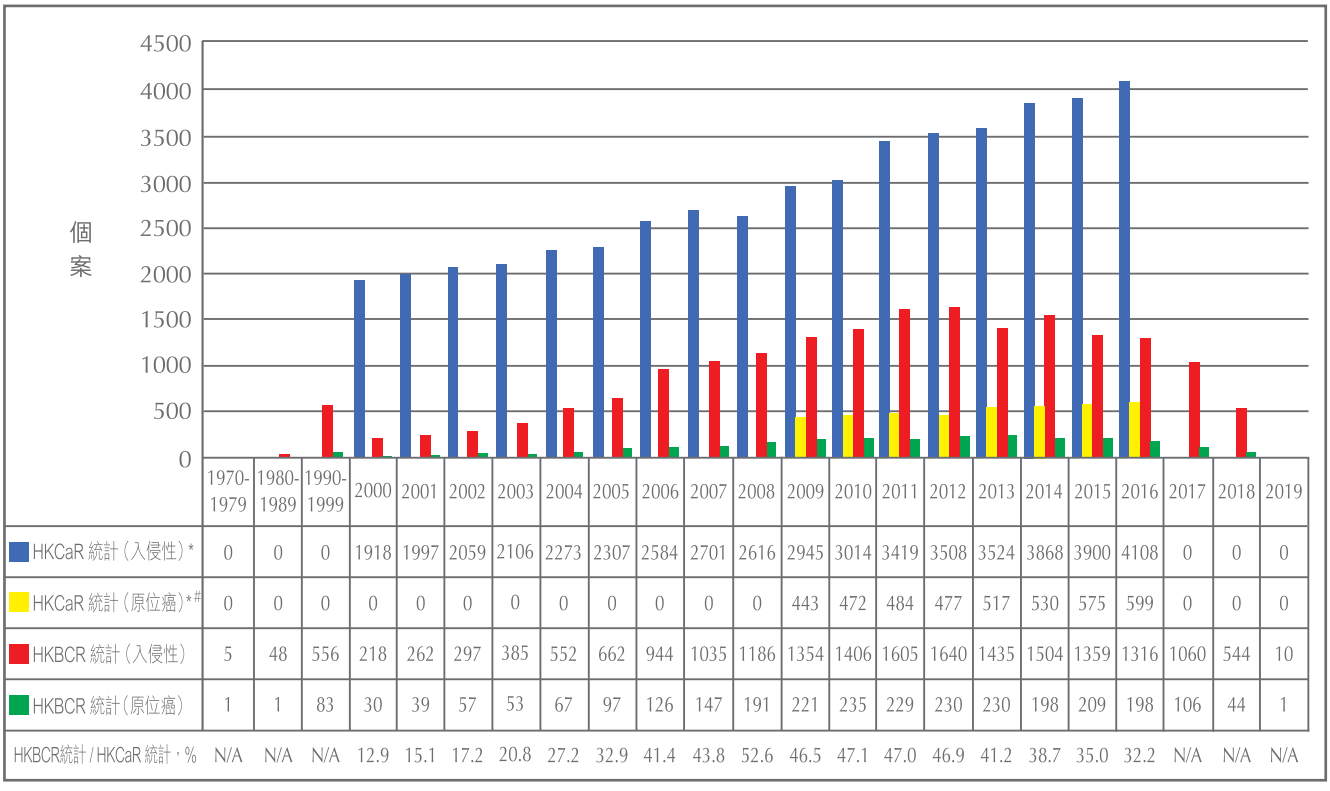
乳癌是香港婦女最常見的癌症。在1994年，本港有1,266名婦女確診患有入侵性乳癌。在2016年，乳癌確診個案增加了三倍至4,108，佔該年女性癌症患者個案的26.6%。統計顯示，香港婦女罹患乳癌的一生累積風險比率有所增加，由2008年的每21人中有1人，上升至2016年的每15人中有1人。[1]

乳癌是本港婦女第三位致命的癌症。在2016年，本港有702名婦女因乳癌而死亡。[1]

約有 22,000人登記加入香港乳癌資料庫

由2008年開始至2019年2月期間，已經有約22,000位乳癌患者登記加入香港乳癌資料庫，為我們提供數據以作分析及研究之用。

圖I：香港乳癌資料庫參加者的確診年份分佈



	1970-1979	1980-1989	1990-1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HKCaR 統計（入侵性）*	0	0	0	1918	1997	2059	2106	2273	2307	2584	2701	2616	2945	3014	3419	3508	3524	3868	3900	4108	0	0	0
HKCaR 統計（原位癌）*#	0	0	0	0	0	0	0	0	0	0	0	0	443	472	484	477	517	530	575	599	0	0	0
HKBCR 統計（入侵性）	5	48	556	218	262	297	385	552	662	944	1035	1186	1354	1406	1605	1640	1435	1504	1359	1316	1060	544	10
HKBCR 統計（原位癌）	1	1	83	30	39	57	53	67	97	126	147	191	221	235	229	230	230	198	209	198	106	44	1
HKBCR統計 / HKCaR 統計，%	N/A	N/A	N/A	12.9	15.1	17.2	20.8	27.2	32.9	41.4	43.8	52.6	46.5	47.1	47.0	46.9	41.2	38.7	35.0	32.2	N/A	N/A	N/A

HKCaR統計：醫管局香港癌症資料統計中心收錄的乳癌個案數目

HKBCR統計：登記加入香港乳癌基金會香港乳癌資料庫的人數

* “0”代表醫管局香港癌症資料統計中心沒有收集或未有公布有關數據

除2009-2016年以外，醫管局香港癌症資料統計中心沒有公布原位癌個案數目

參與診所 / 醫院

香港乳癌資料庫的目標為搜集本地乳癌個案的數據，以掌握香港整體的乳癌實況。香港乳癌資料庫的成功，有賴乳癌患者、康復者的參與和專業醫護人員的支持。目前，本港已有61間公立及私營醫院和診所成為乳癌資料庫的研究合作單位。參與診所 / 醫院包括：

- 香港港安醫院*
- 香港浸信會醫院*
- 香港養和醫院*
- 廣華醫院
- 北區醫院
- 聖母醫院
- 東區尤德夫人那打素醫院
- 博愛醫院
- 威爾斯親王醫院
- 瑪嘉烈醫院*
- 伊利沙伯醫院
- 瑪麗醫院*
- 律敦治醫院
- 聖保祿醫院
- 將軍澳醫院
- 荃灣港安醫院
- 屯門醫院
- 仁安醫院
- 基督教聯合醫院
- 仁濟醫院

  及
- 36間私家診所

* 多於一間收集中心

ABOUT THE PATIENT COHORT OF REPORT NO.11

As of February 2019, a total of 22,176 breast cancer patients were registered with the Hong Kong Breast Cancer Registry (HKBCR). **Only patients (n= 19,034) who were diagnosed from 2006 onwards were included in this report.** Of these patients, 4,864 (25.6%) were registered at private clinics or hospitals and the remaining 14,170 (74.4%)through public hospitals.

Upon receiving written consent from the patients, the HKBCR research staff gathered information including demographics, lifestyle, health background, breast screening habits, physical discomfort after treatment, psychosocial impact and lifestyle adjustments after diagnosis and therapy (Chapters 1 and 3 data) through standardised questionnaires. The HKBCR research staff also collected data on cancer characteristics and treatment modality (Chapter 2 data) from patients' medical records. Patient follow-up was conducted on an annual basis, and data regarding patient recurrence or metastasis were also collected, including date and site of disease recurrence.

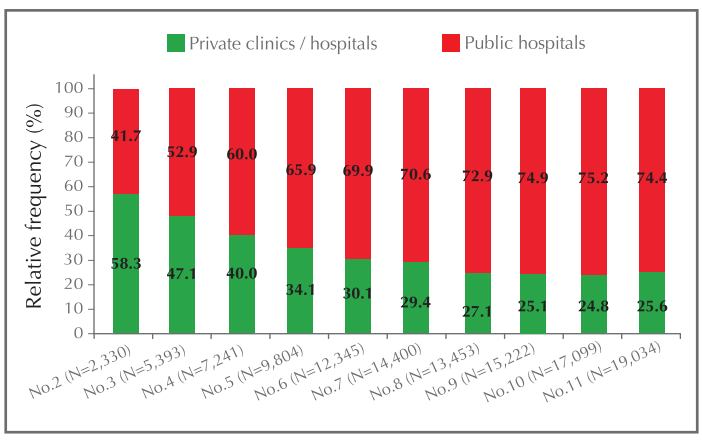
The number of patients whose data were used for analyses in each chapter of this report is shown in Table 1. Patients in this report, according to their year of cancer diagnosis, were divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately.

The patients included in this report who were diagnosed between 2006 and 2016 represented about 40% of all the breast cancer cases reported by the Hong Kong Cancer Registry of the Hospital Authority in those years. Conclusions and observations are drawn solely from the data analyses of the patient participants of the HKBCR, who are part of the breast cancer patient population. Increased participation from hospitals and clinics in Hong Kong has helped render the data more representative over the years. Since the publication of the first HKBCR report, an increasing percentage of patients from public hospitals has been covered (Figure II): from 41.7% (Report No. 2) to 74.4% (this report) which is almost the same as the estimated percentage (75%) of breast cancer patients who use public health sector services.

Table I: Number of patients whose data were used for analyses in different chapters of Report No. 11

Chapter	Number of patients
Chapter 1	18,663
Chapter 2	18,358
Patient Status follow up	16,603
Chapter 3	16,222

Figure II: Sources of patient consent in HKBCR reports



關於香港乳癌資料庫第十一號報告受訪群組

截至2019年2月，共有22,176乳癌患者登記加入香港乳癌資料庫。**本報告書只包括了19,034名在2006年或以後確診的乳癌患者。**當中4,864 (25.6%) 從私家診所/醫院招募，其餘的14,170 (74.4%) 則透過公立醫院登記。

香港乳癌資料庫的研究人員收到參加者的書面同意後，會向參加者發出問卷以收集資料，包括人口統計、生活模式、健康背景、乳房檢查習慣、治療後身體不適的狀況，以及接受診斷和治療後的心理影響和生活方式的調整（詳見報告第一章和第三章）。此外，研究人員亦會從個人病歷紀錄中擷取參加者的癌症特徵和治療方式等資料（詳見報告第二章）。參加者接受每年一次的跟進，以更新任何復發或腫瘤轉移的資料，包括日期及受影響的身體部位。

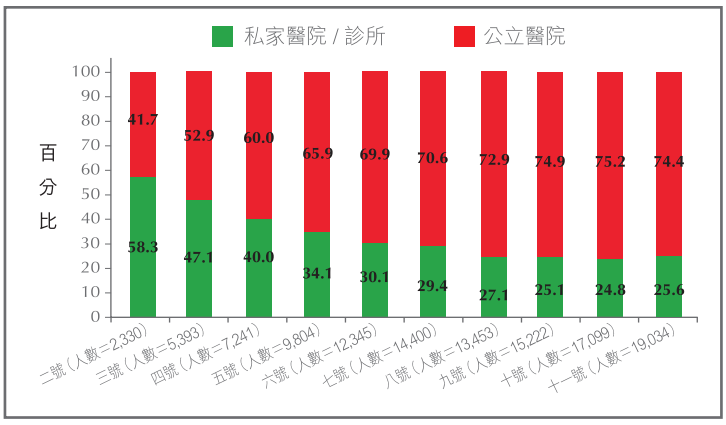
本報告書內不同章節所用作分析的患者數目列於表I。本報告書根據患者的確診年份，將患者分成三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）作數據分析。

本報告書內於2006年至2016年期間確診的患者，大約佔這段期間醫管局香港癌症資料統計中心所匯報的所有乳癌病例的40%。因此所有「結論/觀察」都只是取自香港乳癌資料庫的參與者的數據，只代表部份的乳癌患者群組。多年來，參與的香港診所及醫院數量增加，令資料庫的數據更具代表性。自從香港乳癌資料庫的年度報告書出版以來，覆蓋的公立醫院患者越來越多，從第二號報告書的41.7%增加到本報告書的74.4%，接近使用公立醫療服務的乳癌患者估計比例 (75%)。詳見圖II。

表I： 本報告書內不同章節所用作分析的患者數目

章節	患者數目
第1章	18,663
第2章	18,358
患者現況	16,603
第3章	16,222

圖II：香港乳癌資料庫報告書的患者來源分佈



EXECUTIVE SUMMARY

- This report covered 19,034 breast cancer patients who were diagnosed from 2006 onwards. According to their year of cancer diagnosis, these patients were divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately.
- The median ages of the patients at diagnosis in the three cohorts ranged from 50.2 to 54.4.
- Around two-thirds (58.2%-69.1%) of the patients were aged between 40 and 59.

Risk factors

- The 10 most common risk factors for developing breast cancer and the respective percentage of patients having each risk factor in the patient cohorts:

	%
Lack of exercise (<3hrs/week)	76.5-78.6
No breastfeeding	64.5-67.1
Being overweight/obese	37.1-39.3
High levels of stress (>50% of time)	36.0-37.2
No childbirth/first live birth after age 35	23.8-30.4
Family history of breast cancer	14.1-17.0
Diet rich in meat/dairy products	13.5-14.4
Early menarche (<12 years old)	13.4-14.3
Habit of drinking alcohol	4.8-7.3
Use of hormone replacement therapy	2.5-4.4

Screening habits

- The overall patients' breast screening habits were poor. Patients who underwent regular breast self-examination (19.3%-21.6%), mammography screening (18.8%-19.9%), or breast ultrasound screening (15.5%-19.0%) accounted for one-fifth or less.
- Breast screening habits decreased with increasing age.
- Patients who attained lower education level or had lower monthly household income were less likely to undergo regular breast screening than those with higher educational levels or higher incomes.
- A higher proportion (63.8%-69.3%) of the patients aged 40 or above had never undergone mammography screening prior to cancer diagnosis.

Cancer characteristics, histological and biological characteristics

- The primary method of first cancer detection in the patient cohorts was self-detection by chance (81.4%-84.2%). More stage 0 or I cancer cases (31.8%-36.6% and 11.9%-16.6% respectively) were detected by mammography screening (MMG) than stage III or IV cancer cases (2.2%-2.9% and 0.7%-3.9% respectively).
- After the onset of symptoms, only about one-third (32.7%-38.2%) of the patients who self-detected their cancer by chance sought first medical consultation in less than one month. More than one quarter (27.9%-31.7%) waited more than three months before seeking first medical consultation.
- Among the patients in the cohorts, 11.6%-12.5% were diagnosed with in situ cancer, 66.8%-69.5% were diagnosed with early stage cancer (stages I-IIB), and 14.9%-17.7% were diagnosed with stage III-IV cancer.
- The mean size of tumours of invasive breast cancer in each patient cohort was 2.2 cm (standard deviation: ±1.5 cm). Tumours larger than two cm were found in 46.8%-48.0% of the patients. In each cohort, screen-detected tumours were significantly smaller than those self-detected by chance (mean: 1.3 cm vs. 2.3 cm).
- The mean size of tumours of in situ breast cancer in each patient cohort was 2.0 cm (standard deviation: ±1.7 cm). Tumours larger than two cm in size were found in 30.4%-36.3% of the patients.
- The following table shows the histological and biological characteristics of invasive cancer and in situ cancer in the three cohorts:

	Invasive tumours %	In situ tumours %
Histological type		
Ductal	86.9-87.3	93.1-93.6
Others	12.7-13.1	6.4-7.4
Biological characteristics		
ER+	76.3-82.8	80.4-84.2
PR+	63.9-69.3	71.2-78.5
HER2+	17.5-24.7	17.5-28.9
Ki-67 index ≥ 14%	57.2-68.7	28.1-47.6
ER-PR-HER2-	10.5-12.0	—
Lymphovascular invasion	23.1-28.9	—

ER+/-: estrogen receptor positive/negative
PR+/-: progesterone receptor positive/negative
HER2+/-: human epidermal growth factor receptor 2 positive/negative

Treatment

- Of the 18,358 patients, 10.0%-14.5% received treatment at private medical service, 46.6%-53.6% received treatment at public medical service, and 33.6%-38.8% received treatment at both private and public medical services.
- Combinations of treatments are usually used for treating breast cancer effectively. In general, the number of treatments increased with increasing cancer stage.
- The following table shows the treatment utilization in the patient cohorts:

	Total	Treatment in private sector	Treatment in public sector	Stage					
	%	%	%	0 %	I %	IIA %	IIB %	III %	IV %
Surgery	**97.4-98.4**	**47.0-53.5**	**46.5-53.0**						
Breast-conserving surgery	34.9-40.4	33.1-41.0	59.0-66.9	52.1- 59.0	46.9- 56.0	34.7- 39.5	22.2- 24.9	12.8- 14.9	6.9- 19.0
Mastectomy	59.6-65.1	54.0-59.7	40.3-46.0	41.0- 47.9	44.0- 53.1	60.5- 65.3	75.1- 77.8	85.0- 87.1	81.0- 93.1
Radiotherapy									
with breast-conserving surgery	92.7-95.2	14.3-19.3	80.7-85.7	92.2- 95.3	92.9- 95.9	93.7- 94.5	93.6- 96.3	93.9- 97.8	75.0- 100.0
with mastectomy	44.6-45.4	6.1-7.7	92.3-93.9	2.8- 3.7	9.3- 14.0	31.9- 37.7	73.1- 78.6	89.9- 94.4	63.7- 85.3
Chemotherapy	**52.0-61.9**	**12.2-14.2**	**85.8-87.8**	—	**29.9- 42.3**	**67.8- 82.9**	**83.0- 91.6**	**91.5- 94.9**	**73.5- 86.2**
Endocrine therapy	**67.6-69.1**	**7.4-12.0**	**88.0-92.6**	**10.3- 12.8**	**75.4- 81.8**	**74.0- 80.1**	**75.3- 77.6**	**71.5- 75.4**	**75.0- 85.0**
Anti-HER2 targeted therapy*	**43.1-79.5**	**9.7-13.0**	**87.0-90.3**	—	**28.2- 66.1**	**44.1- 85.2**	**49.5- 87.0**	**58.6- 89.4**	**53.3- 90.6**

* Among patients with human epidermal growth factor receptor 2 (HER2) positive only

Physical discomfort after treatment

- Among all treatments, chemotherapy was the most distressing treatment for patients: 40.1%-54.1% of the patients reported having severe discomfort during or after chemotherapy.
- The following table shows the proportions of patients who reported having severe discomfort and the most common forms of discomfort for different treatments:

Treatment	Severe discomfort %	Most common forms of discomfort (%)
Chemotherapy	40.1-54.1	Vomiting (10.0-26.6), loss of appetite (10.3-19.9), hair loss (6.0-17.3)
Radiotherapy	11.7-14.4	Dry skin (11.5-16.5), skin burns (5.1-10.5)
Surgery	8.4-10.3	Wound pain (16.3-22.3)
Endocrine therapy	7.8-9.4	Hot flushes (11.2-15.0)
Anti-HER2 targeted therapy	5.0-7.8	Fatigue (3.3-5.3)

Psychosocial impact of diagnosis and treatment

- At diagnosis, 45.5%-53.0% of the patients accepted their diagnosis with a calm or positive attitude. In contrast, 20.0%-25.3% could not accept their diagnosis.
- Two-fifths to about one-half (40.8%-52.8%) of the patients reported having a positive change in their outlook on life and a slightly lower proportion (32.4%-44.8%) reported having a positive change in their self-image after cancer diagnosis and treatment.
- About three-quarters (74.4%-82.3%) of the patients reported having changes in their lifestyle after diagnosis with breast cancer. A change in diet (69.7%-74.8%) was the most common lifestyle change, followed by increased exercise (57.9%-62.5%).
- In the patient cohorts, the two most common ways of managing negative emotions were direct verbal expression (49.3%-55.7%) and diverting attention from negative emotions (25.3%-33.2%).
- About a quarter (22.8%-28.2%) of the patients did not worry about recurrence, while one-half to three-fifths (52.5%-58.8%) always or sometimes worried about recurrence. In each cohort, the proportion of patients who never worried about recurrence increased with increasing age, while the proportion of patients who always worried about recurrence decreased with increasing age.

報告總結

- 本報告涵蓋了19,034名於2006年或以後確診的乳癌患者資料。本報告書根據患者的確診年份，將患者分成三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）作數據分析。
- 三個受訪群組中，患者確診乳癌的年齡中位數介乎於50.2歲至54.4歲不等。
- 受訪群組中，約有三分之二（58.2%-69.1%）患者的年齡介乎於40-59歲。

乳癌高危因素

- 受訪群組中常見的十大乳癌高危因素及患者擁有該高危因素的比率：

	%
缺乏運動（每周少於3小時）	76.5-78.6
從未餵哺母乳	64.5-67.1
超重 / 肥胖	37.1-39.3
高度精神壓力（超過一半時間）	36.0-37.2
沒有生育 / 35歲後首次生育	23.8-30.4
有乳癌家族病史	14.1-17.0
飲食含豐富肉類/乳類製品	13.5-14.4
提早初經（<12歲）	13.4-14.3
飲酒習慣	4.8-7.3
曾使用荷爾蒙補充劑治療	2.5-4.4

乳房檢查習慣

- 整體而言，患者缺乏乳房檢查習慣。少於四分之一的患者定期進行自我乳房檢查（19.3%-21.6%）、接受乳房X光造影檢查（18.8%-19.9%）或接受乳房超聲波檢查（15.5%-19.0%）。
- 患者年齡愈高，愈少有乳房檢查習慣。
- 相比教育程度或每月家庭收入高的患者，教育程度或每月家庭收入較低的患者較少接受定期的乳房檢查。
- 在未確診乳癌前，高比率（63.8%-69.3%）的40歲或以上患者從未接受乳房X光造影檢查。

癌症特徵、組織學及生物學特性

- 自己無意中發現是受訪群組中最主要發現乳癌的方式（81.4%-84.2%）。相比III期或IV期患者（分別有2.2%-2.9%及0.7%-3.9%），較多0期或I期的患者（分別有31.8%-36.6%及11.9%-16.6%）經由乳房X光造影檢查發現。
- 自我發現乳癌的患者在症狀出現後，只有約三分之一（32.7%-38.2%）在一個月內首次求醫，有多於四分之一（27.9%-31.7%）則在三個月或以後才首次求醫。
- 受訪群組中，11.6%至12.5%的患者被診斷為原位乳癌，66.8%至69.5%癌症期數屬於早期（I至IIB期），14.9%至17.7%則屬於晚期癌症（III及IV期）。
- 入侵性乳癌的腫瘤平均大小為2.2厘米（標準偏差：±1.5厘米）。46.8%至48.0%患者的腫瘤大於2厘米。各個受訪群組中，經乳房X光造影檢查發現的入侵性腫瘤明顯小於由無意中自我發現的腫瘤（平均大小：1.3厘米比2.3厘米）。
- 原位乳癌的腫瘤平均大小是2.0厘米（標準偏差：±1.7厘米）。30.4%至36.3%患者的腫瘤大於2厘米。
- 以下列表顯示受訪群組中入侵性及原位乳癌腫瘤的組織學及生物學特性：

	入侵性腫瘤 %	原位癌腫瘤 %
組織學類別		
乳腺管癌	86.9-87.3	93.1-93.6
其他	12.7-13.1	6.4-7.4
生物學特性		
ER+	76.3-82.8	80.4-84.2
PR+	63.9-69.3	71.2-78.5
HER2+	17.5-24.7	17.5-28.9
Ki-67指數 ≥ 14%	57.2-68.7	28.1-47.6
ER-PR-HER2-	10.5-12.0	——
入侵淋巴管	23.1-28.9	——

ER+/-: 雌激素受體呈陽性 / 陰性
PR+/-: 黃體酮受體呈陽性 / 陰性
HER2+/-: 第二型人類上皮生長素受體呈陽性 / 陰性

治療

- 在受訪的18,358患者中，10.0%至14.5%患者在私營醫療機構接受治療，46.6%至53.6%在公營醫療機構接受治療，及33.6%至38.8%在私營及公營醫療機構接受治療。
- 要有效治療乳癌，綜合使用多種療法是常見的。一般而言，受訪群組中，確診時癌症期數愈高，需要接受的療法就愈多。
- 以下列表顯示各種療法在受訪群組中的使用程度：

	整體	在私營醫療機構接受治療	在公營醫療機構接受治療	期數					
				0	I	IIA	IIB	III	IV
	%	%	%	%	%	%	%	%	%
手術治療	**97.4-98.4**	**47.0-53.5**	**46.5-53.0**						
乳房保留手術	34.9-40.4	33.1-41.0	59.0-66.9	52.1-59.0	46.9-56.0	34.7-39.5	22.2-24.9	12.8-14.9	6.9-19.0
乳房切除手術	59.6-65.1	54.0-59.7	40.3-46.0	41.0-47.9	44.0-53.1	60.5-65.3	75.1-77.8	85.0-87.1	81.0-93.1
放射性治療									
接受乳房保留手術的患者	92.7-95.2	14.3-19.3	80.7-85.7	92.2-95.3	92.9-95.9	93.7-94.5	93.6-96.3	93.9-97.8	75.0-100.0
接受乳房切除手術的患者	44.6-45.4	6.1-7.7	92.3-93.9	2.8-3.7	9.3-14.0	31.9-37.7	73.1-78.6	89.9-94.4	63.7-85.3
化學治療	**52.0-61.9**	**12.2-14.2**	**85.8-87.8**	—	**29.9-42.3**	**67.8-82.9**	**83.0-91.6**	**91.5-94.9**	**73.5-86.2**
內分泌治療	**67.6-69.1**	**7.4-12.0**	**88.0-92.6**	**10.3-12.8**	**75.4-81.8**	**74.0-80.1**	**75.3-77.6**	**71.5-75.4**	**75.0-85.0**
抗HER2靶向治療*	**43.1-79.5**	**9.7-13.0**	**87.0-90.3**	—	**28.2-66.1**	**44.1-85.2**	**49.5-87.0**	**58.6-89.4**	**53.3-90.6**

*只包括HER2（第二型人類上皮生長素受體）呈陽性的患者

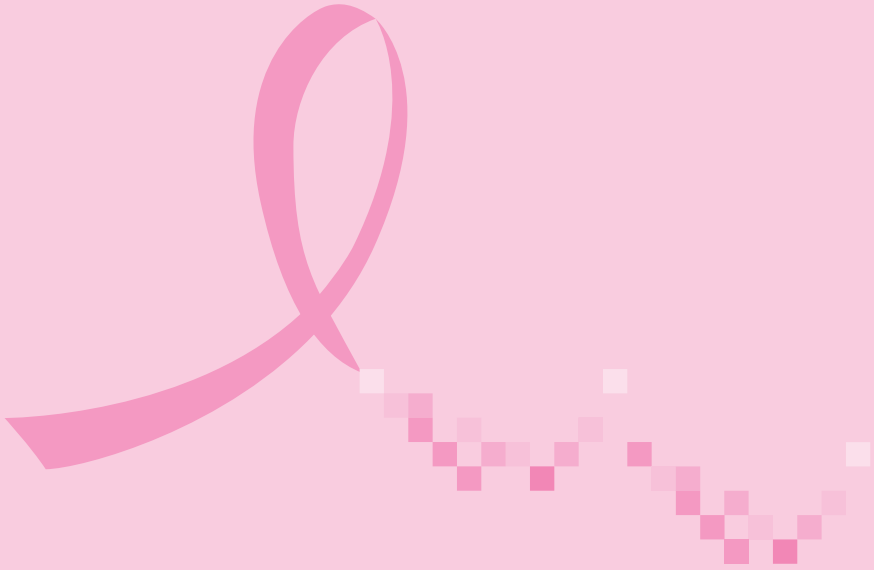
治療後的身體不適

- 在不同的乳癌治療方法中，化學治療是最多患者感到難受的治療方法。40.1%至54.1%患者表示在接受化療的過程中或後感到嚴重不適。
- 以下列表顯示患者於不同治療方式感到嚴重不適的比例及主要不良反應：

治療方式	嚴重不適（%患者）	主要不良反應（%患者）
化學治療	40.1-54.1	嘔吐（10.0-26.6）、食慾不振（10.3-19.9）、脫髮（6.0-17.3）
放射性治療	11.7-14.4	皮膚乾燥（11.5-16.5）、皮膚灼傷（5.1-10.5）
手術治療	8.4-10.3	傷口痛楚（16.3-22.3）
內分泌治療	7.8-9.4	潮熱（11.2-15.0）
抗HER2靶向治療	5.0-7.8	疲倦（3.3-5.3）

確診和治療對患者的心理及生活影響

- 在得悉確診時，45.5%至53.0%患者平靜接受或以正面的態度對抗。相反，20.0%至25.3%拒絕接受。
- 五分之二至半數（40.8%至52.8%）患者表示人生觀有正面的影響，三分之一至五分之二（32.4%至44.8%）則表示對自我形象有正面轉變。
- 約四分之三（74.4%-82.3%）患者表示確診乳癌後生活模式有變化。最常見的生活模式轉變是飲食習慣的改變（69.7%-74.8%），其次是多做運動（57.9%-62.5%）。
- 受訪群組中，兩個最常見的處理負面情緒方法為直接向人傾訴（49.3%-55.7%）和把注意力移離負面情緒（25.3%-33.2%）。
- 約四分之一（22.8%-28.2%）患者從不擔心復發，不過，略多於半數（52.5%-58.8%）表示經常或有時擔心復發。從不擔心復發的患者隨著年齡增加而增加，經常擔心復發的患者隨著年齡增加而減少。



CHAPTER 1

PREVENTION AND EARLY DETECTION OF BREAST CANCER

CHAPTER 1 PREVENTION AND EARLY DETECTION OF BREAST CANCER

I. Introduction

1.1 It is well established that breast cancer is related to certain health factors and lifestyle behaviours. In this chapter, using the data collected on the demographics and socio-economic factors, lifestyle and health background from 18,663 Hong Kong breast cancer patients, the distribution of these factors among patients in the local context is studied. Their breast screening habits, in particular, are also examined. These analyses aim to shed light on the causes of breast cancer in Hong Kong.

KEY FINDINGS

The patients covered in this report, according to their year of cancer diagnosis, were divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately.

- The median ages of the patients at diagnosis were 50.2, 52.8 and 54.4 in the 2006-2010 cohort, 2011-2015 cohort and 2016-current cohort respectively.
- Around two-thirds (58.2%-69.1%) of the patients were aged between 40 and 59.

Risk factors

- The 10 most common risk factors for developing breast cancer and the respective percentage of patients having each risk factor in the patient cohort:

	%
Lack of exercise (<3hrs/week)	76.5-78.6
No breastfeeding	64.5-67.1
Being overweight/obese	37.1-39.3
High levels of stress (>50% of time)	36.0-37.2
No childbirth/first live birth after age 35	23.8-30.4
Family history of breast cancer	14.1-17.0
Diet rich in meat/dairy products	13.5-14.4
Early menarche (<12 years old)	13.4-14.3
Habit of drinking alcohol	4.8-7.3
Use of hormone replacement therapy	2.5-4.4

Screening habits

- The overall patients' breast screening habits were poor. Patients who underwent regular breast self-examination (19.3%-21.6%), mammography screening (18.8%-19.9%), or breast ultrasound screening (15.5%-19.0%) accounted for one-fifth or less.
- Breast screening habits decreased with increasing age.
- Patients who attained lower education level or had lower monthly household income were less likely to undergo regular breast screening than those with higher educational levels or higher incomes.
- A higher proportion (63.8%-69.3%) of the patients aged 40 or above had never undergone mammography screening prior to cancer diagnosis.

II. Demographics

A. Age at time of diagnosis

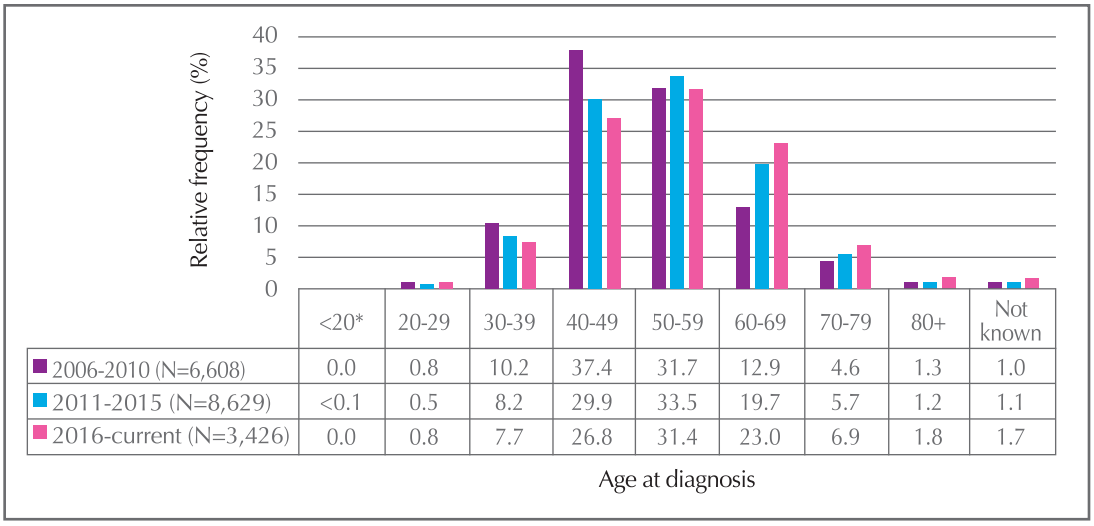
1.2 The chance of getting breast cancer generally increases with age.[1-2] Table 1.1 shows the lifetime risk of developing breast cancer for women in different age groups.[1]

1.3 The age at diagnosis ranged from 18 to 101 with about two-thirds (58.2%-69.1%) of the patients aged between 40 and 59 (Figure 1.1), and the median ages are 50.2, 52.8 and 54.4 in the 2006-2010 cohort, 2011-2015 cohort and 2016-current cohort respectively. It was found that patients in different age groups had different habits of breast screening (Section IV below).

Table 1.1: Lifetime risk of breast cancer of Hong Kong women (averaged data from 2010 to 2015)

Age	Lifetime risk
Before 30	1 in 2,818
Before 35	1 in 700
Before 40	1 in 243
Before 45	1 in 105
Before 50	1 in 56
Before 55	1 in 38
Before 60	1 in 29
Before 65	1 in 23
Before 70	1 in 19
Before 75	1 in 17

Figure 1.1: Distribution of age at diagnosis (N=18,663)



	<20*	20-29	30-39	40-49	50-59	60-69	70-79	80+	Not known
2006-2010 (N=6,608)	0.0	0.8	10.2	37.4	31.7	12.9	4.6	1.3	1.0
2011-2015 (N=8,629)	<0.1	0.5	8.2	29.9	33.5	19.7	5.7	1.2	1.1
2016-current (N=3,426)	0.0	0.8	7.7	26.8	31.4	23.0	6.9	1.8	1.7

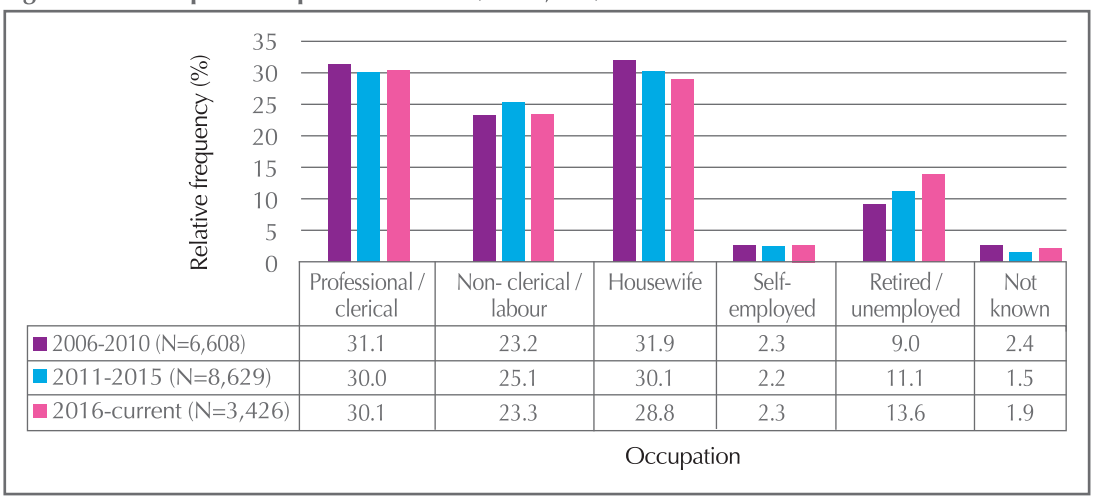
* Only one patient belonged to the <20 age group in the 2011-2015 cohort.

B. Occupation

1.4 Although international studies provided no evidence that occupation was related to breast cancer,[3] some studies suggested that a certain degree of association existed between night shift and breast cancer.[4] There were arguments that night shift work resulted in a disrupted circadian rhythm due to exposure to artificial light at night.[4]

1.5 A local study found that the average working hours among females in the general population was 43.2 per week.[5] Slightly more than one-half (55.7%-57.3%) of the patients registered with the Hong Kong Breast Cancer Registry (HKBCR) were working at the time of cancer diagnosis (Figure 1.2), with the median working hours ranging from 45.4 to 47.6 per week (2006-2010: 47.6 hours; 2011-2015: 46.4 hours; 2016-current: 45.4 hours). Among them, about one-tenth in each cohort had night shift duties (2006-2010: 9.1%; 2011-2015: 8.5%; 2016-current: 10.4%). The median number of nights they worked in a year was 76.3 for the 2006-2010 cohort, 54.7 for the 2011-2015 cohort and 56.0 for the 2016-current cohort.

Figure 1.2: Occupation of patient cohorts (N=18,663)



	Professional / clerical	Non- clerical / labour	Housewife	Self-employed	Retired / unemployed	Not known
2006-2010 (N=6,608)	31.1	23.2	31.9	2.3	9.0	2.4
2011-2015 (N=8,629)	30.0	25.1	30.1	2.2	11.1	1.5
2016-current (N=3,426)	30.1	23.3	28.8	2.3	13.6	1.9

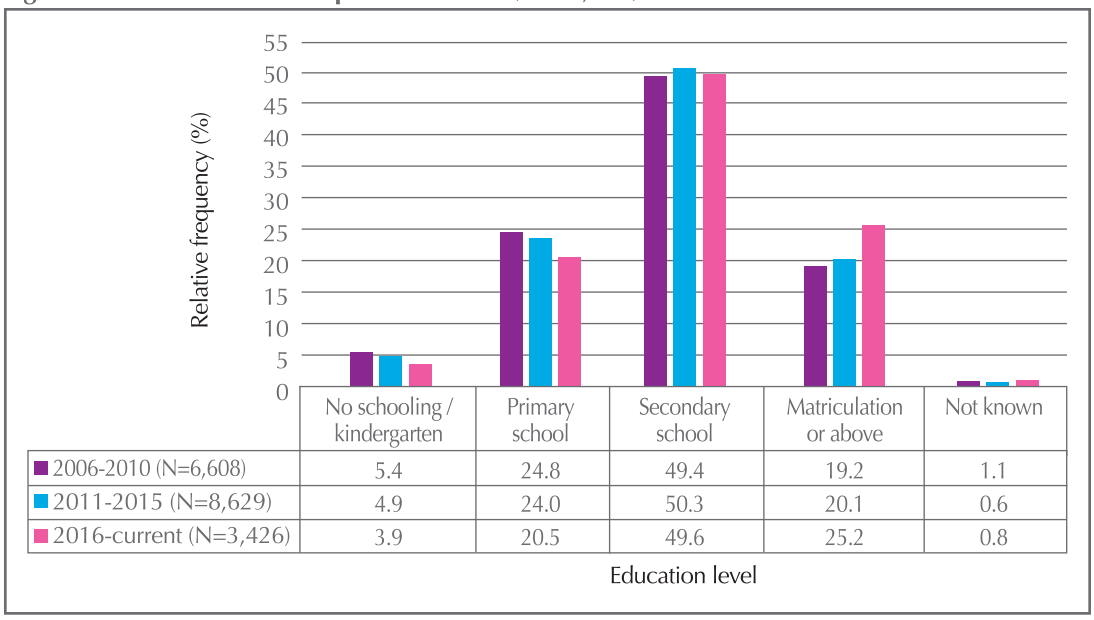
C. Education level and household monthly income

1.6 There were studies which suggested that lower education level and lower household income were linked to lower level of breast cancer awareness and poorer breast screening habits, even though they lived in the same city.[6,7]

1.7 About two-thirds (68.6%-74.8%) of the patients attained secondary school level or above and less than one-third (24.4%-30.2%) had primary school level or below education (Figure 1.3). The patients with lower education levels were less likely to undergo regular breast screening than those with higher education levels (Section IV below).

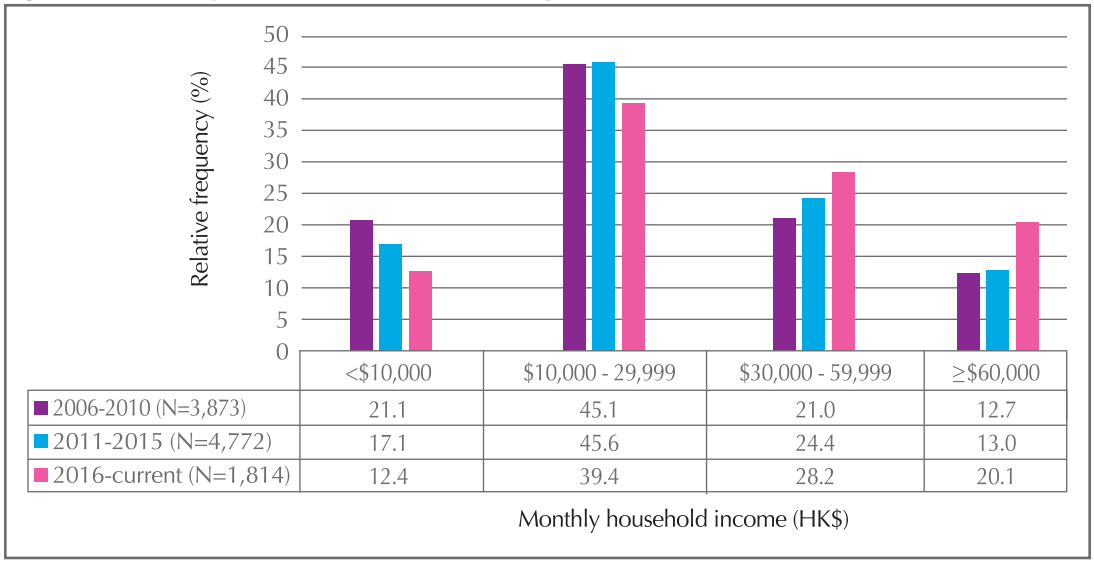
1.8 In the cohorts, the proportion of the patients who had a monthly household income of $30,000 or more ranged from 33.7% to 48.3% and the proportion of the patients with less than $10,000 ranged from 12.4% to 21.1% (Figure 1.4). The patients who had a lower household monthly income were less likely to undergo regular breast screening than those with higher income levels (Section IV below).

Figure 1.3: Education level of patient cohorts (N=18,663)



	No schooling / kindergarten	Primary school	Secondary school	Matriculation or above	Not known
2006-2010 (N=6,608)	5.4	24.8	49.4	19.2	1.1
2011-2015 (N=8,629)	4.9	24.0	50.3	20.1	0.6
2016-current (N=3,426)	3.9	20.5	49.6	25.2	0.8

Figure 1.4: Monthly household income (HK$) of patient cohorts (N=10,459)



	<$10,000	$10,000 - 29,999	$30,000 - 59,999	≥$60,000
2006-2010 (N=3,873)	21.1	45.1	21.0	12.7
2011-2015 (N=4,772)	17.1	45.6	24.4	13.0
2016-current (N=1,814)	12.4	39.4	28.2	20.1

D. District of residence

1.9 In the three cohorts, the proportion of the patients who resided in the New Territories was between 57.4% and 62.0%, the proportion who resided in Kowloon was between 18.2% and 23.5%, and the proportion who resided on Hong Kong Island was between 12.4% and 15.3% (Figure 1.5). The patients who resided in Kowloon or the New Territories had less regular breast screening than those who resided on Hong Kong Island (Section IV below).

Figure 1.5: District of residence of patient cohorts (N=18,663)

	Hong Kong Island	Kowloon	New Territories	Islands	Not known
2006-2010 (N=6,608)	15.3	23.5	57.4	1.5	2.3
2011-2015 (N=8,629)	12.4	21.9	61.5	1.4	2.7
2016-current (N=3,426)	13.8	18.2	62.0	1.7	4.3

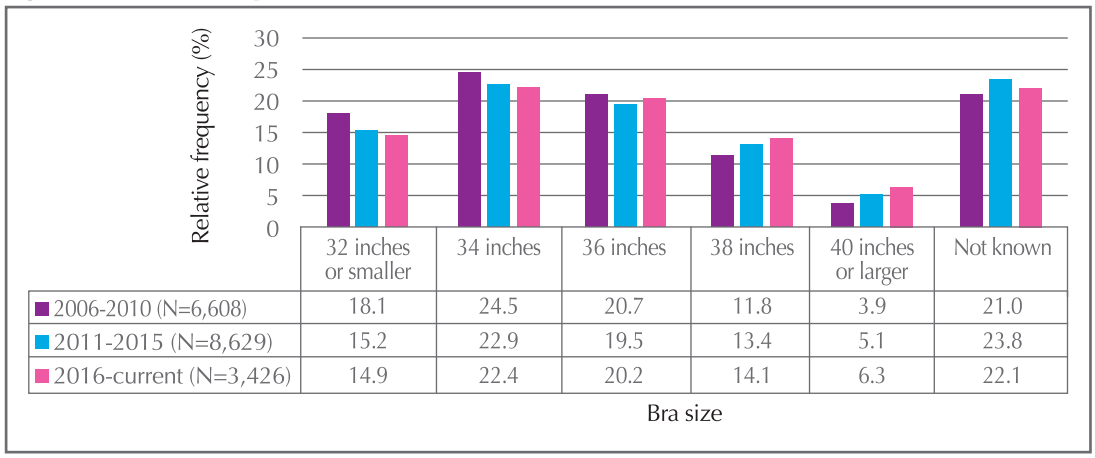
District of residence

E. Bra size and cup size

1.10 Some studies suggested that there was a certain degree of association between larger breast size and breast cancer.[8-10] Such studies were mainly conducted on women in Western countries and such evidence is lacking in Hong Kong.

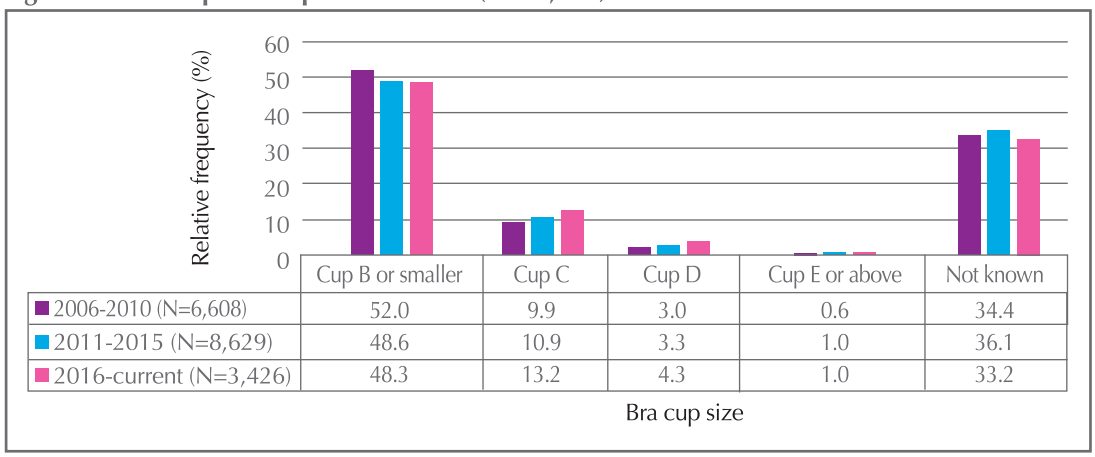
1.11 In the three patient cohorts, 60.9%-63.0% of the patients had bra size of 34 inches or more while 15.7%-20.4% had 38 inches or more (Figure 1.6). For breast cup size, about one-half (48.3%-52.0%) had cup B or smaller breasts while only a small proportion (3.6%-5.3%) had cup D or above (Figure 1.7).

Figure 1.6: Bra size of patient cohorts (N=18,663)



	32 inches or smaller	34 inches	36 inches	38 inches	40 inches or larger	Not known
2006-2010 (N=6,608)	18.1	24.5	20.7	11.8	3.9	21.0
2011-2015 (N=8,629)	15.2	22.9	19.5	13.4	5.1	23.8
2016-current (N=3,426)	14.9	22.4	20.2	14.1	6.3	22.1

Figure 1.7: Bra cup size of patient cohorts (N=18,663)



	Cup B or smaller	Cup C	Cup D	Cup E or above	Not known
2006-2010 (N=6,608)	52.0	9.9	3.0	0.6	34.4
2011-2015 (N=8,629)	48.6	10.9	3.3	1.0	36.1
2016-current (N=3,426)	48.3	13.2	4.3	1.0	33.2

III. Risk factors and health background

A. *Tobacco smoking*

1.12 The International Agency for Research on Cancer (IARC) has classified tobacco smoking as a probable cause of breast cancer.[4] A causal relationship between active or passive smoking and breast cancer, however, has yet to be established.[11] A study found that in 2016, 3.2% of Hong Kong women in the general population had daily smoking habit.[12]

1.13 In the three patient cohorts, a small proportion reported that they had smoked prior to cancer diagnosis (2006-2010: 4.5%; 2011-2015: 4.9%; 2016-current: 5.3%), and the proportions of these patients who were still smoking at the time of cancer diagnosis were 38.7% for the 2006-2010 cohort, 51.3% for the 2011-2015 cohort and 53.0% for the 2016-current cohort. Among those who had quit smoking for less than a year or were still smoking, the mean packs of cigarette consumed were between 3.6 and 4.1 across the three cohorts (2006-2010: 4.1 packs; 2011-2015: 3.6 packs; 2016-current: 3.7 packs).

B. *Alcohol drinking*

1.14 The World Health Organization (WHO) has classified alcohol consumption as Group 1 carcinogens for breast cancer for people of all ages.[4,13] The risk of breast cancer increases with the amount of alcohol consumed: Dose-relationship meta-analyses showed that for every 10g ethanol consumed per day (one standard drink, approximately equals to a 330 ml can of beer or a 100 ml glass of table wine or a 30 ml glass of high strength spirit), the risk of breast cancer is increased by 5% for premenopausal women and 9% for postmenopausal women.[13] A study found that in 2016, 10.4% of Hong Kong women in the general population drank alcoholic beverages at least once a week.[14]

1.15 Patients in the cohorts were asked about their alcoholic drinking habits prior to cancer diagnosis. Patients who consumed alcoholic beverages rarely or occasionally (i.e. less than five alcoholic drinks in a 12-month period) were not considered as habitual alcohol consumers in this report.

1.16 In the three cohorts, a small proportion of the patients who were habitual alcohol consumers at some point in their lives (2006-2010: 4.8%; 2011-2015: 4.8%; 2016-current: 7.3%), and 31.7%-44.6% (2006-2010: 31.7%; 2011-2015: 42.5%; 2016-current: 44.6%) of these patients were still drinking at the time of cancer diagnosis. Among those who had stopped drinking alcoholic beverages for less than a year or were still drinking alcohol habitually, the mean glasses of alcoholic beverages consumed were between 5.4 and 6.1 (2006-2010: 6.1 glasses; 2011-2015: 5.7 glasses; 2016-current: 5.4 glasses) per week in the preceding 12 months prior to cancer diagnosis. The two most commonly consumed alcoholic beverages were red wine and beer across the three cohorts.

C. *Dietary and exercise habits and stress level*

1.17 Most findings on the effect of dietary factors on breast cancer risk were inconclusive and inconsistent. However, a link between physical activity and prevention of postmenopausal breast cancer was found.[13] Given that increase in body fat is also found to increase breast cancer risk in postmenopausal women, women are encouraged to reduce lifetime weight gain by limiting calories intakes and participate in regular physical exercise to maintain a healthy weight and level of body fat.

1.18 In each cohort, slightly more than two-thirds (67.8%-70.7%) of the patients had a balanced diet, while slightly more than one-tenth (13.5%-14.4%) ate a diet rich in meat or dairy product (Figure 1.8). About one-quarter (21.0%-23.1%) of the patients exercised three hours or more per week while 35.1%-49.9% never exercised in the year prior to the time of diagnosis (Figure 1.9).

1.19 Current studies on stress as a risk factor for breast cancer are non-conclusive and the subject requires further investigation. Some researchers, however, suggested that people with prolonged stress exposure might also adopt other risky habits such as smoking or drinking alcohol, which might increase their risk of cancer. In each patient cohort, slightly more than one-third (36.0%-37.2%) said that they had experienced high level of stress in the year prior to cancer diagnosis (Figure 1.10).

Figure 1.8: Dietary habits at diagnosis (N=18,663)

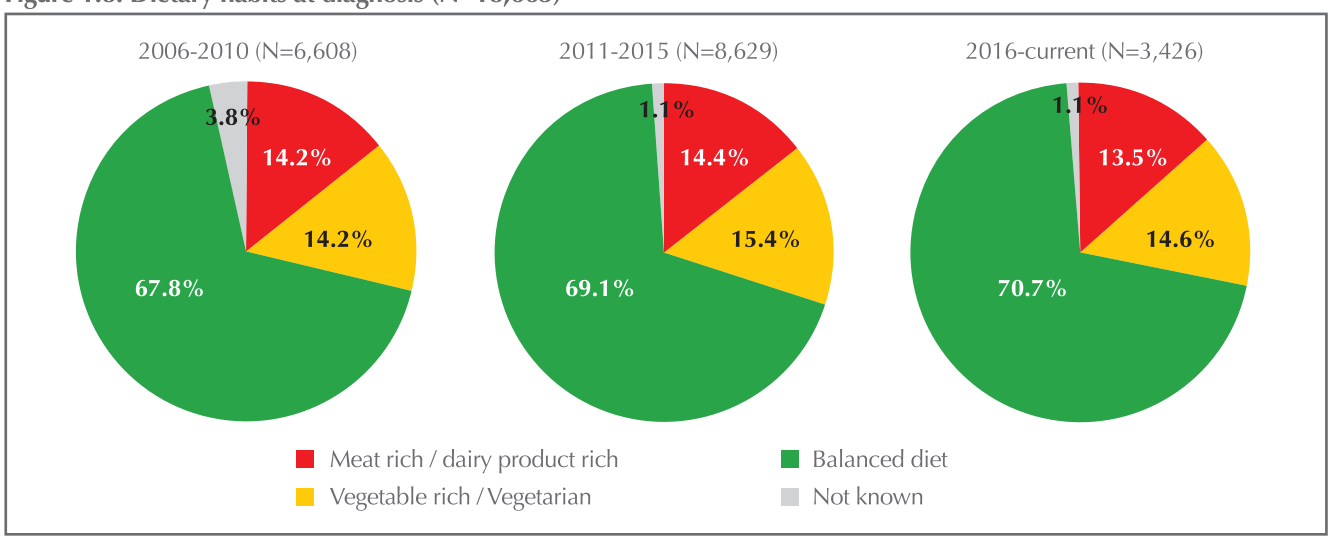


Figure 1.9: Exercise habits at diagnosis (N=18,663)

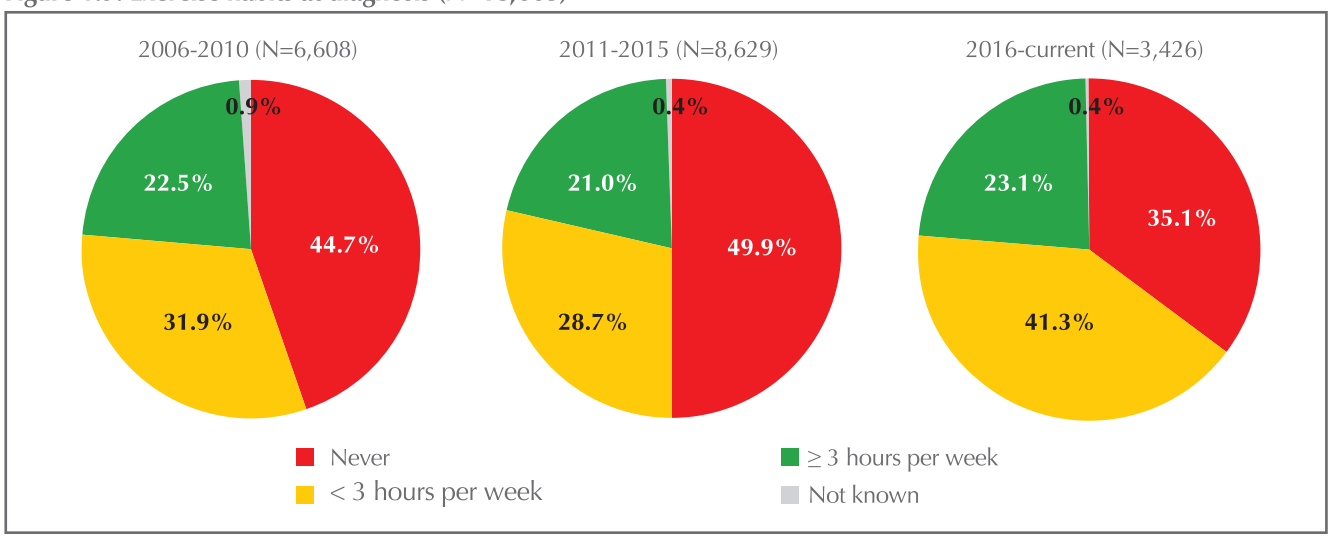
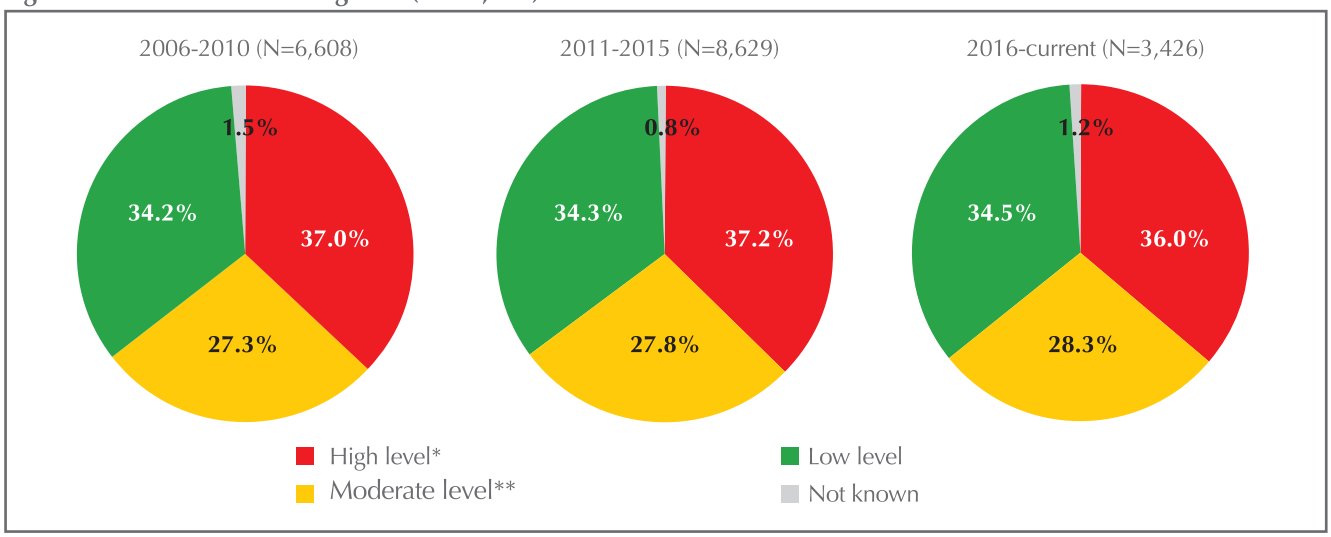


Figure 1.10: Stress level at diagnosis (N=18,663)



* High level: defined as more than 50% of the time

** Moderate level: defined as 25%-50% of the time

D. Height, weight and body mass index

1.20 Body mass index (BMI) is a heuristic method of estimating human body fat based on an individual's height and weight. It is calculated by dividing weight in kilograms by height in metres squared (i.e. kg/m^2). Overweight and obesity for Asian women were defined as having BMI of 23.0 to 24.9 and 25.0 or over respectively. Obesity is considered a risk factor for breast cancer.[15] A study found that in 2016, 16.3% and 14.2% of Hong Kong women in the general population were classified as overweight and obese respectively.[16]

1.21 The average height and weight of the patients in the three cohorts were similar, with an average height of 157.9 cm and an average weight of 56.8kg-58.0kg. The distribution of body mass index at diagnosis was also similar across the three cohorts, with about two-fifths (37.1%-39.3%) of the patients being overweight or obese (Table 1.2).

Table 1.2: Body mass index at diagnosis (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
≥ 25.0 (Obese)	20.3	22.1	23.7
23.0-24.9 (Overweight)	16.8	17.2	15.3
18.5-22.9 (Normal weight)	42.3	40.1	39.8
< 18.5 (Underweight)	7.1	6.2	5.5
Not known	13.5	14.4	15.8

E. Family history of breast cancer

1.22 Breast cancer risk is found to be higher among women who have one first-degree relative with breast cancer, compared to women with no first-degree relatives with the disease. The risk is even higher among women having more first-degree relatives affected by breast cancer, or having relatives who are affected before the age of 50.[17,18] The proportions of patients having family histories of breast cancer ranged from 14.1% to 16.9% in the three cohorts (Table 1.3).

F. Personal history of other tumours

1.23 International studies found that breast cancer risk was higher in women with previous history of certain types of cancer, including Hodgkin lymphoma, melanoma, lung adenocarcinoma, bowel cancer, uterus cancer and chronic lymphocytic leukaemia, or any type of cancer in childhood.[19-24] On the other hand, breast cancer risk was found to be lower in cervical squamous cell carcinoma survivors.[23,24] In the cohorts, 1.6%-2.0% of the patients suffered from other types of malignant tumours prior to breast cancer diagnosis (Table 1.4). Among them, the most common tumour was thyroid cancer (16.4%-20.9%) (Table 1.5).

Table 1.3: Family history of breast cancer at diagnosis (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
No	84.6	84.5	82.1
Yes			
First-degree relative(s)	9.8	10.4	12.4
Non first-degree relative(s)	4.0	4.0	4.4
Details not known	0.3	0.1	0.1
Family history not known	1.3	1.0	0.9

Table 1.4: Personal history of other cancer at diagnosis (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
No	81.8	81.7	81.1
Benign tumour	13.7	15.3	15.8
Malignant tumour	1.9	1.6	2.0
Nature of previous tumours not known	0.5	0.3	0.3
History of tumours not known	2.1	1.1	0.9

Table 1.5: Origins of malignant tumours reported by patients (N=327)

	2006-2010 (N=126)		2011-2015 (N=134)		2016-current (N=67)	
	Number	%	Number	%	Number	%
Thyroid	21	16.7	22	16.4	14	20.9
Colorectum	18	14.3	20	14.9	9	13.4
Uterine	9	7.1	23	17.2	14	20.9
Cervix	11	8.7	10	7.5	2	3.0
Ovaries	6	4.8	7	5.2	6	9.0
Lung	2	1.6	12	9.0	5	7.5
Nasopharynx	9	7.1	3	2.2	2	3.0
Small intestine	2	1.6	6	4.5	5	7.5
Blood	1	0.8	1	0.7	0	0.0
Lymphomas	3	2.4	4	3.0	2	3.0
Liver	1	0.8	4	3.0	2	3.0
Bone	1	0.8	2	1.5	0	0.0
Esophagus	1	0.8	3	2.2	0	0.0
Skin	2	1.6	2	1.5	1	1.5
Stomach	3	2.4	0	0.0	1	1.5
Urological sites	1	0.8	3	2.2	0	0.0
Muscle	1	0.8	1	0.7	1	1.5
Brain	0	0.0	2	1.5	0	0.0
Tongue	1	0.8	1	0.7	0	0.0
Cavum pelvis	0	0.0	1	0.7	0	0.0
Others	3	2.4	3	2.2	1	1.5
Not known	38	30.2	9	6.7	5	7.5

*Others include: fallopian tube, neck, oral cavity, salivary gland and parotid gland.

G. History of benign breast condition and precancerous breast lesion

1.24 Several studies found that women with some types of benign breast condition or precancerous breast lesion would have an increased risk of breast cancer. Benign breast condition can be classified into three categories: non-proliferative lesions, proliferative lesions without atypia and atypical hyperplasia. Non-proliferative lesions, such as fibroadenoma or other fibrocystic diseases, are generally not associated with increasing the risk of breast cancer.[25] On the other hand, proliferative lesions without atypia, such as papilloma or papillomatosis and atypical ductal or lobular hyperplasia, are linked to an increased risk of breast cancer.[25] Lobular carcinoma in situ (LCIS) is a form of precancerous breast lesion that also increases a woman's risk of breast cancer.

1.25 Across the cohorts, 12.1%-14.9% of patients had previous history of benign breast disease (Table 1.6). Fibroadenoma, which does not increase the risk of breast cancer, was the most common (44.8%-51.3%). Among the patients, only 10 patients suffered from atypical ductal hyperplasia. In addition, two patients suffered from LCIS prior to breast cancer diagnosis (Table 1.6).

Table 1.6: History of breast condition / disease at diagnosis (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
Have history of previous breast disease	**14.0**	**14.9**	**12.1**
Type of previous breast disease			
Fibroadenoma	44.8	48.6	51.3
Fibrocystic disease	17.6	15.0	14.2
Papilloma	2.3	0.9	1.7
Papillomatosis	0.4	0.1	0.2
Atypical ductal hyperplasia	0.6	0.3	0.0
Lobular carcinoma in situ	0.0	0.2	0.0
Others (Gynaecomastia, other benign tumours)	28.1	30.1	23.4
Not known	8.7	6.7	11.1

H. Early menarche, late menopause and reproductive history

1.26 Life events such as early menarche (<12 years old), late natural menopause (>55 years old), not bearing children and late first childbirth (>35 years old) all increase the lifetime exposure to the hormone estrogen, thus increasing the risk of breast cancer. On the other hand, late menarche, early menopause, bearing children and early pregnancy all reduce the risk of breast cancer.[13]

1.27 The mean age at menarche was about 13 across the three patient cohorts, and 13.4%-14.3% of the patients experienced early menarche (Table 1.7). About one-half of the patients were post-menopausal in each cohort (2006-2010: 49.3%; 2011-2015: 53.4%; 2016-current: 57.9%). Among them, a small proportion (4.8%-5.9%) experienced late menopause and the mean age at menopause was about 50. The proportions of these patients being nulliparous ranged between 20.3% and 25.6%. In addition, only a small proportion of the patients (3.5%-4.8%) had their first childbirth after the age of 35 (Table 1.7). Among those who experienced childbirth(s), about three-quarters (69.3%-72.7%) had two or more children (Table 1.8), and the mean age at which they had their first childbirth was about 27 across the three patient cohorts.

1.28 Breastfeeding is considered to be protective against breast cancer at all ages.[13] In each cohort, about one-third (31.3%-33.7%) of the patients had breastfed their children and the mean total duration of breastfeeding was between 13.5 and 16.4 months (Table 1.7).

Table 1.7: Early menarche, late menopause and reproductive history at diagnosis

	2006-2010 %	2011-2015 %	2016-current %
Menarche (N=18,663)	(N=6,608)	(N=8,629)	(N=3,426)
Early menarche (<12 years old)	13.4	14.3	14.2
Normal menarche (≥12 years old)	79.5	77.3	76.7
Not known	7.1	8.5	9.1
Menopause (N=9,843)	(N=3,255)	(N=4,605)	(N=1,983)
Late menopause (>55 years old)	4.8	5.9	5.0
Normal menopause (≤55 years old)	82.6	81.5	79.9
Age at menopause not known	12.6	12.6	15.1
Reproductive history (N=18,663)	(N=6,608)	(N=8,629)	(N=3,426)
No childbirth	20.3	23.8	25.6
First childbirth at early age (≤35 years old)	69.9	69.4	66.7
First childbirth at late age (>35 years old)	3.5	4.4	4.8
Age at first live birth not known	2.6	2.2	2.4
Reproductive history not known	3.7	0.2	0.6
Breastfeeding (N=18,663)	(N=6,608)	(N=8,629)	(N=3,426)
Yes	31.3	32.5	33.7
No (had childbirth)	43.7	43.2	39.9
No (no childbirth)	20.3	23.8	25.6
No (reproductive history not known)	0.5	0.1	0.1
Not known	4.2	0.4	0.8

Table 1.8: Number of live births reported by patient cohorts (N=14,106)

	2006-2010 (N=5,022) %	2011-2015 (N=6,554) %	2016-current (N=2,530) %
1	26.6	28.8	30.2
2	44.6	44.6	46.0
3	17.5	16.7	16.7
4	6.3	6.0	4.5
5	2.4	2.0	0.9
6	1.3	1.0	0.9
7	0.5	0.4	0.2
8	0.1	0.2	<0.1
9+	0.1	0.1	0.0
Not known	0.7	0.3	0.5

I. Use of hormonal contraceptives

1.29 Hormonal contraceptives contain synthetic sex hormones and are administered in the form of oral tablets, injections, implants and transdermal contraceptive patches. Although the IARC has classified current or recent use of combined estrogen-progestogen oral contraceptives as a risk factor for breast cancer, recent studies suggested discontinuing use for 10 years or more resulted in the risk being reduced to that of non-users.[4] Conflicting results were also obtained when studying the correlation between breast cancer risk and injectable contraceptives or implants.[26-30] Further investigation is therefore needed to ascertain the correlation between hormonal contraceptives and breast cancer risk.

1.30 The proportions of the patients who had never used hormonal contraceptives ranged between 65.1% and 73.2% in the three cohorts (Table 1.9). Of the hormonal contraceptive users, the majority had stopped using it at diagnosis (2006-2010: 69.4%; 2011-2015: 87.4%; 2016-current: 80.8%) and the mean years that they had stopped using it ranged between 17.5 and 20.3 across the three cohorts (2006-2010: 17.5 years; 2011-2015: 19.4 years; 2016-current: 20.3 years).

Table 1.9: Use of hormonal contraceptives at diagnosis (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
Non-user	65.1	69.0	73.2
OC use < 5 years	14.5	15.1	12.3
OC use 5-10 years	8.2	7.5	5.9
OC use > 10 years	3.8	3.0	2.2
Length of OC use not known	5.2	4.7	5.4
Not known if OC was used	3.3	0.7	1.0

OC: Hormonal contraceptives

J. Use of hormone replacement therapy

1.31 Hormonal replacement therapy (HRT) contains synthetic sex hormones and is used to relieve post-menopausal symptoms. The IARC has classified current use of combined estrogen-progestogen HRT for menopausal symptoms as a risk factor for breast cancer.[4] Of the post-menopausal patients, 4.3%-8.8% had used HRT and only 1.8%-3.1% of them had used it for over five years across the three cohorts (Table 1.10).

Table 1.10: Use of hormone replacement therapy (in post-menopausal patients) at diagnosis (N=9,843)

	2006-2010 (N=3,255) %	2011-2015 (N=4,605) %	2016-current (N=1,983) %
Non-user	87.3	92.9	94.7
HRT use < 5 years	4.7	3.5	2.0
HRT use 5-10 years	2.5	2.0	1.4
HRT use > 10 years	0.6	0.5	0.4
Length of HRT use not known	1.0	0.4	0.5
Not known if HRT was used	3.8	0.7	1.1

HRT: Hormone replacement therapy

K. Ten most common risk factors associated with breast cancer in Hong Kong

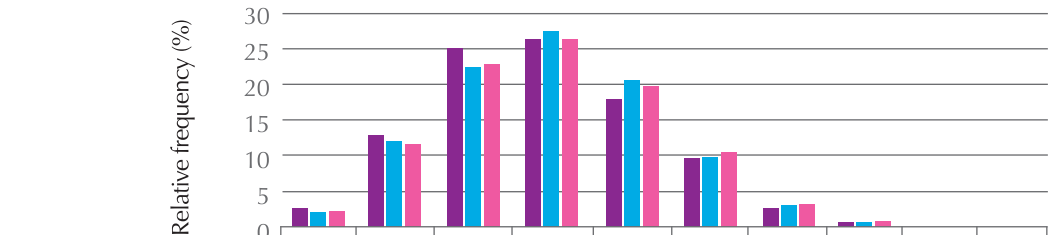
1.32 In each cohort, lack of exercise was the most common risk factor, followed by not having breastfeeding experience and being overweight or obese (Table 1.11). The accumulation of multiple risk factors increases the risk of getting breast cancer.

In each cohort, about three-fifths (58.5%-62.7%) of the patients had three or more risk factors, while slightly more than one-third (35.1%-38.2%) had one to two risk factors. A small proportion (2.2%-3.1%) of the patients had none of the common risk factors studied (Figure 1.11).

Table 1.11: Ten most common risk factors for breast cancer in patient cohorts (N=18,663)

	2006-2010 (N=6,608) %	2011-2015 (N=8,629) %	2016-current (N=3,426) %
Lack of exercise (<3hrs / week)	76.5	78.6	76.5
No breastfeeding	64.5	67.1	65.5
Being overweight / obese	37.1	39.3	39.0
High level of stress (>50% of time)	37.0	37.2	36.0
No childbirth / First live birth after age 35	23.8	28.2	30.4
Family history of breast cancer	14.1	14.5	17.0
Diet rich in meat / dairy products	14.2	14.4	13.5
Early menarche (<12 years old)	13.4	14.3	14.2
Habit of drinking alcohol	4.8	4.8	7.3
Use of hormone replacement therapy	4.4	3.4	2.5

Figure 1.11: Distribution of risk factors among patients at diagnosis (N=18,663)



	0	1	2	3	4	5	6	7	8	9
2006-2010 (N=6,608)	3.1	13.2	25.0	26.4	18.6	9.6	3.0	0.8	0.1	0.0
2011-2015 (N=8,629)	2.2	12.2	22.9	27.5	20.7	9.7	3.8	0.9	0.1	<0.1
2016-current (N=3,426)	2.7	11.8	23.6	26.5	19.8	10.6	3.9	1.0	0.1	0.0

Number of risk factors

IV. Breast screening habits

A. Breast screening methods

1.33 Breast screening is a method of checking a woman's breasts when there are neither signs nor symptoms of breast cancer in an attempt to enable earlier detection. Early detection reduces mortality from breast cancer. The three screening tests used for breast cancer screening are breast self-examination (BSE), clinical breast examination (CBE), and mammography screening (MMG). BSE is done by the woman herself in that she checks for lumps, changes in size or shape of the breast, or any other changes in the breasts or underarm. CBE is conducted by a medical professional, such as a doctor or nurse, who uses his or her hands to feel for lumps or other changes. MMG is the current standard test for breast cancer screening which uses a low-energy X-ray to examine a woman's breasts.

1.34 The Hong Kong Breast Cancer Foundation recommends women aged 40 or above to conduct monthly BSE as a measure of raising breast self-awareness, and also regularly undergo CBE and MMG. In addition, breast ultrasound screening (USG) is used along with MMG for women with dense breasts. In Hong Kong, there is no population-based breast screening programme for women.

B. Breast screening habits and age

1.35 The breast screening habits of the patient cohorts, i.e. self-initiated breast screening habits prior to cancer diagnosis, were studied by age group (Table 1.12). Less than one-quarter of the patients of all ages underwent regular BSE, MMG and USG. Regular CBE was performed by about 30%-40% of the patients aged below 60, but the proportions dropped for those patients aged between 60 and 69 (24.7%-26.5%) as well as 70 or above (9.1%-11.5%) (Table 1.12). With the exception of those aged below 40, the proportion of the patients who had never performed BSE or had never undergone CBE and USG was positively correlated with age. In addition, high proportions (58.0%-85.6%) of the patients aged 40 or above had never undergone MMG (Table 1.12).

Table 1.12: Breast screening habits by age group (N=18,450)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current														
	<40			40-49			50-59			60-69			70+		
BSE															
Never	35.8	38.2	39.7	34.6	37.2	30.9	40.9	36.7	36.2	47.6	42.5	43.9	66.4	54.2	57.8
Occasional	43.1	43.2	37.9	39.4	42.1	46.1	33.5	41.9	42.0	29.8	37.5	37.0	21.5	30.3	26.4
Monthly	19.4	17.8	21.7	24.1	20.3	21.6	23.3	20.1	20.3	20.6	19.1	18.1	10.1	14.7	15.2
Not known	1.6	0.8	0.7	1.9	0.4	1.4	2.2	1.2	1.5	2.0	0.9	1.0	2.0	0.8	0.7
CBE															
Never	45.8	53.0	54.5	38.3	44.8	43.2	45.7	44.2	45.4	60.3	57.3	55.3	80.1	77.3	76.6
Occasional	13.0	14.0	14.8	13.0	14.9	18.9	11.7	16.8	18.7	11.5	14.7	19.0	8.3	9.5	13.2
Regular*	39.4	32.6	29.7	47.1	39.5	36.6	40.4	38.0	34.9	25.9	26.5	24.7	9.1	11.5	9.2
Not known	1.8	0.4	1.0	1.5	0.8	1.3	2.1	1.0	1.1	2.3	1.6	1.0	2.5	1.7	1.0
MMG#															
Never		—		67.0	71.1	63.5	64.3	63.1	58.0	70.5	66.9	62.7	85.6	85.2	81.4
Occasional		—		10.4	10.9	15.8	10.8	13.3	16.1	10.9	12.4	16.9	6.6	7.0	12.2
Regular*		—		20.6	17.3	19.9	22.6	22.6	24.7	16.5	19.2	18.6	5.1	6.0	6.1
Not known		—		2.0	0.7	0.9	2.2	1.1	1.2	2.1	1.4	1.8	2.8	1.8	0.3
USG#															
Never		—		66.9	69.4	60.1	69.9	68.4	60.3	76.9	75.5	70.6	85.1	88.5	82.4
Occasional		—		10.1	10.5	15.7	9.3	11.9	14.9	8.7	9.2	13.9	6.6	5.2	11.1
Regular*		—		18.7	19.4	23.2	16.5	18.6	23.2	10.0	13.1	13.8	4.0	5.2	5.1
Not known		—		4.3	0.8	1.0	4.3	1.1	1.6	4.5	2.2	1.6	4.3	1.2	1.4

Total number of patients for BSE and CBE in each group:

<40: 731 (for 2006-2010), 757 (for 2011-2015), 290 (for 2016-current)

40-49: 2,470 (for 2006-2010), 2,583 (for 2011-2015), 919 (for 2016-current)

50-59: 2,094 (for 2006-2010), 2,893 (for 2011-2015), 1,076 (for 2016-current)

60-69: 853 (for 2006-2010), 1,704 (for 2011-2015), 789 (for 2016-current)

70+: 396 (for 2006-2010), 600 (for 2011-2015), 295 (for 2016-current)

Total number of patients for MMG and USG in each group:

40-49: 2,470 (for 2006-2010), 2,583 (for 2011-2015), 919 (for 2016-current)

50-59: 2,094 (for 2006-2010), 2,893 (for 2011-2015), 1,076 (for 2016-current)

60-69: 853 (for 2006-2010), 1,704 (for 2011-2015), 789 (for 2016-current)

70+: 396 (for 2006-2010), 600 (for 2011-2015), 295 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; MMG: Mammography screening; USG: Breast ultrasound screening

* "Regular" is defined as having the breast screening every 1-3 years. # Included patients aged 40 or above only

C. Breast screening habits and education level

1.36 Breast screening habits were further studied by patients' education level (Table 1.13). The findings suggested that the patients with lower education levels had undergone less breast screening prior to cancer diagnosis. In the cohorts, 59.8%-72.9% of the patients who had kindergarten level or no schooling had never performed BSE, compared to 24.5%-29.6% of the patients who attained matriculation level or above. The corresponding figures are 74.9%-78.2% compared to 29.6%-33.3% for CBE, 85.6%-88.1% compared to 47.0%-53.2% for MMG, and 87.9%-90.5% compared to 46.5%-55.1% for USG.

Table 1.13: Breast screening habits by education level (N=18,507)

	Education level % for 2006-2010, % for 2011-2015, % for 2016-current											
	No schooling / kindergarten			Primary school			Secondary school			Matriculation or above		
BSE												
Never	67.9	59.8	72.9	51.8	45.8	49.9	38.0	38.4	37.4	24.5	29.6	26.4
Occasional	20.4	26.6	18.8	26.7	35.5	32.5	35.8	39.4	40.0	50.7	52.0	51.2
Monthly	10.3	13.2	8.3	20.4	18.0	16.7	24.4	21.5	21.6	21.9	17.3	20.6
Not known	1.4	0.5	0.0	1.2	0.7	0.9	1.8	0.8	1.1	2.8	1.1	1.8
CBE												
Never	74.9	75.3	78.2	62.2	62.0	65.3	42.7	48.9	50.8	29.6	33.3	33.1
Occasional	8.9	10.8	9.8	9.6	13.1	17.1	11.8	15.0	17.8	17.3	18.5	20.9
Regular*	14.5	13.4	12.0	27.1	24.3	16.8	43.3	35.1	30.7	51.2	46.8	43.8
Not known	1.7	0.5	0.0	1.1	0.6	0.7	2.2	1.0	0.7	1.9	1.4	2.2
MMG#												
Never	87.1	85.6	88.1	78.7	75.7	70.7	66.2	68.1	63.7	47.0	53.2	49.1
Occasional	3.4	7.8	6.3	8.2	9.7	16.0	10.4	11.5	15.2	16.5	17.3	19.0
Regular*	8.6	5.9	4.8	11.6	13.9	12.4	21.1	19.2	20.2	34.0	28.6	29.8
Not known	0.9	0.7	0.8	1.5	0.7	0.9	2.3	1.2	0.9	2.5	1.0	2.1
USG#												
Never	87.9	88.0	90.5	80.9	81.1	75.7	69.5	71.4	66.3	51.2	55.1	46.5
Occasional	2.3	5.4	6.3	6.7	7.3	13.4	9.4	10.4	13.5	16.0	16.0	19.3
Regular*	8.3	5.9	2.4	9.3	10.6	9.9	17.1	17.0	19.0	25.4	27.4	32.0
Not known	1.4	0.7	0.8	3.1	1.0	1.0	4.0	1.2	1.1	7.4	1.6	2.2

Total number of patients for BSE and CBE in each group:

No schooling / kindergarten:	358 (for 2006-2010), 425 (for 2011-2015), 133 (for 2016-current)
Primary school:	1,640 (for 2006-2010), 2,074 (for 2011-2015), 701 (for 2016-current)
Secondary school:	3,264 (for 2006-2010), 4,340 (for 2011-2015), 1,701 (for 2016-current)
Matriculation or above:	1,271 (for 2006-2010), 1,735 (for 2011-2015), 865 (for 2016-current)

Total number of patients for MMG and USG in each group:

No schooling / kindergarten:	348 (for 2006-2010), 410 (for 2011-2015), 126 (for 2016-current)
Primary school:	1,596 (for 2006-2010), 2,041 (for 2011-2015), 686 (for 2016-current)
Secondary school:	2,862 (for 2006-2010), 3,913 (for 2011-2015), 1,568 (for 2016-current)
Matriculation or above:	942 (for 2006-2010), 1,366 (for 2011-2015), 677 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; MMG: Mammography screening; USG: Breast ultrasound screening
* "Regular" is defined as having the breast screening every 1-3 years. # Included patients aged 40 or above only

D. Breast screening habits and household income

1.37 Breast screening habits were also studied by patients' monthly household income level (Table 1.14). Figures show that the patients with lower income had undergone less breast screening prior to cancer diagnosis. In the cohorts, 40.9%-45.7% of the patients with monthly household income of less than $10,000 had never performed BSE, compared to 19.1%-23.2% of the patients who had income of $60,000 or more. The corresponding figures are 58.2%-59.2% compared to 17.4%-21.5% for CBE, 64.9%-76.9% compared to 35.3%-42.9% for MMG, and 71.1%-80.6% compared to 41.5%-46.2% for USG.

Table 1.14: Breast screening habits by monthly household income (HK$) (N=10,459)

	Monthly household income ($) % for 2006-2010, % for 2011-2015, % for 2016-current											
	<10,000			10,000-29,999			30,000-59,999			≥ 60,000		
BSE												
Never	45.7	43.3	40.9	36.0	37.0	39.9	28.2	31.7	27.8	19.1	23.2	22.5
Occasional	33.6	37.9	41.3	37.1	43.9	36.6	47.6	48.5	50.9	56.4	57.9	55.2
Monthly	18.3	18.2	16.9	25.3	18.3	22.7	21.9	19.4	20.4	22.1	17.4	21.2
Not known	2.4	0.6	0.9	1.5	0.7	0.8	2.3	0.5	1.0	2.4	1.5	1.1
CBE												
Never	59.2	59.0	58.2	41.3	44.1	52.2	29.8	32.6	35.2	17.4	21.5	21.4
Occasional	12.2	14.5	17.8	12.2	16.6	15.4	14.8	18.5	20.2	16.2	19.7	25.3
Regular*	26.7	25.6	22.7	45.0	38.7	31.5	53.5	48.0	43.8	64.3	56.3	51.9
Not known	1.8	0.9	1.3	1.5	0.6	1.0	2.0	0.9	0.8	2.0	2.6	1.4
MMG#												
Never	76.9	73.7	64.9	68.1	67.4	63.8	52.9	54.7	50.9	35.3	42.6	42.9
Occasional	8.2	10.0	16.6	11.0	13.0	13.5	15.5	16.0	19.0	18.9	19.5	21.6
Regular*	12.9	15.3	16.6	18.9	18.8	21.3	29.3	28.4	29.2	44.4	36.1	35.6
Not known	2.0	1.1	1.9	2.1	0.7	1.4	2.3	0.8	1.0	1.4	1.9	0.0
USG#												
Never	80.6	79.7	71.1	71.6	70.4	65.0	56.1	58.1	50.1	41.5	46.2	42.2
Occasional	7.1	7.8	14.7	9.5	11.8	12.3	13.9	14.8	18.5	19.3	18.5	22.5
Regular*	8.4	11.7	11.8	15.1	16.9	21.1	25.1	26.3	30.7	31.0	33.0	34.3
Not known	3.8	0.8	2.4	3.8	0.9	1.6	4.9	0.8	0.7	8.1	2.3	1.0

Total number of patients for BSE and CBE in each group:

<$10,000: 819 (for 2006-2010), 815 (for 2011-2015), 225 (for 2016-current)

$10,000-29,999: 1,748 (for 2006-2010), 2,175 (for 2011-2015), 714 (for 2016-current)

$30,000-59,999: 813 (for 2006-2010), 1,162 (for 2011-2015), 511 (for 2016-current)

≥$60,000: 493 (for 2006-2010), 620 (for 2011-2015), 364 (for 2016-current)

Total number of patients for MMG and USG in each group:

<$10,000: 758 (for 2006-2010), 752 (for 2011-2015), 211 (for 2016-current)

$10,000-29,999: 1,512 (for 2006-2010), 1,915 (for 2011-2015), 634 (for 2016-current)

$30,000-59,999: 618 (for 2006-2010), 961 (for 2011-2015), 411 (for 2016-current)

≥$60,000: 419 (for 2006-2010), 524 (for 2011-2015), 315 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; MMG: Mammography screening; USG: Breast ultrasound screening

* "Regular" is defined as having the breast screening every 1-3 years. # Included patients aged 40 or above only

E. Breast screening habits and district of residence

1.38 Breast screening habits were further stratified by patients' district of residence (Table 1.15). Higher proportions of the patients who resided in Kowloon (2006-2010: 34.7%; 2011-2015: 30.3%; 2016-current: 28.8%) or the New Territories (2006-2010: 28.6%; 2011-2015: 26.2%; 2016-current: 29.7%) had never undergone any breast screening (including BSE, CBE, MMG, and USG) than those who resided on Hong Kong Island (2006-2010: 14.8%; 2011-2015: 20.8%; 2016-current: 18.8%). In addition, higher proportions (26.1%-33.4%) of the patients who resided on Hong Kong Island had regular MMG than those who resided in Kowloon (17.5%-20.6%) and the New Territories (16.3%-17.7%) (Table 1.15).

Table 1.15: Breast screening habits by district of residence (N=17,852)

	District of residence % for 2006-2010, % for 2011-2015, % for 2016-current								
	Hong Kong Island			Kowloon			New Territories		
BSE									
Never	28.1	34.6	30.2	45.1	40.2	37.2	41.8	40.1	41.3
Occasional	47.0	46.1	48.8	33.6	38.5	46.2	33.4	40.0	36.5
Monthly	21.4	17.6	19.5	18.7	20.5	14.5	23.7	19.3	21.4
Not known	3.5	1.6	1.5	2.6	0.8	2.1	1.2	0.6	0.8
CBE									
Never	30.4	35.7	38.1	51.5	55.7	50.3	49.4	51.4	53.6
Occasional	14.3	19.0	18.8	12.6	13.1	18.8	11.7	14.7	17.5
Regular*	52.0	42.5	41.6	33.1	30.5	29.2	37.7	33.2	28.2
Not known	3.3	2.8	1.5	2.8	0.7	1.6	1.2	0.7	0.8
MMG#									
Never	46.5	55.3	53.4	70.1	71.0	62.4	72.8	70.5	66.1
Occasional	16.2	16.5	17.9	9.3	10.7	15.2	9.4	11.3	15.3
Regular*	33.4	26.1	27.5	17.9	17.5	20.6	16.3	17.5	17.7
Not known	3.9	2.2	1.2	2.6	0.8	1.8	1.5	0.7	0.8
USG#									
Never	51.9	59.8	53.1	73.4	75.1	64.5	75.0	73.8	68.2
Occasional	15.0	14.4	16.2	8.4	9.8	14.7	8.3	9.7	13.9
Regular*	23.8	22.4	29.5	13.5	14.3	19.1	14.1	15.8	16.7
Not known	9.3	3.4	1.2	4.7	0.8	1.6	2.6	0.7	1.2

Total number of patients for BSE and CBE in each group:

Hong Kong Island: 1,009 (for 2006-2010), 1,071 (for 2011-2015), 473 (for 2016-current)

Kowloon: 1,551 (for 2006-2010), 1,892 (for 2011-2015), 625 (for 2016-current)

New Territories: 3,795 (for 2006-2010), 5,311 (for 2011-2015), 2,125 (for 2016-current)

Total number of patients for MMG and USG in each group:

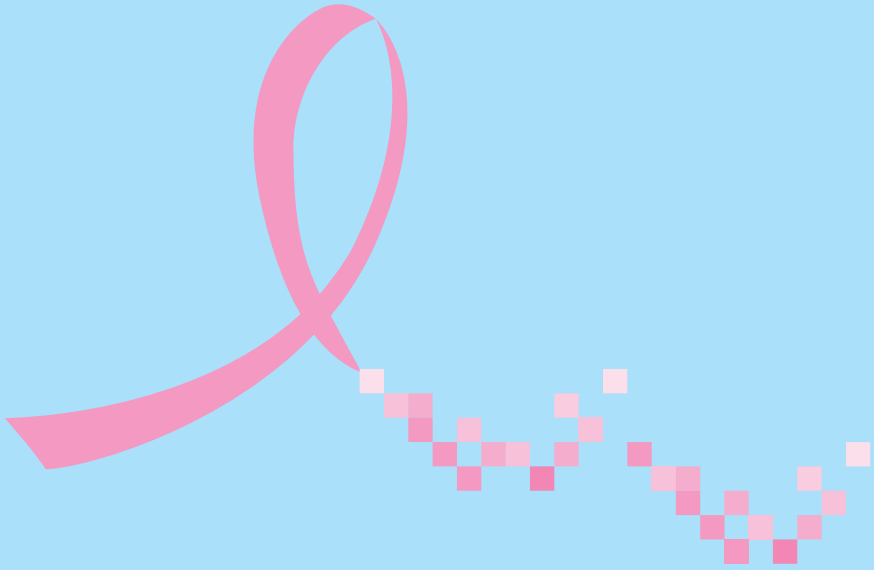
Hong Kong Island: 881 (for 2006-2010), 966 (for 2011-2015), 414 (for 2016-current)

Kowloon: 1,373 (for 2006-2010), 1,705 (for 2011-2015), 563 (for 2016-current)

New Territories: 3,350 (for 2006-2010), 4,819 (for 2011-2015), 1,933 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; MMG: Mammography screening; USG: Breast ultrasound screening

* "Regular" is defined as having the breast screening every 1-3 years. # Included patients aged 40 or above only



CHAPTER 2

DISEASE PATTERN, TREATMENT TREND AND CLINICAL OUTCOME OF BREAST CANCER IN HONG KONG

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I. Introduction

2.1 This chapter reviews the data collected from 18,358 breast cancer patients regarding their cancer's clinical presentation, cancer characteristics and treatment methods. The aim is to analyse the clinical management of breast cancer and identify the trends in disease and treatment in the local context in order to develop and improve the standard of care for breast cancer patients in Hong Kong.

KEY FINDINGS

The patients covered in this report, according to their year of cancer diagnosis, were divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately.

Clinical presentation

- The primary method of first cancer detection in the patient cohorts was self-detection by chance (81.4%-84.2%). More stage 0 or I cancer cases (31.8%-36.6% and 11.9%-16.6% respectively) were detected by mammography screening than stage III or IV cancer cases (2.2%-2.9% and 0.7%-3.9% respectively).
- Most (90.8%-92.4%) patients who self-detected their cancer by chance found a painless lump on their breast(s). Pain is not usually a symptom of breast cancer; only 5.6%-8.0% of the patients felt pain in their breast(s) at initial presentation. Some patients (8.0%-9.6%) experienced changes in nipple (such as nipple discharge, nipple retraction, redness, scaliness or thickening of nipple).
- After the onset of symptoms, only about one-third (32.7%-38.2%) of the patients who self-detected their cancer by chance sought first medical consultation in less than one month. More than one quarter (27.9%-31.7%) waited more than three months before seeking first medical consultation.
- The majority (94.9%-95.6%) of the patients had unilateral breast cancer, while a small proportion (2.3%-2.8%) had synchronous bilateral breast cancer at first diagnosis. Another 1.9%-2.3% developed contralateral breast cancer after diagnosis of an initial primary breast cancer.
- The proportions of the patients with invasive breast cancer who did not have any cancer staging as part of their diagnosis and treatment ranged from 36.6% to 56.0% across the three cohorts. Among those patients who had cancer staging as part of their treatment, a combination of chest x-ray and ultrasound of abdomen (53.3%) was the most common method used for the 2006-2010 cohort, while positron emission tomography scan was the most common method used for the 2011-2015 (59.2%) and 2016-current (71.4%) cohorts.
- The most common cancer stage at diagnosis was stage II (35.7%-38.5%) followed by stages III-IV (14.9%-17.7%). In addition, 11.6%-12.5% of the patients were diagnosed with in situ cancer.

Cancer characteristics

- The mean size of tumours of invasive breast cancer in each patient cohort was 2.2 cm (standard deviation: ±1.5 cm). Tumours of one cm or less in size were found in 15.8%-16.8% of the patients, while tumours larger than two cm were found in 46.8%-48.0% of the patients. In each cohort, screen-detected tumours were significantly smaller

than those self-detected by chance (mean: 1.3±1.0 cm vs. 2.3±1.5cm; p<0.001). In addition, 56.3%-60.1% of the patients with invasive cancers had no positive lymph nodes, while 30.1%-34.5% had at least one positive lymph node with metastasis size larger than two mm. The most common type was invasive carcinoma of no specific type (86.9%-87.3%). Of the invasive breast cancer cases, 78.5%-83.4% were either estrogen receptor (ER) or progesterone receptor (PR) positive, while 17.5%-24.7% were c-erbB2/HER2 positive.

- The mean size of tumours of in situ breast cancer in each patient cohort was two cm (standard deviation: ±1.7 cm). Tumours larger than two cm in size were found in 30.4%-36.3% of the patients. Of the in situ breast cancer cases where mammogram was performed, 59.9%-62.3% showed microcalcification. Ductal cancer was the most common type of in situ breast cancer in each cohort (92.6%-93.6%). Of the in situ breast cancer cases, 81.7%-84.2% were either ER or PR positive, while 17.5%-28.9% were c-erbB2/HER2 positive.

Treatment

- Of the 18,358 patients, 10.0%-14.5% received care at private medical service, 46.6%-53.6% received care at public medical service, and 33.6%-38.8% received care at both private and public medical services.
- Surgery
  - The majority (97.4%-98.4%) of the patients underwent surgery as part of their treatment; 47.0%-53.5% of the patients had surgery at private medical facilities, while 46.5%-53.0% had surgery at public medical facilities.
  - For those patients with invasive tumours, more than half (58.8%-65.7%) had mastectomy and among them, 11.3%-12.9% had reconstruction. Almost all (94.8%-96.6%) the patients with invasive tumours received nodal surgery and among them, 23.1%-50.6% required axillary dissection, and 35.5%-62.3% required sentinel node biopsy only.
  - Less than half (39.4%-47.6%) of the patients with in situ tumours had mastectomy, and among them, 19.4%-27.4% had reconstruction. Among those who received nodal surgery, 76.7%-96.7% had sentinel node biopsy only and 2.3%-19.4% had axillary dissection without sentinel node biopsy.
  - The percentage of the patients who underwent mastectomy was positively correlated with both increasing age and cancer stage.
  - Regarding nodal surgery, sentinel node biopsy without axillary dissection was more commonly used on the patients with negative clinical nodal status (45.2%-79.9%) than those with positive clinical nodal status (10.0%-23.1%). The use of axillary dissection without sentinel node biopsy was positively correlated with increasing cancer stage.
- Radiotherapy
  - In the cohorts, two-thirds (62.6%-64.2%) of the patients had locoregional radiotherapy as part of their treatment. In addition, 85.7%-89.3% of the patients were treated with radiotherapy at public medical facilities, while 10.7%-14.3% had radiotherapy at private medical facilities.
  - The proportion of the invasive breast cancer patients who underwent breast-conserving surgery and also received locoregional radiotherapy was high (over 92%). On the other hand, the proportion of the invasive breast cancer patients who underwent mastectomy and also received locoregional radiotherapy increased significantly from stage I (9.3%-14.0%) to stage III (89.9%-94.4%).
  - Of the patients with in situ cancer who had breast-conserving surgery, over 90% received locoregional radiotherapy afterwards, while 2.8%-3.7% of the patients with in situ cancer who had mastectomy underwent locoregional radiotherapy.
  - Among the patients with metastatic breast cancer, 57.8%-63.2% underwent palliative radiotherapy, and of these patients, 6.9%-

27.3% received radiotherapy to the spine and 0.6%-14.8% to the pelvis.

- Chemotherapy
  - In the cohorts, 59.2%-70.7% of the patients with invasive cancer underwent chemotherapy. The majority (85.4%-87.0%) of them received chemotherapy at public medical facilities, and the remainder (13.0%-14.6%) at private medical facilities.
  - In the cohorts, the use of curative intent chemotherapy was positively correlated to progressing cancer stage from stages I to III. In contrast, the majority (73.5%-86.2%) of the stage IV patients underwent palliative chemotherapy. On the other hand, the use of neoadjuvant chemotherapy increased substantially with progressing cancer stage.
- Endocrine therapy
  - In the cohorts, 67.6%-69.1% of the patients were treated with endocrine therapy. In addition, 88.0%-92.6% of the patients received endocrine therapy at public medical facilities, while 7.4%-12.0% at private medical facilities.
  - Endocrine therapy was used in only 10.3%-12.8% of the in situ breast cancer cases. In contrast, high proportions (74.0%-85.0%) of the patients with invasive cancer received endocrine therapy.
- Anti-HER2 targeted therapy
  - Of the patients with invasive HER2 positive breast cancer in the three cohorts, 43.1%-79.5% underwent anti-HER2 targeted therapy. The majority (87.0%-90.3%) of the patients received anti-HER2 targeted therapy at public medical facilities, and the remainder (9.7%-13.0%) at private medical facilities.
  - In each cohort, the use of anti-HER2 targeted therapy was much lower for stage I patients, and the proportions of stage II or above patients having anti-HER2 targeted therapy were roughly the same for the 2011-2015 and 2016-current cohorts.
- Multimodality treatment
  - Combinations of treatment modalities are usually used for treating breast cancer effectively. In general, the number of treatment modalities increased with increasing cancer stage.
- Complementary and alternative therapies
  - A total of 6,827 (24.5%-41.6%) patients in the cohorts sought complementary and alternative therapies as part of their treatment. Among them, 64.1%-67.7% used traditional Chinese medicines.

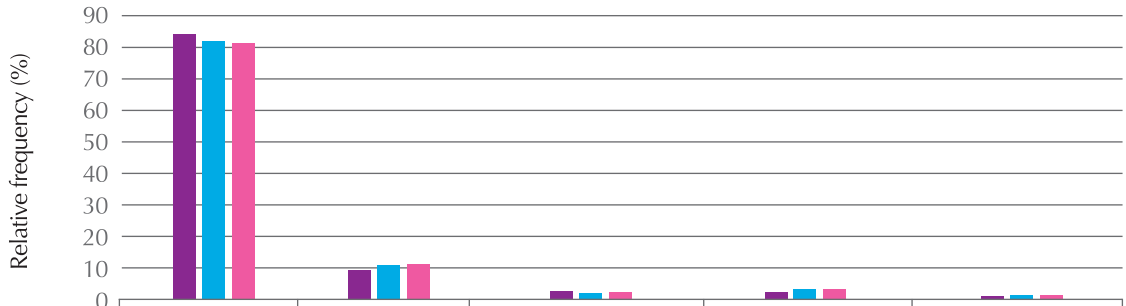
Patient status

- The mean and median follow-up period were 4.2 and 3.5 years, respectively.
- Of the patients who have been followed up, 1.4% experienced only locoreigonal recurrence, 1.9% experienced only distant recurrence, and 1.4% experienced both locoregional and distant recurrent concurrently or sequentially.
- The common sites for locoregional recurrence were chest wall (32.8%) and breast (29.9%). The top four organs involved in distant recurrence were bone (57.4%), lung (48.8%), liver (40.8%) and brain (17.1%).

II. Clinical presentation

2.2 The primary method of first breast cancer detection in the patient cohorts was self-detection by chance (81.4%-84.2%) (Figure 2.1). Detection through healthcare service-assisted screening methods, including clinical breast examination (CBE), mammography screening (MMG) and ultrasound screening (USG) constituted a small proportion (15.4%-17.6%). In the United States (US), a study reported that 43% of breast cancer cases were detected through MMG,[31] which is much higher than the 9.6%-11.3% of the patient cohorts.

Figure 2.1: Method of first breast cancer detection in the patient cohorts (N=17,360)



	Self-detection by chance	Mammography screening	Other screening methods (BSE and CBE)	Other imaging tests (USG and MRI)	Incidental surgery / Others
2006-2010 (N=6,441)	84.2	9.6	3.3	2.5	0.5
2011-2015 (N=8,337)	82.5	11.0	2.6	3.0	0.9
2016-current (N=2,582)	81.4	11.3	2.7	3.6	1.0

2.3 In terms of the types of medical service received, the proportion of the patients who self-detected their breast cancer by chance was higher among public medical service users (83.3%-85.6%) or mixed private/public medical service users (80.8%-86.6%) than among private medical service users (68.0%-72.9%). In contrast, the proportion of the patients who first detected their breast cancer through MMG was higher among private medical service users (14.3%-21.4%) than among public medical service users (8.7%-12.0%) or mixed private/public medical service users (7.1%-11.3%) (Table 2.1).

Table 2.1: Method of first breast cancer detection by type of medical service users (N=17,360)

	Type of medical service users % for 2006-2010, % for 2011-2015, % for 2016-current								
	Private			Public			Mixed private / public		
Self-detection by chance	72.9	72.3	68.0	85.6	83.3	85.3	86.6	84.1	80.8
Mammography screening	15.7	14.3	21.4	9.8	12.0	8.7	7.1	8.7	11.3
Other screening methods (BSE and CBE)	4.2	2.7	0.6	2.7	2.3	3.4	3.6	2.9	2.4
Other imaging tests (USG and MRI)	6.5	8.9	8.6	1.3	1.5	1.5	2.4	3.4	4.7
Incidental surgery / Others	0.7	1.7	1.4	0.6	0.9	1.0	0.4	0.8	0.7

Total number of patients in each group:

Private: 938 (for 2006-2010), 839 (for 2011-2015), 359 (for 2016-current)

Public: 3,005 (for 2006-2010), 4,446 (for 2011-2015), 1,358 (for 2016-current)

Mixed private / public: 2,498 (for 2006-2010), 3,052 (for 2011-2015), 865 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; USG: Ultrasound screening; MRI: Magnetic resonance imaging

2.4 Studies have shown that MMG is effective in detecting early cancer when there are neither signs nor symptoms that can be observed by patients or medical professionals.[32] In the patient cohorts, the proportions of invasive breast cancer cases detected by MMG ranged from 6.4% to 8.3%, which were much lower than those of in situ breast cancer cases (31.8%-36.6%) (Table 2.2). In addition, more stage 0 or I cancer cases were detected by MMG than stage III or IV cancer cases (Table 2.3). On the other hand, the majority (91.1%-95.3%) of the patients with stage IIB, III or IV cancer self-detected their cancer by chance.

Table 2.2: Method of first breast cancer detection by type of cancer (N=17,236)

	Type of cancer % for 2006-2010, % for 2011-2015, % for 2016-current					
	Invasive cancer			In situ cancer		
Self-detection by chance	87.6	86.3	85.3	60.0	53.8	54.2
Mammography screening	6.4	7.7	8.3	31.8	36.6	32.5
Other screening methods (BSE and CBE)	3.2	2.4	2.5	3.9	3.3	3.4
Other imaging tests (USG and MRI)	2.2	2.7	3.0	4.1	5.0	8.4
Incidental surgery / Others	0.5	0.9	0.8	0.2	1.3	1.5

Total number of patients in each group:

Invasive cancer: 5,603 (for 2006-2010), 7,298 (for 2011-2015), 2,238 (for 2016-current)

In situ cancer: 803 (for 2006-2010), 971 (for 2011-2015), 323 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; USG: Ultrasound screening; MRI: Magnetic resonance imaging

Table 2.3: Method of first breast cancer detection by cancer stage (N=16,819)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current																	
	0			I			IIA			IIB			III			IV		
Self-detection by chance	59.9	53.8	54.1	79.6	76.8	73.7	89.9	88.7	90.0	93.8	93.6	94.3	93.6	93.9	93.2	92.9	91.1	95.3
Mammography screening	31.8	36.6	32.5	11.9	14.5	16.6	4.9	5.5	5.1	2.0	2.6	2.3	2.9	2.9	2.2	0.7	3.9	1.6
Other screening methods (BSE and CBE)	3.9	3.3	3.4	4.1	3.3	2.6	2.9	2.5	2.1	2.4	2.0	2.3	2.4	0.8	3.7	3.5	2.3	1.6
Other imaging tests (USG and MRI)	4.1	5.1	8.4	4.1	4.2	6.1	1.6	2.5	1.9	1.4	1.3	0.7	0.3	1.4	0.0	1.4	1.2	0.0
Incidental surgery / Others	0.2	1.2	1.6	0.4	1.2	1.0	0.6	0.7	1.0	0.5	0.5	0.3	0.8	0.9	0.9	1.4	1.6	1.6

Total number of patients in each group:

0: 801 (for 2006-2010), 968 (for 2011-2015), 320 (for 2016-current)

I: 2,000 (for 2006-2010), 2,578 (for 2011-2015), 801 (for 2016-current)

IIA: 1,668 (for 2006-2010), 1,971 (for 2011-2015), 629 (for 2016-current)

IIB: 804 (for 2006-2010), 1,063 (for 2011-2015), 299 (for 2016-current)

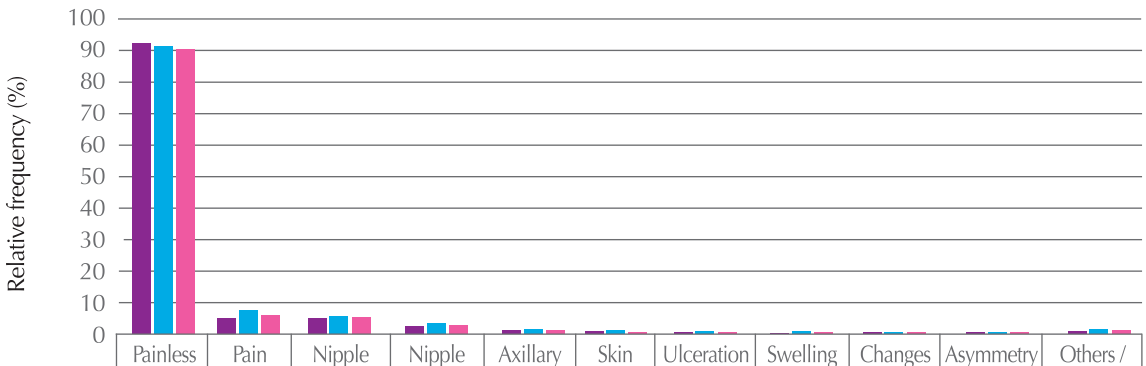
III: 909 (for 2006-2010), 1,223 (for 2011-2015), 323 (for 2016-current)

IV: 141(for 2006-2010), 257 (for 2011-2015), 64 (for 2016-current)

BSE: Breast self-examination; CBE: Clinical breast examination; USG: Ultrasound screening; MRI: Magnetic resonance imaging

2.5 Most (90.8%-92.4%) patients who self-detected their cancer by chance found a painless lump on their breast(s). Pain is not usually a symptom of breast cancer; only 5.6%-8.0% of the patients felt pain in their breast(s) at initial presentation. Some patients (8.0%-9.6%) experienced changes in nipple (such as nipple discharge, nipple retraction, redness, scaliness or thickening of nipple) (Figure 2.2).

Figure 2.2: Major presenting symptoms of self-detected* breast cancer in the patient cohorts (N=14,401)



	Painless lump	Pain	Nipple discharge	Nipple retraction	Axillary node	Skin change	Ulceration	Swelling	Changes in nipple	Asymmetry	Others / not known
2006-2010 (N=5,421)	92.4	5.6	5.4	2.3	1.0	0.8	0.4	0.2	0.3	0.4	0.8
2011-2015 (N=6,878)	91.5	8.0	6.3	2.9	1.1	1.0	0.7	0.8	0.4	0.3	1.3
2016-current (N=2,102)	90.8	6.6	5.9	2.6	0.9	0.4	0.4	0.4	0.3	0.2	1.0

*Self-detection by chance only

A. Time interval between the onset of symptoms and first medical consultation

2.6 Longer delay in seeking medical consultation is associated with higher probability of local cancer spread or distant metastasis and poorer prognosis.[33] After the onset of symptoms, only about one-third (32.7%-38.2%) of the patients who self-detected their cancer by chance sought first medical consultation in less than one month (Table 2.4). More than one quarter (27.9%-31.7%) waited more than three months before seeking first medical consultation.

2.7 The proportion of the patients who sought first medical consultation in less than one month was higher among private medical service users (39.9%-43.7%) than among public medical service users (26.8%-30.5%) (Table 2.5).

Table 2.4: Time interval between onset of symptoms and first medical consultation for patients who self-detected* their cancer (N=3,805)

	2006-2010 (N=1,614) %	2011-2015 (N=1,646) %	2016-current (N=545) %
Less than 1 month	38.2	32.7	33.4
1-3 months	30.1	35.5	38.7
4-12 months	19.9	22.2	18.9
More than 12 months	11.8	9.5	9.0

*Self-detection by chance only

Table 2.5: Time interval between onset of symptoms and first medical consultation for patients who self-detected* their cancer by type of medical service users (N=3,805)

	Type of medical service users % for 2006-2010, % for 2011-2015, % for 2016-current								
	Private			Public			Mixed private / public		
Less than 1 month	43.7	39.9	40.7	30.5	26.8	25.9	40.7	41.7	44.1
1-3 months	29.0	32.7	37.3	28.4	35.3	42.4	32.2	36.7	32.8
4-12 months	17.5	19.0	20.3	25.6	25.8	20.7	16.9	16.5	15.3
More than 12 months	9.8	8.5	1.7	15.5	12.1	11.0	10.2	5.0	7.9

Total number of patients in each group:

Private: 428 (for 2006-2010), 153 (for 2011-2015), 59 (for 2016-current)

Public: 528 (for 2006-2010), 973 (for 2011-2015), 309 (for 2016-current)

Mixed private / public: 658 (for 2006-2010), 520 (for 2011-2015), 177 (for 2016-current)

*Self-detection by chance only

2.8 A much higher proportion (12.0%-14.0%) of the patients who sought first medical consultation after 12 months of symptom onset was diagnosed with stage IV cancer than those who sought first medical consultation in less than one month (0.6%-2.5%) (Table 2.6).

Table 2.6: Cancer stage at diagnosis among self-detected* patients by time interval between onset of symptoms and first medical consultation (N=3,369)

	Time interval between onset of symptoms and first medical consultation % for 2006-2010, % for 2011-2015, % for 2016-current											
	Less than 1 month			1-3 months			4-12 months			More than 12 months		
Stage I	38.8	33.7	36.1	33.7	29.1	32.5	30.5	22.6	32.2	20.8	28.9	27.9
Stage IIA	33.9	33.3	32.3	35.1	30.8	33.5	28.7	33.6	32.2	24.7	21.1	39.5
Stage IIB	13.5	15.7	17.1	13.5	17.5	18.0	17.4	20.1	16.1	20.1	13.4	9.3
Stage III	12.0	16.7	12.0	16.3	18.1	13.4	19.9	18.9	13.8	20.8	24.6	9.3
Stage IV	1.8	0.6	2.5	1.4	4.6	2.6	3.5	4.7	5.7	13.6	12.0	14.0

Total number of patients in each group:

Less than 1 month: 557 (for 2006-2010), 478 (for 2011-2015), 158 (for 2016-current)

1-3 months: 430 (for 2006-2010), 526 (for 2011-2015), 194 (for 2016-current)

4-12 months: 282 (for 2006-2010), 318 (for 2011-2015), 87 (for 2016-current)

More than 12 months: 154 (for 2006-2010), 142 (for 2011-2015), 43 (for 2016-current)

*Self-detection by chance only

III. Cancer characteristics

2.9 Breast cancer can occur in one (unilateral) or both breasts (bilateral). The majority (2006-2010: 95.4%; 2011-2015: 94.9%; 2016-current: 95.6%) of the patients had unilateral breast cancer, while a small proportion (2006-2010: 2.3%; 2011-2015: 2.8%; 2016-current: 2.5%) had synchronous bilateral breast cancer at first diagnosis (Table 2.7). Another 1.9%-2.3% (2006-2010: 2.3%; 2011-2015: 2.3%; 2016-current: 1.9%) developed contralateral breast cancer after diagnosis of an initial primary breast cancer.

Table 2.7: Number of patients and breast cancer cases in the three patient cohorts

	No. of patients	No. of cases included in this report	Time interval for metachronous cases, median (range) (years)
2006-2010			
Unilateral	**6,387**	**6,387**	**—**
Bilateral (synchronous)	**151**	**302**	**—**
All bilateral (metachronous) cases	**154**	**195**	**5.5 (0.5 – 34.5)**
Bilateral (metachronous) Initial diagnosis happened within 2006-2010	*41*	*82*	*2.4 (0.6 – 3.8)*
Bilateral (metachronous) Initial diagnosis happened before 2006	*113*	*113*	*7.7 (0.5 – 34.5)*
2011-2015			
Unilateral	**8,066**	**8,066**	**—**
Bilateral (synchronous)	**238**	**476**	**—**
All bilateral (metachronous) cases	**192**	**220**	**7.0 (0.5 – 36.1)**
Bilateral (metachronous) Initial diagnosis happened within 2011-2015	*28*	*56*	*2.1 (0.5 – 4.3)*
Bilateral (metachronous) Initial diagnosis happened within 2006-2010	*74*	*74*	*5.0 (0.5 – 8.8)*
Bilateral (metachronous) Initial diagnosis happened before 2006	*90*	*90*	*11.8 (5.4 – 36.1)*
2016-current			
Unilateral	**2,527**	**2,527**	**—**
Bilateral (synchronous)	**67**	**134**	**—**
All bilateral (metachronous) cases	**49**	**51**	**7.8 (1.2 – 21.1)**
Bilateral (metachronous) Initial diagnosis happened within 2016-current	*2*	*4*	*1.3 (1.2 – 1.5)*
Bilateral (metachronous) Initial diagnosis happened within 2011-2015	*13*	*13*	*4.8 (1.4 – 7.2)*
Bilateral (metachronous) Initial diagnosis happened within 2006-2010	*22*	*22*	*8.1 (5.5 – 10.8)*
Bilateral (metachronous) Initial diagnosis happened before 2006	*12*	*12*	*14.1 (11.0 – 21.1)*

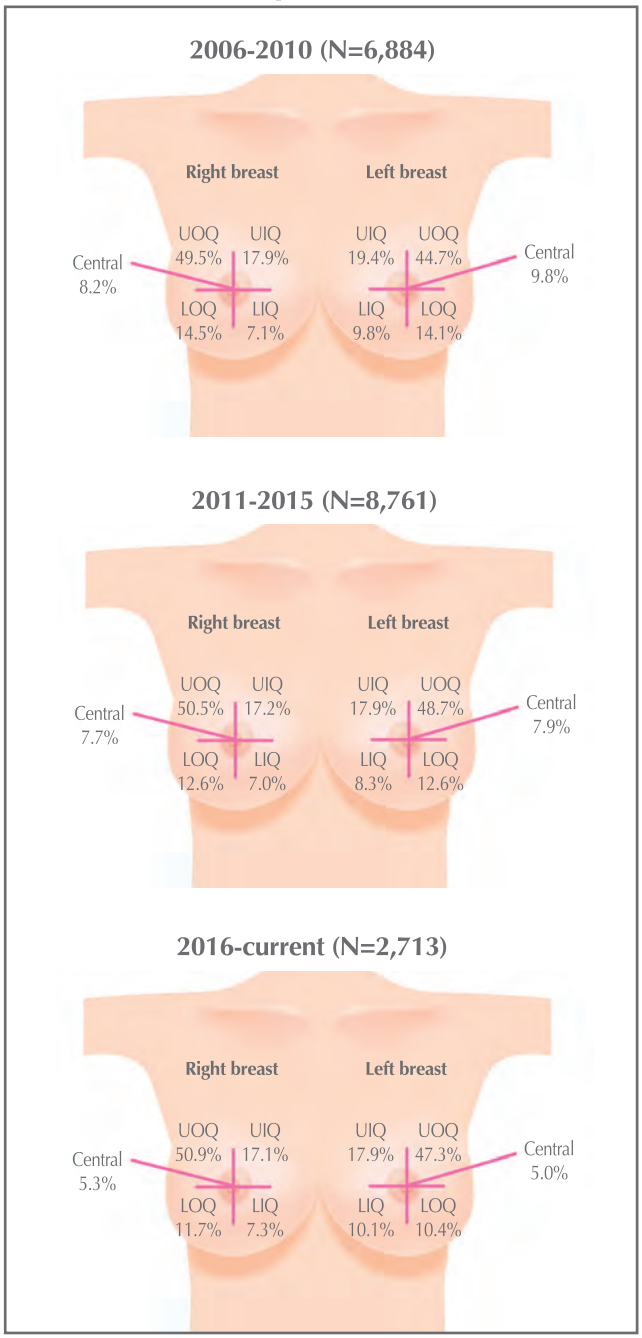
2.10 As regards the location of malignant breast tumour, about half of the breast cancer cases in either the left or the right breast (44.7%-48.7% and 49.5%-50.9% respectively), the tumour was detected in the upper outer quadrant (Figure 2.3).

A. Diagnostic tests for breast cancer

2.11 There are two types of breast cancer diagnostic tests: imaging tests and biopsies. Imaging tests include diagnostic MMG, USG and magnetic resonance imaging (MRI). Diagnostic MMG is the main procedure for breast cancer diagnosis, and USG is used to distinguish a solid mass, which may be cancer, from a fluid-filled cyst, which is usually not cancer. Breast MRI is usually performed on women who have been diagnosed with breast cancer to check the extent of their disease.

2.12 For cancer diagnosis, MMG was used on 83.6%-88.5% of the patients, and USG on 77.1%-86.8%, while MRI was used on only 6.0%-12.9% of the patients (Table 2.8). Results of imaging tests are classified into categories using a system called the Breast Imaging Reporting and Data System (BIRADS). BIRADS 4 or 5 are suspected breast cancer and should be checked by further surgical tests such as biopsies.

Figure 2.3: Locations of malignant tumour on breasts within the patient cohorts (N=18,358)



UOQ: Upper outer quadrant UIQ: Upper inner quadrant
LOQ: Lower outer quadrant LIQ: Lower inner quadrant
Note: Figures include multicentric cancers

Table 2.8: Sensitivity and diagnostic results of breast imaging tests (N=18,358)

	2006-2010 (N=6,884) %	2011-2015 (N=8,761) %	2016-current (N=2,713) %
Mammography			
Proportion of patients using the test	83.6	86.4	88.5
Overall sensitivity*	79.3	85.8	89.8
BIRADS category			
Diagnostic / malignant (BIRADS 5)	28.4	35.4	30.0
Suspicious abnormality (BIRADS 4)	50.9	50.5	59.8
Probably benign (BIRADS 3)	7.4	4.1	3.3
Benign (BIRADS 2)	5.1	3.2	3.5
Normal (BIRADS 1)	7.9	6.0	2.9
Incomplete (BIRADS 0)	0.3	0.9	0.5
Breast ultrasound			
Proportion of patients using the test	77.1	81.5	86.8
Overall sensitivity*	88.4	92.8	94.6
BIRADS category			
Diagnostic / malignant (BIRADS 5)	35.5	39.2	32.0
Suspicious abnormality (BIRADS 4)	52.9	53.6	62.6
Probably benign (BIRADS 3)	6.8	4.6	3.6
Benign (BIRADS 2)	2.1	1.2	1.4
Normal (BIRADS 1)	2.6	1.4	0.5
Incomplete (BIRADS 0)	0.1	0.1	<0.1
MRI			
Proportion of patients using the test	6.0	11.8	12.9
Overall sensitivity*	95.4	97.3	98.3
BIRADS category			
Diagnostic / malignant (BIRADS 5)	69.8	82.7	82.2
Suspicious abnormality (BIRADS 4)	25.5	14.6	16.0
Probably benign (BIRADS 3)	1.9	1.3	1.1
Benign (BIRADS 2)	1.5	0.4	0.3
Normal (BIRADS 1)	1.2	1.0	0.3
Incomplete (BIRADS 0)	0.0	0.1	0.0

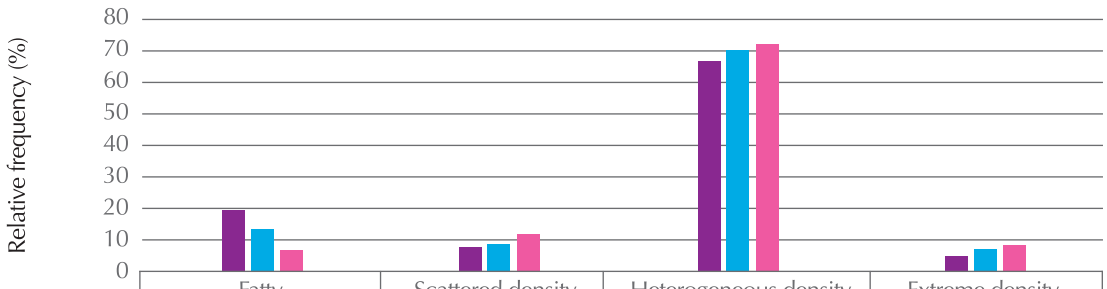
MRI: Magnetic resonance imaging; BIRADS: Breast Imaging Reporting and Data System
*Sensitivity: Number of true positives (BIRADS 4-5) divided by total number of patients who had the test

2.13 Opacity was observed in 58.3%-75.0% of the patients in the three cohorts with BIRADS 4 or 5 mammograms, while microcalcification was observed in 42.3%-50.4% (Table 2.9). The mammographic density of a woman's breasts affects the sensitivity of mammography. Heterogeneously dense breast may obscure small masses, while extremely dense breast lowers the sensitivity of mammography. In the three patient cohorts, more than two-thirds (67.1%-72.3%) had heterogeneously dense breasts, while a small proportion (5.3%-8.6%) had extremely dense breasts (Figure 2.4). Mammographic density of a woman's breasts declines with increasing age. The proportion of patients with extremely dense breast decreases significantly from 10.5%-28.6% among patients aged between 20 and 29 to 0.5%-4.2% among patients aged 70 and above (Table 2.10).

Table 2.9: Mammographic findings of patients diagnosed through mammography (N=13,220)

	2006-2010 (N=4,561) %	2011-2015 (N=6,497) %	2016-current (N=2,162) %
Opacity	58.3	67.0	75.0
Microcalcification	50.4	50.2	42.3
Architectural distortion	13.2	15.2	15.4
Asymmetric density	10.3	7.4	4.1
Unclassified	5.2	3.5	5.1

Figure 2.4: Mammographic density of breasts of patients diagnosed through mammogram (N=9,317)



	Fatty	Scattered density	Heterogeneous density	Extreme density
2006-2010 (N=3,291)	19.5	8.1	67.1	5.3
2011-2015 (N=4,664)	13.6	9.1	70.0	7.3
2016-current (N=1,362)	7.0	12.0	72.3	8.6

Mammographic breast density

Table 2.10: Mammographic density of breasts of patients diagnosed through mammogram by age group (N=9,069)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current																	
	20-29			30-39			40-49			50-59			60-69			70+		
Fatty	10.5	5.0	0.0	6.8	5.6	1.0	10.7	7.7	3.7	20.6	12.3	5.0	31.7	19.9	10.9	47.0	31.7	18.3
Scattered density	5.3	0.0	14.3	4.3	3.4	5.0	6.4	5.6	8.7	9.0	9.4	10.4	10.5	12.2	16.8	10.0	17.3	20.0
Heterogeneous density	73.7	75.0	57.1	79.9	76.8	76.2	75.4	76.9	71.7	65.9	71.9	78.6	55.0	63.7	68.4	42.5	49.0	57.5
Extreme density	10.5	20.0	28.6	9.0	14.2	17.8	7.5	9.9	15.9	4.5	6.4	6.1	2.8	4.2	3.8	0.5	2.0	4.2

Total number of patients in each group:

20-29: 19 (for 2006-2010), 20 (for 2011-2015), 7 (for 2016-current)

30-39: 278 (for 2006-2010), 323 (for 2011-2015), 101 (for 2016-current)

40-49: 1,120 (for 2006-2010), 1,332 (for 2011-2015), 321 (for 2016-current

50-59: 1,077 (for 2006-2010), 1,588 (for 2011-2015), 444 (for 2016-current)

60-69: 458 (for 2006-2010), 956 (for 2011-2015), 339 (for 2016-current)

70+: 219 (for 2006-2010), 347 (for 2011-2015), 120 (for 2016-current)

2.14 Biopsies (samplings of breast cells or tissues for examination) for breast cancer diagnosis include fine needle aspiration (FNA), core needle biopsy (CNB) and excisional biopsy. As a standard of care, biopsies are for confirming before surgery if a breast lesion is malignant. FNA and CNB are less invasive sampling methods and used more often, but sometimes an excisional biopsy, which removes a relatively larger portion of breast tissue, is necessary. FNA and/or CNB were performed in the majority (2006-2010: 83.6%; 2011-2015: 87.5%; 2016-current: 90.0%) of the patients in the three cohorts and among them, less than one-third (2006-2010: 36.5%; 2011-2015: 19.0%; 2016-current: 10.2%) received only FNA, one-third to two-thirds (2006-2010: 43.2%; 2011-2015: 56.7%; 2016-current: 66.5%) received only CNB, while about one-fifth (2006-2010: 20.3%; 2011-2015: 24.3%; 2016-current: 23.2%) received both FNA and CNB. In addition, 5.6%-13.7% of the patients had excisional biopsy. Excisional biopsy had the highest overall sensitivity of 100%, followed by CNB (98.8%-99.5%) and FNA (90.1%-91.0%) (Table 2.11).

Table 2.11: Sensitivity and diagnostic results of breast tissue biopsies (N=18,358)

	2006-2010 (N=6,884) %	2011-2015 (N=8,761) %	2016-current (N=2,713) %
Fine needle aspiration			
Proportion of patients using the test	47.1	37.6	29.9
Overall sensitivity*	90.5	90.1	91.0
Class			
Diagnostic / malignant (Class V)	60.0	65.2	66.1
Suspicious (Class IV)	18.8	13.1	14.3
Atypical (Class III)	11.7	11.7	10.6
Benign (Class II)	4.8	3.4	2.8
Scanty benign (Class I)	3.3	4.7	5.5
Incomplete (Class 0)	1.5	1.8	0.6
Core needle biopsy			
Proportion of patients using the test	52.7	70.5	80.4
Overall sensitivity*	98.8	98.8	99.5
Class			
Diagnostic / malignant (Class V)	94.6	95.8	96.5
Suspicious (Class IV)	2.5	1.2	2.0
Atypical (Class III)	1.7	1.7	1.1
Benign (Class II)	0.7	0.9	0.2
Scanty benign (Class I)	0.5	0.2	0.2
Incomplete (Class 0)	0.0	0.0	0.0
Excisional biopsy			
Proportion of patients using the test	13.7	9.0	5.6
Overall sensitivity*	100.0	100.0	100.0
Class			
Diagnostic / malignant (Class V)	100.0	100.0	100.0
Suspicious (Class IV)	–	–	–
Atypical (Class III)	–	–	–
Benign (Class II)	–	–	–
Scanty benign (Class I)	–	–	–
Incomplete (Class 0)	–	–	–

* Sensitivity: Number of true positives (Class III-V) divided by total number of patients who had the test

B. Methods of cancer staging

2.15 Cancer staging is the process of finding out the extent of the disease in the body pre-operatively after diagnosis of breast cancer. Cancer staging is usually for patients with clinically node positive or locally advanced disease. Patients who only had chest x-ray are considered not having adequate workup for cancer stage to be determined.

2.16 The proportions of the patients with invasive breast cancer who did not have any cancer staging as part of their diagnosis and treatment ranged from 36.6% to 56.0% across the three cohorts (2006-2010: 36.6%; 2011-2015: 53.6%; 2016-current: 56.0%). Among those patients who had cancer staging as part of their treatment, a combination of chest x-ray and ultrasound of abdomen was the most common method used for the 2006-2010 cohort (53.3%), while positron emission tomography scan (PET scan) was the most common method used for the 2011-2015 (59.2%) and 2016-current (71.4%) cohorts (Table 2.12). PET scan is not recommended for patients with early breast cancer, including stage I, stage II or operable stage III breast cancer, to determine the extent of disease.[34] This might be due to its low sensitivity and fairly low specificity in staging of the axillary lymph nodes and poor detection of metastases in patients with apparent early-stage disease. However, among those patients who had cancer staging, 12.1%-44.0% of stage I and 26.8%-69.0% of stage IIA patients had PET scan to determine the extent of their disease (Table 2.13).

Table 2.12: Method of cancer staging among invasive breast cancer patients (N=7,352)

	2006-2010 (N=3,139) %	2011-2015 (N=3,239) %	2016-current (N=974) %
Positron emission tomography scan (PET scan)	34.2	59.2	71.4
Chest X-Ray (CXR) and ultrasound abdomen (USG Abd)	53.3	27.9	16.9
Computed tomography of body parts*	4.2	7.9	11.0
Bone scan	3.6	3.0	2.5
Magnetic resonance imaging whole body (MRI whole body)	0.7	0.6	1.8
Others (e.g. bone x-ray)	6.4	9.8	5.4
Not known	11.4	1.2	0.7

*Body parts include abdomen, thorax, pelvis, brain, or whole body

Table 2.13: Use of PET scan as a form of staging method among patients by cancer stage (N=7,352)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current					
	I	IIA	IIB	III	IV	Unstaged
PET scan used	12.1 25.2 44.0	26.8 47.1 69.0	39.6 70.3 80.9	62.9 82.6 85.8	82.7 90.3 83.3	68.0 79.8 94.4

Total number of patients in each group:

I: 1,029 (for 2006-2010), 786 (for 2011-2015), 234 (for 2016-current)

IIA: 832 (for 2006-2010), 735 (for 2011-2015), 242 (for 2016-current)

IIB: 467 (for 2006-2010), 498 (for 2011-2015), 141 (for 2016-current)

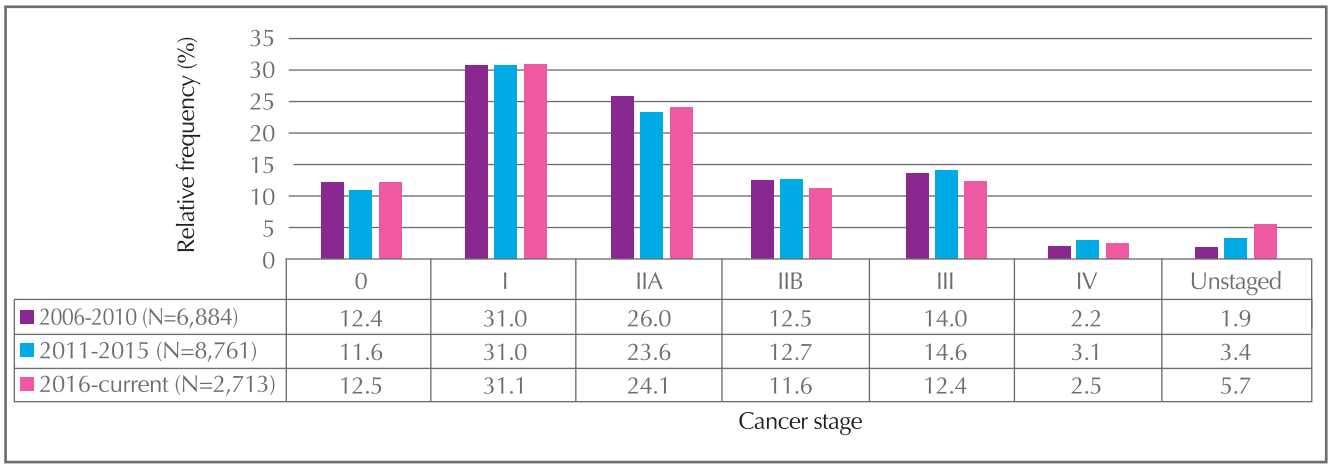
III: 628 (for 2006-2010), 867 (for 2011-2015), 226 (for 2016-current)

IV: 133 (for 2006-2010), 259 (for 2011-2015), 60 (for 2016-current)

Unstaged: 50 (for 2006-2010), 94 (for 2011-2015), 71 (for 2016-current)

2.17 The American Joint Committee on Cancer (AJCC) Anatomic Breast Cancer Staging (8th edition)[35] is used for determining cancer staging in the patient cohorts. There are two stage groups according to this system: anatomic stage and prognostic stage groups. The anatomic stage group assigns a cancer stage based on the anatomic information on the tumour (T), regional nodes (N) and distant metastases (M) categories. The prognostic stage group, in conjunction with the aforementioned anatomic information (i.e. TNM categories), also takes into account other factors, including the tumour grade, biomarkers [human epidermal growth factor receptor 2 (HER2), estrogen receptor (ER), progesterone receptor (PR)] expression and genomic assays, in assigning a stage. Although prognostic stage group was recommended for patient care and was used for reporting of all cancer patients in the US starting from 2018, it was not used in this report. The reason for this was that patients in the cohorts were mostly diagnosed in 2006 to 2016 and treatment offered to the patients in the cohorts was based on the prevailing anatomic stage group. It is noted that there is only minimal difference in the TNM anatomic staging between the 7th and 8th edition. The most common cancer stage at diagnosis was stage II (35.7%-38.5%) followed by stages III-IV (14.9%-17.7%). In addition, 11.6%-12.5% of the patients were diagnosed with in situ cancer (Figure 2.5).

Figure 2.5: Cancer stage at diagnosis (N=18,358)



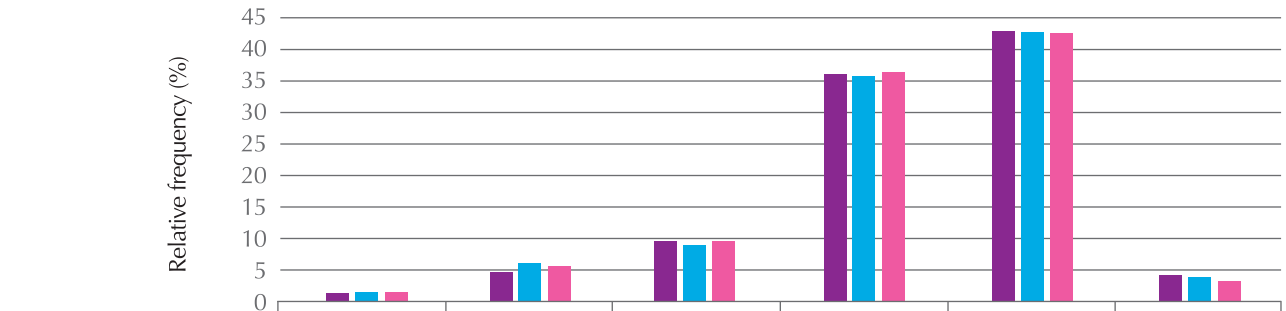
	0	I	IIA	IIB	III	IV	Unstaged
2006-2010 (N=6,884)	12.4	31.0	26.0	12.5	14.0	2.2	1.9
2011-2015 (N=8,761)	11.6	31.0	23.6	12.7	14.6	3.1	3.4
2016-current (N=2,713)	12.5	31.1	24.1	11.6	12.4	2.5	5.7

2.18 Of the 18,358 breast cancer cases analysed, data from 17,753 cases with available pathology data were used for subsequent analyses on cancer characteristics. A total of 15,368 (2006-2010: 86.4%; 2011-2015: 86.8%; 2016-current: 86.1%) patients were diagnosed with invasive cancer, while 2,373 (2006-2010: 13.5%; 2011-2015: 13.1%; 2016-current: 13.8%) patients were diagnosed with in situ cancer. In addition, 12 (2006-2010: 0.1%; 2011-2015: 0.1%; 2016-current: <0.1%) cases were diagnosed with occult primary breast cancer.

C. Characteristics of invasive breast cancer

2.19 The mean size of tumours of invasive breast cancer in each patient cohort was 2.2 cm (range: 0.01 to 19.1 cm; standard deviation: ±1.5 cm). Tumours of one cm or less in size were found in about 16% of the patients, while tumours of sizes one to two cm and two to five cm were respectively found in about 36% and 43% of the patients in all the three cohorts (Figure 2.6). Only a small proportion (3.7%-4.3%) of the patients had tumours of sizes exceeding five cm. In all the patient cohorts, screen-detected tumours were significantly smaller than those self-detected by chance (mean: 1.3±1.0 cm vs. 2.3±1.5 cm; p<0.001).

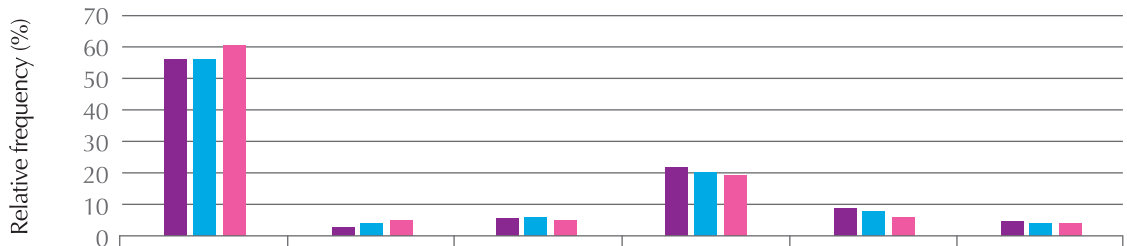
Figure 2.6: Distribution of tumour size (cm) of invasive breast cancer (N=14,250)



	≤ 0.10	0.11-0.50	0.51-1.00	1.01-2.00	2.01-5.00	> 5.00
2006-2010 (N=5,541)	1.6	4.7	9.5	36.1	43.7	4.3
2011-2015 (N=6,708)	1.7	6.0	9.0	35.9	43.3	4.2
2016-current (N=2,001)	1.7	5.6	9.5	36.3	43.1	3.7

2.20 Lymph node status is one of the factors used for determining breast cancer stage. Multiple affected lymph nodes signify a higher disease stage. Of the patients with invasive breast cancer, 56.3%-60.1% had no positive axillary lymph nodes, 3.2%-5.0% had isolated tumour cells, 4.8%-6.6% had micrometastasis (metastasis size > 0.2 mm to ≤ 2 mm), while 30.1%-34.5% had at least one positive axillary lymph node with metastasis size larger than two mm (Figure 2.7).

Figure 2.7: Number of positive axillary lymph nodes among patients with invasive breast cancer (N=14,862)

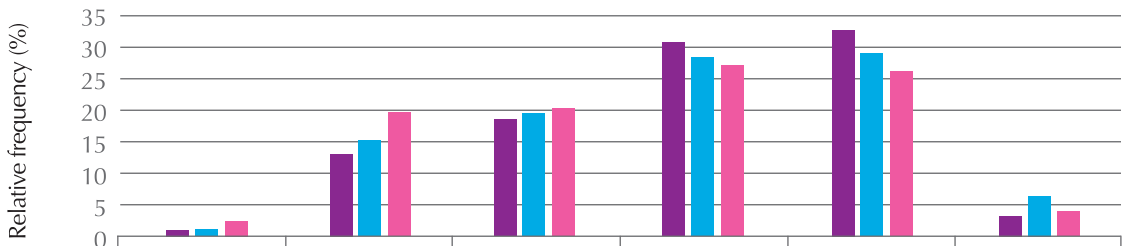


	0+ve nodes	Isolated tumour cell (ITC)	Micrometastasis (0.2-2mm)	1-3 +ve nodes	4-9 +ve nodes	10 or above +ve nodes
2006-2010 (N=5,693)	56.3	3.2	6.0	21.0	8.9	4.6
2011-2015 (N=7,068)	56.4	4.4	6.6	20.1	8.1	4.3
2016-current (N=2,101)	60.1	5.0	4.8	19.6	6.6	3.9

D. Characteristics of in situ breast cancer

2.21 The mean size of tumours of in situ breast cancer in each patient cohort was two cm (range: 0.02 to 25.0 cm; standard deviation: ±1.7 cm). Tumours of one cm or less in size were found in 33.2%-42.6% of the patients, while tumours of two to five cm in size were found in 26.3%-33.0% of the patients (Figure 2.8). A small proportion (3.3%-6.6%) of the patients had in situ tumours larger than five cm. Of the in situ breast cancer cases where MMG was performed, around three-fifths (2006-2010: 61.7%; 2011-2015: 62.3%; 2016-current: 59.9%) showed microcalcification.

Figure 2.8: Distribution of tumour size (cm) of in situ breast cancer (N=1,965)



	≤ 0.10	0.11-0.50	0.51-1.00	1.01-2.00	2.01-5.00	> 5.00
2006-2010 (N=789)	1.0	13.7	18.5	30.5	33.0	3.3
2011-2015 (N=883)	1.1	15.2	19.6	28.4	29.1	6.6
2016-current (N=293)	2.7	19.8	20.1	27.0	26.3	4.1

IV. Histological and biological characteristics

2.22 Breast cancer is a heterogeneous group of tumours, consisting of different histologic subtypes with diverse microscopic appearances. The histological data of breast carcinomas provide valuable prognostic information. They complement other independent parameters, including size, grade, nodal status, hormonal receptor status and HER2 oncogene status, to help predict the likelihood of recurrence and response to treatment.

A. Invasive breast cancer

2.23 As far as histological characteristics, grading, multifocality and multicentricity of invasive breast cancer in the patient cohorts are concerned, the most common type was invasive carcinoma of no specific type (86.9%-87.3%) (Table 2.14), and about one-third (31.4%-34.0%) of the invasive tumours are of grade 3 (Table 2.15).

Table 2.14: Histological type of invasive breast cancer (N=15,368)

	2006-2010 (N=5,787) %	2011-2015 (N=7,330) %	2016-current (N=2,251) %
Invasive carcinoma of no specific type	86.9	87.2	87.3
Lobular	3.6	3.4	4.3
Mucinous (colloid)	3.7	3.2	2.6
Papillary	0.8	1.1	1.0
Tubular	0.8	0.6	0.4
Carcinoma with medullary features	0.6	0.6	0.3
Borderline / malignant phyllodes	0.4	0.5	0.5
Mixed ductal and lobular	0.5	0.3	0.6
Micropapillary	0.4	0.4	0.5
Metaplastic	0.3	0.4	0.4
Carcinoma with neuroendocrine features	0.2	0.2	0.1
Carcinoma with apocrine features	0.2	0.1	<0.1
Adenoid cystic	<0.1	0.2	0.1
Paget's disease of nipple	0.1	0.1	0.0
Cribriform	0.1	<0.1	0.1
Tubulo-lobular	<0.1	0.1	<0.1
Inflammatory	<0.1	<0.1	<0.1
Squamous cell	<0.1	<0.1	0.0
Lipid rich carcinoma	<0.1	<0.1	<0.1
Secretory carcinoma	<0.1	0.0	0.0
Acinic cell carcinoma	0.0	<0.1	0.0
Sarcoma	0.0	<0.1	<0.1
Others (e.g. mixed types)	0.4	1.2	1.2
Not known	1.0	0.5	0.4

Table 2.15: Grading, multifocality and multicentricity of invasive breast cancer (N=15,368)

	2006-2010 (N=5,787) %	2011-2015 (N=7,330) %	2016-current (N=2,251) %
Grade			
Grade 1	16.6	16.1	17.5
Grade 2	39.2	41.0	37.9
Grade 3	34.0	31.4	31.4
Not known	10.2	11.5	13.1
Lymphovascular invasion	**28.9**	**25.2**	**23.1**
Multifocality	**9.8**	**8.8**	**9.4**
Number of foci			
2	53.3	54.3	54.5
3-4	18.3	16.1	16.6
≥5	12.3	7.3	9.5
Not known	16.2	22.3	19.4
Multicentricity	**2.7**	**2.7**	**2.3**
Number of quadrants			
2	85.2	85.6	90.2
3	7.1	5.1	2.0
4	5.2	1.0	2.0
Not known	2.6	8.2	5.9

2.24 In each cohort, nearly all (2006-2010: 97.6%; 2011-2015: 97.8%; 2016-current: 96.7%) the patients with invasive breast cancer were tested for ER or PR status. Among them, more than three-quarters (2006-2010: 79.3%; 2011-2015: 78.5%; 2016-current: 83.4%) were either ER or PR positive. Amplification or over-expression of HER2 oncogene is associated with the development of certain types of breast cancer. A patient with immunohistochemistry (IHC) score 3 is considered as HER2 positive, while score 0 or 1 is considered as negative. For patients with IHC score 2, In Situ Hybridization (ISH) test will be further conducted. Patients who had positive results in ISH are also considered as HER2 positive. In each of the three patient cohorts, less than one-quarter (2006-2010: 24.7%; 2011-2015: 21.5%; 2016-current: 17.5%) of the invasive breast cancer cases were c-erbB2/HER2 positive. The biological characteristics of invasive breast cancer in the three patient cohorts are shown in Table 2.16.

Table 2.16: Biological characteristics of invasive breast cancer (N=15,368)

	2006-2010 (N=5,787) %	2011-2015 (N=7,330) %	2016-current (N=2,251) %
Estrogen receptor (ER) [% had the test]	**[97.5]**	**[97.8]**	**[96.7]**
Positive	76.3	77.7	82.8
Negative	23.7	22.3	17.2
Progesterone receptor (PR) [% had the test]	**[97.3]**	**[97.6]**	**[96.3]**
Positive	63.9	65.1	69.3
Negative	36.1	34.9	30.7
c-erbB2 / HER2 [% had the test]	**[96.7]**	**[97.0]**	**[94.0]**
Positive (IHC Score 3)	23.7	18.3	14.6
Equivocal (IHC Score 2) ISH positive	1.0	3.2	2.9
Equivocal (IHC Score 2) ISH equivocal	0.2	1.2	1.8
Equivocal (IHC Score 2) ISH negative	10.4	22.0	17.0
Equivocal (IHC Score 2) ISH not done	14.2	10.6	9.3
Negative (IHC Score 0 / 1)	50.4	44.6	54.4
Ki-67 index [% had the test]	**[51.2]**	**[54.9]**	**[70.7]**
<14%	42.8	34.9	31.3
≥14%	57.2	65.1	68.7

HER2: Human epidermal growth factor receptor 2; IHC: Immunohistochemistry; ISH: In situ hybridization

2.25 Breast cancer is not considered to be a single disease and can be further classified into several biological subtypes[36] by immunohistochemical staining of several biological markers (Table 2.16). Further prognostic and predictive information can be obtained by assessing these biological markers together rather than separately. The surrogate definitions of these intrinsic biological subtypes and their relative frequencies by cancer stage in the three patient cohorts are set out in Table 2.17.

Table 2.17: Biological subtypes of invasive tumours by cancer stage (N=14,497)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current														
	I			IIA			IIB			III			IV		
Luminal A*	27.7	25.7	33.3	17.0	16.2	18.4	18.6	12.3	11.0	11.3	10.7	12.8	6.1	8.8	13.2
Luminal B (HER2-ve)#	13.2	17.5	32.3	16.9	22.0	35.7	17.9	21.8	38.5	19.8	21.6	29.3	12.1	22.3	36.8
Luminal A/B (HER2-ve)†	28.1	29.1	13.5	27.2	26.1	16.7	27.8	30.8	21.3	26.2	28.2	23.0	30.3	20.9	13.2
Luminal B (HER2+ve)^	13.5	9.6	8.4	15.3	11.1	12.1	15.7	12.8	8.6	20.1	17.1	14.5	28.8	18.9	15.8
HER2 Positive❉	7.7	8.1	5.4	8.8	9.9	5.3	9.5	8.6	6.5	11.7	11.9	8.6	16.7	16.9	10.5
TND§	9.6	9.9	7.1	14.8	14.7	11.8	10.6	13.7	14.1	11.0	10.5	11.8	6.1	12.2	10.5

Total number of patients in each group:

I: 2,026 (for 2006-2010), 2,587 (for 2011-2015), 784 (for 2016-current)

IIA: 1,710 (for 2006-2010), 1,983 (for 2011-2015), 603 (for 2016-current)

IIB: 823 (for 2006-2010), 1,061 (for 2011-2015), 291 (for 2016-current

III: 906 (for 2006-2010), 1,170 (for 2011-2015), 301 (for 2016-current)

IV: 66 (for 2006-2010), 148 (for 2011-2015), 38 (for 2016-current)

* Luminal A: ER and/or PR+, HER2-, and low Ki-67 index (<14%)

\# Luminal B (HER2 negative): ER and/or PR+, HER2-, and high Ki-67 index (≧14%)

† Luminal A/B (HER2 negative): ER and/or PR+, HER2-, and Ki-67 index not known

^ Luminal B (HER2 positive): ER and/or PR+, HER2+, and any Ki-67 index

❉ HER2 positive: ER and PR-, HER2+, and any Ki-67 index

§ TND (Triple Negative Disease): ER and PR-, HER2-, and any Ki-67 index

B. In situ breast cancer

2.26 Ductal cancer was found to be the most common (92.6%-93.6%) type of in situ breast cancer in each cohort. Table 2.18 shows the histological characteristics, grading, multifocality and multicentricity of in situ breast cancer in the three patient cohorts.

2.27 In each cohort, one-half to three-quarters (2006-2010: 74.5%; 2011-2015: 70.4%; 2016-current: 54.3%) of the patients with in situ breast cancer were tested for ER or PR status. Among them, the majority (2006-2010: 82.5%; 2011-2015: 81.7%; 2016-current: 84.2%) were either ER or PR positive. Table 2.19 shows the biological characteristics of in situ breast cancer in the three patient cohorts. C-erbB2/HER2 positive was found in 17.5%-28.9% of the in situ breast cancer patients in the three cohorts.

Table 2.18: Histological type, grading, multifocality and multicentricity of in situ breast cancer (N=2,373)

	2006-2010 (N=903) %	2011-2015 (N=1,109) %	2016-current (N=361) %
Histological type			
Ductal	93.6	92.6	93.1
Mixed	3.0	2.6	1.1
Papillary	1.3	1.7	1.9
Intracystic papillary	0.8	0.8	0.3
Encapsulated papillary	0.1	0.7	0.8
Apocrine	0.1	0.5	0.6
Neuroendocrine	0.1	0.2	0.0
Cribriform	0.0	0.1	0.3
Micropapillary	0.1	0.0	0.0
Not known	0.9	0.8	1.9
Necrosis	**39.0**	**30.7**	**24.7**
Nuclear grade			
Low	24.6	25.0	27.1
Intermediate	33.1	31.6	33.2
High	37.8	36.4	31.3
Not known	4.6	7.1	8.4
Multifocality	**12.4**	**11.5**	**9.7**
Number of foci			
2	50.9	39.8	62.9
3	7.1	8.6	8.6
4 or more	4.5	3.9	0.0
Not known	37.5	47.7	28.6
Multicentricity	**2.4**	**2.3**	**1.4**
Number of quadrants			
2	81.8	84.6	100.0
3	4.5	7.7	0.0
Not known	13.6	7.7	0.0

Table: 2.19: Biological characteristics of in situ breast cancer (N=2,373)

	2006-2010 (N=903) %	2011-2015 (N=1,109) %	2016-current (N=361) %
Estrogen receptor (ER) [% had the test]	**[74.5]**	**[70.3]**	**[54.3]**
Positive	80.4	81.4	84.2
Negative	19.6	18.6	15.8
Progesterone receptor (PR) [% had the test]	**[73.5]**	**[68.6]**	**[51.5]**
Positive	71.2	72.4	78.5
Negative	28.8	27.6	21.5
c-erbB2 / HER2 [% had the test]	**[70.2]**	**[62.0]**	**[46.0]**
Positive (IHC Score 3)	28.7	24.7	17.5
Equivocal (IHC Score 2) ISH positive	0.2	0.1	0.0
Equivocal (IHC Score 2) ISH equivocal	0.0	0.1	0.0
Equivocal (IHC Score 2) ISH negative	1.4	1.3	1.2
Equivocal (IHC Score 2) ISH not done	28.1	38.1	34.9
Negative (IHC Score 0 / 1)	41.6	35.6	46.4
Ki-67 index [% had the test]	**[44.9]**	**[37.6]**	**[40.7]**
<14%	71.9	60.7	52.4
≥14%	28.1	39.3	47.6

HER2: Human epidermal growth factor receptor 2; IHC: Immunohistochemistry; ISH: In situ hybridization

V. Treatment methods

2.28 In each patient cohort, about one-eighth (2006-2010: 14.5%; 2011-2015: 10.0%; 2016-current: 14.0%) received care at private medical service, around half (2006-2010: 46.6%; 2011-2015: 53.6%; 2016-current: 52.4%) received care at public medical service, and one-third (2006-2010: 38.8%; 2011-2015: 36.4%; 2016-current: 33.6%) received care at both private and public medical services. Patients with invasive tumours are usually given multimodality treatments, which may include surgery, chemotherapy, anti-HER2 targeted therapy, endocrine therapy and radiotherapy. In contrast, patients with in situ tumours require less aggressive treatments including surgery, endocrine therapy, and radiotherapy. Chemotherapy and anti-HER2 targeted therapy are generally not required for patients with in situ tumour. These treatments, except surgery, may be applied in adjuvant (after surgery), neoadjuvant (before surgery) or palliative (for metastatic disease) settings, according to the cancer stage at diagnosis.

A. Surgical treatment

2.29 Surgery is an important consideration in the effective treatment of both in situ and invasive breast cancer. With the continuing developments in breast cancer treatment, surgery is less disfiguring nowadays. Options for local treatment include breast-conserving surgery or total mastectomy. Breast-conserving surgery followed by radiotherapy gives equivalent survival rates compared with mastectomy. Women who have a mastectomy may decide to have breast reconstruction, either at the same time or at a later stage.

2.30 Nodal surgery is usually performed together with breast surgery to ascertain the extent of the disease. Lymph node surgery includes sentinel lymph node biopsy (SNB) or axillary dissection (AD). For patients with negative clinical nodal status, SNB can be conducted before AD to determine whether any lymph node is affected. This is to prevent lymphoedema which may occur when a large number of lymph nodes are removed by surgery.

2.31 In the cohorts, about half (2006-2010: 53.5%; 2011-2015: 47.0%; 2016-current: 49.5%) of the patients had surgery at private medical facilities, while the other half (2006-2010: 46.5%; 2011-2015: 53.0%; 2016-current: 50.5%) had surgery at public medical facilities.

2.32 For those patients with invasive tumour, the majority (97.5%-98.4%) underwent surgery as part of their treatment (Table 2.20). Among them, about two-thirds (58.8%-65.7%) had mastectomy, while the remainder (32.5%-38.2%) had breast-conserving surgery. Among the patients who had mastectomy, 11.3%-12.9% had either immediate or delayed reconstruction. The most common type of reconstruction was TRAM flap (67.9%-70.0%). Almost all (94.8%-96.6%) the patients with invasive tumours received nodal surgery and among them, 23.1%-50.6% required AD, and 35.5%-62.3% required SNB only.

2.33 For the patients with in situ tumour, almost all (97.2%-99.5%) underwent surgery (Table 2.21). About half (51.9%-56.9%) of them had breast-conserving surgery, while about a quarter (19.4%-27.4%) had reconstruction after mastectomy. In addition, about one-third (32.0%-37.3%) of them did not receive nodal surgery. Among those who received nodal surgery, 76.7%-96.7% had SNB only and 2.3%-19.4% had AD without SNB.

Table 2.20: Type of surgery for patients with invasive cancer

	2006-2010 %	2011-2015 %	2016-current %
Type of surgery (N=16,004)	**(N=5,988)**	**(N=7,667)**	**(N=2,349)**
No surgery	1.4	1.7	1.9
Breast-conserving surgery	32.5	33.0	38.2
Mastectomy	65.7	64.7	58.8
Nodal surgery only	0.1	0.1	0.4
Type of surgery not known	0.1	0.2	0.1
Not known if surgery done	0.1	0.3	0.6
Type of mastectomy (N=10,272)	**(N=3,935)**	**(N=4,955)**	**(N=1,382)**
Total mastectomy	94.0	94.5	93.8
Skin sparing	5.0	3.6	2.3
Areolar sparing	0.2	0.2	0.0
Nipple sparing	0.5	1.5	3.7
Type not known	0.3	0.2	0.1
Type of reconstruction (N=1,233)	**(N=495)**	**(N=560)**	**(N=178)**
TRAM flap	67.9	70.0	68.0
Implant	14.1	16.8	21.3
LD flap	9.1	7.5	5.1
LD flap & implant	7.5	3.2	3.4
Type not known	1.4	2.5	2.2
Type of nodal surgery (N=15,387)	**(N=5,787)**	**(N=7,372)**	**(N=2,228)**
Sentinel node biopsy only	35.5	48.6	62.3
Axillary dissection only	50.6	33.5	23.1
Sentinel node biopsy followed by axillary dissection	13.5	16.4	14.1
Type not known	0.4	1.5	0.5

Table 2.21: Type of surgery for patients with in situ cancer

	2006-2010 %	2011-2015 %	2016-current %
Type of surgery (N=2,220)	**(N=856)**	**(N=1,021)**	**(N=343)**
No surgery	0.5	0.0	0.0
Breast-conserving surgery	51.9	52.4	56.9
Mastectomy	47.6	46.4	39.4
Nodal surgery only	0.0	0.0	0.0
Type of surgery not known	0.0	0.4	0.9
Not known if surgery done	0.0	0.9	2.9
Type of mastectomy (N=1,016)	**(N=408)**	**(N=473)**	**(N=135)**
Total mastectomy	88.2	85.6	85.2
Skin sparing	10.8	9.5	8.1
Areolar sparing	0.0	0.8	0.0
Nipple sparing	0.7	4.0	6.7
Type not known	0.2	0.0	0.0
Type of reconstruction (N=234)	**(N=79)**	**(N=118)**	**(N=37)**
TRAM flap	67.1	59.3	54.1
Implant	21.5	31.4	35.1
LD flap	3.8	5.9	8.1
LD flap & implant	7.6	2.5	0.0
Type not known	0.0	0.8	2.7
Type of nodal surgery (N=1,480)	**(N=571)**	**(N=694)**	**(N=215)**
Sentinel node biopsy only	76.7	91.2	96.7
Axillary dissection only	19.4	5.9	2.3
Sentinel node biopsy followed by axillary dissection	3.3	1.3	0.9
Type not known	0.5	1.6	0.0

2.34 The percentage of the patients who underwent mastectomy was positively correlated with increasing age, while the percentage of the patients who underwent mastectomy with reconstruction was negatively correlated with increasing age (Table 2.22).

2.35 For the patients with tumours larger than one cm in size, the percentage of those who had breast-conserving surgery was negatively correlated with increasing tumour size (Table 2.23).

Table 2.22: Type of surgery by age group (N=17,412)

Age group

% for 2006-2010, % for 2011-2015, % for 2016-current

	<20			20-29			30-39			40-49			50-59			60-69			70-79			80+		
Breast-conserving surgery	0.0	0.0	0.0	44.2	55.6	70.0	48.0	46.8	49.7	41.3	44.6	49.9	32.2	36.1	44.6	26.9	25.4	32.8	12.9	18.8	19.2	14.7	10.7	10.5
Mastectomy	0.0	0.0	0.0	32.7	11.1	15.0	33.4	32.3	29.3	47.1	43.0	34.7	62.4	58.8	48.6	71.3	72.6	66.2	86.8	81.0	80.8	85.3	89.3	89.5
Mastectomy + Reconstruction	0.0	100.0	0.0	23.1	33.3	15.0	18.5	20.8	21.0	11.6	12.4	15.3	5.4	5.0	6.7	1.8	2.1	1.0	0.3	0.2	0.0	0.0	0.0	0.0

Total number of patients in each group:

<20: 0 (for 2006-2010), 1 (for 2011-2015), 0 (for 2016-current)
20-29: 52 (for 2006-2010), 45 (for 2011-2015), 20 (for 2016-current)
30-39: 664 (for 2006-2010), 662 (for 2011-2015), 181 (for 2016-current)
40-49: 2,464 (for 2006-2010), 2,510 (for 2011-2015), 685 (for 2016-current)
50-59: 2,099 (for 2006-2010), 2,830 (for 2011-2015), 831 (for 2016-current)
60-69: 850 (for 2006-2010), 1,699 (for 2011-2015), 628 (for 2016-current)
70-79: 318 (for 2006-2010), 504 (for 2011-2015), 172 (for 2016-current)
80+: 75 (for 2006-2010), 84 (for 2011-2015), 38 (for 2016-current)

Table 2.23: Type of surgery by tumour size (N=16,193)

Tumour size (cm)

% for 2006-2010, % for 2011-2015, % for 2016-current

	≤ 0.10			0.11-0.50			0.51-1.00			1.01-2.00			2.01-5.00			>5.00		
Breast-conserving surgery	34.0	37.7	42.9	42.9	46.3	52.7	50.7	48.8	66.1	45.2	47.1	53.2	26.4	26.4	30.4	6.1	8.3	9.5
Mastectomy	44.0	54.9	50.0	47.0	44.5	37.1	43.5	43.1	27.8	49.2	47.9	41.2	64.3	65.2	61.1	72.6	75.1	65.5
Mastectomy + Reconstruction	22.0	7.4	7.1	10.1	9.2	10.2	5.8	8.1	6.0	5.7	5.0	5.6	9.4	8.4	8.6	21.3	16.6	25.0

Total number of patients in each group:

≤0.10 cm: 100 (for 2006-2010), 122 (for 2011-2015), 42 (for 2016-current)
0.11-0.50 cm: 368 (for 2006-2010), 533 (for 2011-2015), 167 (for 2016-current)
0.51-1.00 cm: 672 (for 2006-2010), 778 (for 2011-2015), 248 (for 2016-current)
1.01-2.00 cm: 2,243 (for 2006-2010), 2,657 (for 2011-2015), 803 (for 2016-current)
2.01-5.00 cm: 2,680 (for 2006-2010), 3,160 (for 2011-2015), 935 (for 2016-current)
>5.00 cm: 264 (for 2006-2010), 337 (for 2011-2015), 84 (for 2016-current)

Table 2.24: Type of surgery by cancer stage (N=17,464)

Cancer stage

% for 2006-2010, % for 2011-2015, % for 2016-current

	0			I			II			III			IV		
Breast-conserving surgery	52.1	53.1	59.0	46.9	47.3	56.0	30.6	31.6	34.7	12.8	14.3	14.9	6.9	7.9	19.0
Mastectomy	38.6	35.5	30.3	46.7	47.0	38.0	61.1	61.5	57.2	76.1	74.9	75.9	81.6	79.2	76.2
Mastectomy + Reconstruction	9.3	11.3	10.7	6.4	5.8	6.0	8.3	7.0	8.1	11.0	10.8	9.1	11.5	12.9	4.8

Total number of patients in each group:

0: 849 (for 2006-2010), 1,005 (for 2011-2015), 327 (for 2016-current)
I: 2,127 (for 2006-2010), 2,711 (for 2011-2015), 836 (for 2016-current)
II: 2,642 (for 2006-2010), 3,164 (for 2011-2015), 960 (for 2016-current)
II: 960 (for 2006-2010), 1,248 (for 2011-2015), 328 (for 2016-current)
IV: 87 (for 2006-2010), 178 (for 2011-2015), 42 (for 2016-current)

2.36 The proportion of those patients who received breast-conserving surgery was negatively correlated with increasing cancer stage. Mastectomy with reconstruction did not show any correlation with increasing cancer stage (Table 2.24).

2.37 A higher proportion of the patients who had surgery at private medical facilities (44.9%-53.1%) underwent breast-conserving surgery than those who had surgery at public medical facilities (25.6%-31.4%) (Table 2.25).

Table 2.25: Type of surgery by type of medical service users (N=17,299)

	Type of medical service users % for 2006-2010, % for 2011-2015, % for 2016-current					
	Private			Public		
Breast-conserving surgery	44.9	45.5	53.1	25.6	28.1	31.4
Mastectomy	46.0	45.1	36.4	66.3	65.2	62.7
Mastectomy + Reconstruction	9.0	9.3	10.5	8.0	6.7	5.9

Total number of patients in each group:

Private: 3,493 (for 2006-2010), 3,878 (for 2011-2015), 1,258 (for 2016-current)

Public: 3,036 (for 2006-2010), 4,360 (for 2011-2015), 1,274 (for 2016-current)

2.38 SNB without AD was more commonly performed on the patients with negative clinical nodal status (45.2%-79.9%) than those with positive clinical nodal status (10.0%-23.1%). On the other hand, AD without SNB was more commonly performed on the patients with positive clinical nodal status (58.3%-80.5%) than those with negative clinical nodal status (9.0%-41.5%). Table 2.26 shows the type of nodal surgery received by the patients with positive or negative clinical nodal status in the three patient cohorts.

2.39 The use of AD alone was positively correlated with progressing cancer stage in each cohort. In each cohort, the use of AD after SNB increased from stage I to II patients, but decreased for stage III or IV patients. This is because most of the patients with stage III or IV disease received AD as their first nodal surgery (Table 2.27).

Table 2.26: Type of nodal surgery by clinical nodal status (N=16,773)

	Clinical nodal status % for 2006-2010, % for 2011-2015, % for 2016-current					
	Negative			Positive		
SNB	45.2	63.7	79.9	10.0	19.5	23.1
SNB followed by AD	13.2	15.9	11.2	9.5	13.5	18.6
AD	41.5	20.4	9.0	80.5	67.0	58.3

Total number of patients in each group:

Negative: 5,282 (for 2006-2010), 6,044 (for 2011-2015), 1,827 (for 2016-current)

Positive: 1,068 (for 2006-2010), 1,933 (for 2011-2015), 619 (for 2016-current)

SNB: sentinel node biopsy; AD: axillary dissection

Table 2.27: Type of nodal surgery for invasive cancer by cancer stage (N=14,959)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current														
	I			IIA			IIB			III			IV		
SNB	62.7	82.8	91.7	35.8	53.6	72.3	9.5	15.9	25.3	3.0	5.7	12.2	2.3	9.1	25.6
SNB followed by AD	5.1	5.8	2.7	16.8	17.9	15.3	27.9	36.5	39.0	14.2	21.5	20.4	4.6	9.1	10.3
AD	32.1	11.5	5.7	47.5	28.6	12.4	62.6	47.6	35.7	82.8	72.8	67.4	93.1	81.8	64.1

Total number of patients in each group:

I: 2,087 (for 2006-2010), 2,646 (for 2011-2015), 830 (for 2016-current)

IIA: 1,753 (for 2006-2010), 2,013 (for 2011-2015), 635 (for 2016-current)

IIB: 850 (for 2006-2010), 1,083 (for 2011-2015), 300 (for 2016-current)

III: 939 (for 2006-2010), 1,213 (for 2011-2015), 319 (for 2016-current)

IV: 87 (for 2006-2010), 165 (for 2011-2015), 39 (for 2016-current)

SNB: sentinel node biopsy; AD: axillary dissection

2.40 About half (56.4%-60.1%) of the patients with node positive invasive cancer had tumours of two to five cm in size, while about one-tenth (8.0%-9.0%) had tumours larger than five cm. In the patient cohorts, more patients with node negative invasive cancer (62.2%-64.7%) had tumours of less than two cm compared to patients with node positive invasive cancer (31.1%-34.6%) (Table 2.28).

2.41 Of the patients in the cohorts, 94.6%-96.9% who underwent only SNB had no positive lymph node, while 32.8%-51.2% who underwent only AD and 8.5%-20.6% who underwent AD after SNB had no positive lymph node (Table 2.29).

Table 2.28: Distribution of tumour size in invasive cancer with negative or positive nodal status (N=12,652)

	Nodal status % for 2006-2010, % for 2011-2015, % for 2016-current					
	Negative			Positive		
≤ 0.10 cm	2.4	2.3	2.7	0.5	0.3	0.0
0.11-0.50 cm	6.8	8.5	8.1	1.7	2.1	1.3
0.51-1.00 cm	13.0	12.7	13.9	4.0	3.8	2.2
1.01-2.00 cm	40.0	40.9	40.0	28.4	27.3	27.6
2.01-5.00 cm	35.9	33.8	33.7	56.4	58.5	60.1
>5.00 cm	1.9	1.7	1.6	9.0	8.0	8.8

Total number of patients in each group:

Negative: 3,065 (for 2006-2010), 3,663 (for 2011-2015), 1,154 (for 2016-current)

Positive: 1,936 (for 2006-2010), 2,240 (for 2011-2015), 594 (for 2016-current)

Table 2.29: Number of positive nodes by types of nodal surgery (N=14,852)

	Types of nodal surgery % for 2006-2010, % for 2011-2015, % for 2016-current								
	SNB			SNB followed by AD			AD		
0 +ve nodes	96.9	96.5	94.6	20.6	14.3	8.5	51.2	40.8	32.8
1-3 +ve nodes	2.7	3.1	4.3	60.9	63.3	70.7	25.9	30.3	35.5
4-9 +ve nodes	0.4	0.4	0.8	14.8	16.6	13.5	14.2	17.9	19.0
10+ +ve nodes	0.0	0.1	0.3	3.7	5.8	7.3	8.7	11.0	12.7

Total number of patients in each group:

SNB: 2,218 (for 2006-2010), 3,699 (for 2011-2015), 1,374 (for 2016-current)

SNB followed by AD: 2,887 (for 2006-2010), 2,326 (for 2011-2015), 473 (for 2016-current)

AD: 647 (for 2006-2010), 969 (for 2011-2015), 259 (for 2016-current)

SNB: sentinel node biopsy; AD: axillary dissection

B. Radiotherapy

2.42 Radiotherapy is a treatment to kill cancer cells using ionizing radiation. Radiation is capable of inflicting damage at the DNA level of a cell and can stop cells from reproducing. Radiotherapy can be administered in two settings: firstly, locoregional radiotherapy where breast, chest wall, and/or regional lymph nodes are radiated with curative intention; and secondly palliative radiotherapy (e.g. to bone) is used to reduce symptoms that can be pain, pressure symptoms, airway obstruction, bleeding and secretion from metastases.

i. Locoregional radiotherapy

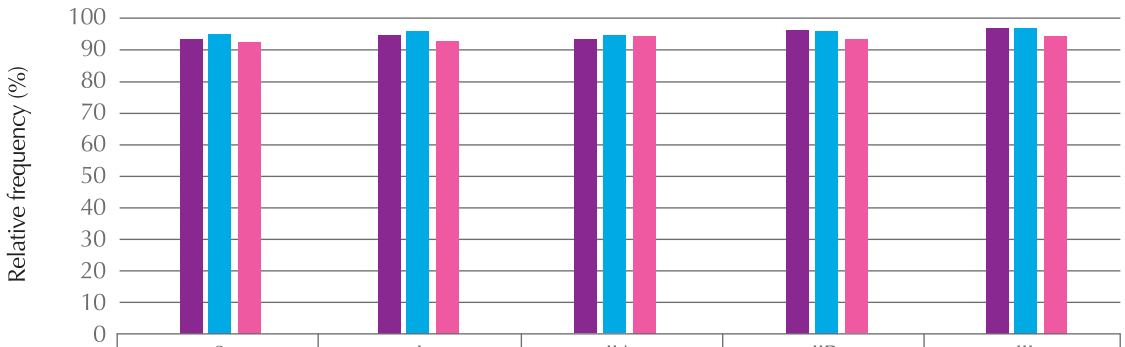
2.43 Locoregional radiotherapy to the breast following breast-conserving surgery is an integral part of breast-conserving therapy in order to achieve an outcome equivalent to mastectomy. This applies to all patients with invasive breast cancer and most patients with in situ cancer. Some patients whose tumour is locally advanced, or with cancer cells found in the lymphatic or blood vessels also need radiotherapy after mastectomy.

2.44 In the patient cohorts, two-thirds (2006-2010: 62.7%; 2011-2015: 62.6%; 2016-current: 64.2%) had locoregional radiotherapy as part of their treatment, with almost all (2006-2010: 99.9%; 2011-2015: 99.7%; 2016-current: 99.9%) being adjuvant and the remainder (2006-2010: <0.1%; 2011-2015: 0.2%; 2016-current: 0.0%) neoadjuvant. About four-fifths (2006-2010: 86.9%; 2011-2015: 89.3%; 2016-current: 85.7%) of the patients were treated with radiotherapy at public medical facilities, while the remainder (2006-2010: 13.1%; 2011-2015: 10.7%; 2016-current: 14.3%) had radiotherapy at private medical facilities.

2.45 The proportions of the invasive breast cancer patients who had undergone either breast-conserving surgery or mastectomy and received locoregional radiotherapy as part of their treatment by different cancer stages in the three patient cohorts are shown in Figures 2.9 and 2.10 respectively. A high proportion (over 92%) of the invasive breast cancer patients in the three cohorts who underwent breast-conserving surgery also received locoregional radiotherapy (Figure 2.9). On the other hand, the proportion of the invasive breast cancer patients who underwent mastectomy and also received locoregional radiotherapy increased significantly with progressing cancer stage (Figure 2.10).

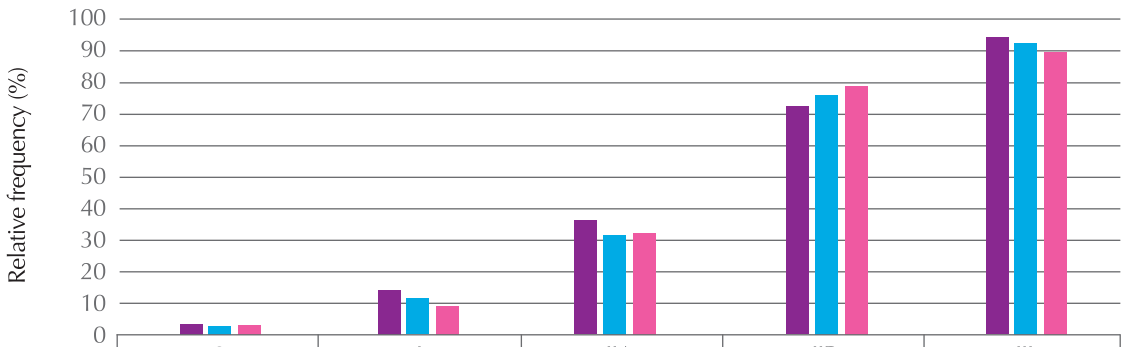
2.46 Of the patients with in situ cancer who had breast-conserving surgery, the majority (92.2%-95.3%) received locoregional radiotherapy afterwards (Figure 2.9), while only a small proportion (2.8%-3.7%) of the patients with in situ cancer who had mastectomy underwent radiotherapy (Figure 2.10).

Figure 2.9: Use of locoregional radiotherapy among patients who underwent breast-conserving surgery by cancer stage (N=6,406)



	0	I	IIA	IIB	III
2006-2010 (N=2,373)	92.8	94.6	93.7	96.3	97.6
2011-2015 (N=2,991)	95.3	95.9	94.5	96.0	97.8
2016-current (N=1,042)	92.2	92.9	94.5	93.6	93.9

Figure 2.10: Use of locoregional radiotherapy among patients who underwent mastectomy by cancer stage (N=10,725)



	0	I	IIA	IIB	III
2006-2010 (N=4,198)	3.7	14.0	37.7	73.1	94.4
2011-2015 (N=5,130)	2.8	11.4	31.9	77.3	93.3
2016-current (N=1,397)	3.0	9.3	32.8	78.6	89.9

2.47 Radiotherapy for breast cancer involves localised irradiation of regions such as breast/chest wall, with or without regional nodes. Table 2.30 shows the irradiated regions of adjuvant locoregional radiotherapy among those patients who received radiotherapy by the type of surgery they underwent.

Table 2.30: Coverage of regional lymph nodes by adjuvant locoregional radiotherapy (N=7,123)

	2006-2010 (N=3,084) %	2011-2015 (N=3,195) %	2016-current (N=844) %
Breast-conserving surgery			
Breast alone	84.0	82.9	89.9
Breast and regional lymph nodes	16.0	17.1	10.1
Mastectomy			
Chest wall alone	27.6	23.2	22.8
Chest wall and regional lymph nodes	72.4	76.8	77.2

ii. Palliative radiotherapy

2.48 Palliative radiotherapy for breast cancer is used for reducing symptoms which can be pain, pressure symptoms, airway obstruction, bleeding and secretion from metastases.

2.49 Among the patients with metastatic breast cancer, about three-fifths (2006-2010: 58.7%; 2011-2015: 57.8%; 2016-current: 63.2%) underwent palliative radiotherapy, and of these patients, 6.9%-27.3% received radiotherapy to the spine (2006-2010: 27.3%; 2011-2015: 6.9%; 2016-current: 9.3%) and 0.6%-14.8% to the pelvis (2006-2010: 14.8%; 2011-2015: 0.6%; 2016-current: 2.3%).

C. Chemotherapy

2.50 Chemotherapy is a form of systemic treatment using one or more cytotoxic drugs to kill or control cancer cell growth. The drugs destroy breast cancer cells by interfering with their ability to grow and multiply. Chemotherapy is generally not required for patients with in situ tumour. Chemotherapy drugs are classified into three generations[37] and the number of cycles actually delivered within any regimen may vary, depending on patient factors such as bone marrow reserve and severity of side effects.

2.51 In each cohort, about two-thirds (2006-2010: 70.7%; 2011-2015: 66.6%; 2016-current: 59.2%) of the patients with invasive cancer underwent chemotherapy. Of these patients, 77.4%-90.0% (2006-2010: 90.0%; 2011-2015: 81.1%; 2016-current: 77.4%) had adjuvant chemotherapy, 6.9%-18.8% (2006-2010: 6.9%; 2011-2015: 14.2%; 2016-current: 18.8%) had neoadjuvant chemotherapy and 3.0%-4.7% (2006-2010: 3.0%; 2011-2015: 4.7%; 2016-current: 3.8%) had palliative chemotherapy. The majority (2006-2010: 85.4%; 2011-2015: 87.0%; 2016-current: 86.9%) of the patients received chemotherapy at public medical facilities, and the remainder (2006-2010: 14.6%; 2011-2015: 13.0%; 2016-current: 13.1%) at private medical facilities.

2.52 In each patient cohort, the use of curative intent chemotherapy was positively correlated to progressing cancer stage from stage I to III (Table 2.31). In contrast, the majority (73.5%-86.2%) of the patients with stage IV breast cancer underwent palliative chemotherapy.

2.53 In general, for all cancer stages, the use of chemotherapy among the patients aged 70 or above was much lower than that among those aged below 70. Table 2.32 shows the percentage of the patients in the three cohorts who received chemotherapy by age group and cancer stage.

Table 2.31: Chemotherapy treatment by cancer stage (N=15,454)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current														
	I			IIA			IIB			III			IV		
Yes, neoadjvuant	<0.1	0.3	1.2	1.5	4.5	4.0	6.2	13.7	12.5	19.4	32.5	33.3	–	–	–
Yes, adjuvant	42.2	36.1	28.7	81.4	72.9	63.8	85.4	75.4	70.4	75.5	60.9	58.2	–	–	–
Yes, palliative	–	–	–	–	–	–	–	–	–	–	–	–	84.8	86.2	73.5
Not done	57.7	63.7	70.1	17.1	22.6	32.2	8.4	11.0	17.0	5.1	6.6	8.5	15.2	13.8	26.5

Total number of patients in each group:

I: 2,118 (for 2006-2010), 2,706 (for 2011-2015), 829 (for 2016-current)
IIA: 1,777 (for 2006-2010), 2,051 (for 2011-2015), 643 (for 2016-current)
IIB: 856 (for 2006-2010), 1,113 (for 2011-2015), 311 (for 2016-current)
III: 959 (for 2006-2010), 1,267 (for 2011-2015), 330 (for 2016-current)
IV: 151 (for 2006-2010), 275 (for 2011-2015), 68 (for 2016-current)

Table 2.32: Use of chemotherapy by age group and cancer stage at diagnosis (N=15,041)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current														
	I			IIA			IIB			III			IV		
20-29	76.5	54.5	36.4	93.3	80.0	100.0	100.0	100.0	100.0	100.0	100.0	–	100.0	100.0	–
30-39	61.4	57.3	46.8	89.7	91.4	89.1	100.0	98.9	94.4	100.0	99.1	96.4	100.0	91.7	62.5
40-49	49.2	43.8	31.2	93.7	86.2	79.1	97.4	95.7	94.7	99.2	98.0	98.8	96.2	95.1	85.0
50-59	42.6	37.8	38.0	91.9	85.9	77.4	97.1	96.1	92.0	97.6	98.0	95.3	88.9	85.6	88.9
60-69	22.3	28.0	21.1	70.7	71.8	59.7	87.3	92.1	83.3	96.4	93.1	94.4	87.5	82.9	66.7
70+	2.7	2.5	9.0	7.7	11.0	14.3	10.0	17.1	21.2	36.5	40.8	33.3	29.4	42.9	33.3

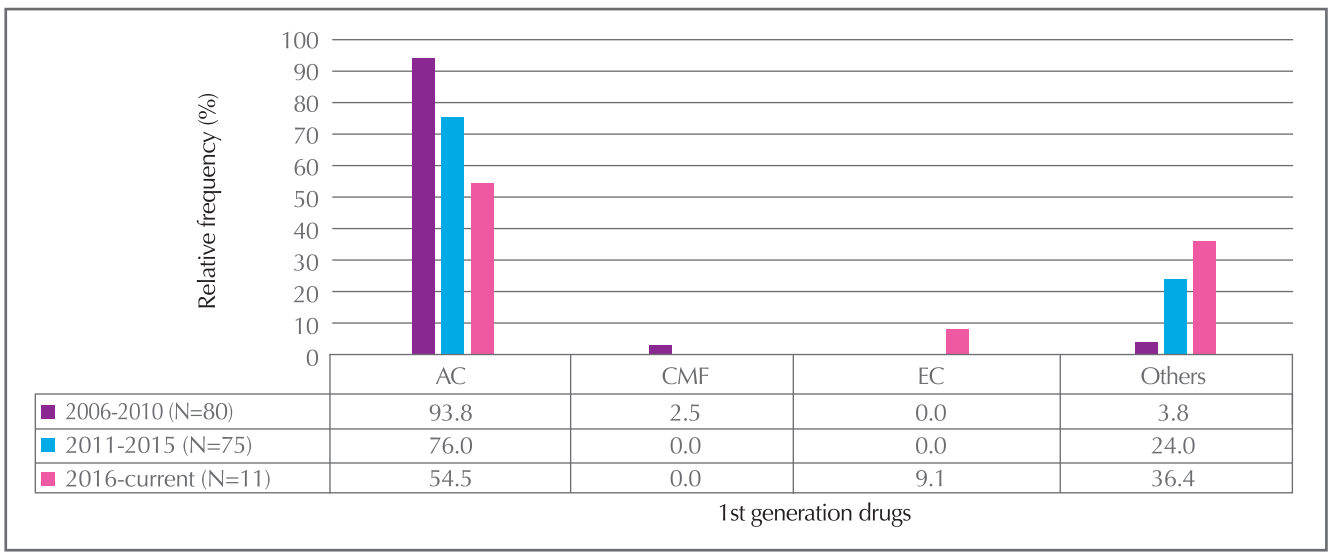
Total number of patients in each group:

I & 20-29: 18 (for 2006-2010), 11 (for 2011-2015), 11 (for 2016-current)
I & 30-39: 220 (for 2006-2010), 192 (for 2011-2015), 62 (for 2016-current)
I & 40-49: 799 (for 2006-2010), 827 (for 2011-2015), 221 (for 2016-current)
I & 50-59: 629 (for 2006-2010), 875 (for 2011-2015), 237 (for 2016-current)
I & 60-69: 247 (for 2006-2010), 522 (for 2011-2015), 204 (for 2016-current)
I & 70+: 117 (for 2006-2010), 199 (for 2011-2015), 67 (for 2016-current)
IIA & 20-29: 15 (for 2006-2010), 10 (for 2011-2015), 2 (for 2016-current)
IIA & 30-39: 194 (for 2006-2010), 163 (for 2011-2015), 46 (for 2016-current)
IIA & 40-49: 601 (for 2006-2010), 549 (for 2011-2015), 153 (for 2016-current)
IIA & 50-59: 557 (for 2006-2010), 680 (for 2011-2015), 208 (for 2016-current)
IIA & 60-69: 232 (for 2006-2010), 468 (for 2011-2015), 159 (for 2016-current)
IIA & 70+: 130 (for 2006-2010), 145 (for 2011-2015), 56 (for 2016-current)
IIB & 20-29: 10 (for 2006-2010), 6 (for 2011-2015), 2 (for 2016-current)
IIB & 30-39: 82 (for 2006-2010), 89 (for 2011-2015), 18 (for 2016-current)
IIB & 40-49: 305 (for 2006-2010), 329 (for 2011-2015), 75 (for 2016-current)
IIB & 50-59: 280 (for 2006-2010), 357 (for 2011-2015), 113 (for 2016-current)
IIB & 60-69: 118 (for 2006-2010), 228 (for 2011-2015), 66 (for 2016-current)
IIB & 70+: 40 (for 2006-2010), 78 (for 2011-2015), 33 (for 2016-current)
III & 20-29: 6 (for 2006-2010), 6 (for 2011-2015), 0 (for 2016-current)
III & 30-39: 73 (for 2006-2010), 117 (for 2011-2015), 28 (for 2016-current)
III & 40-49: 374 (for 2006-2010), 352 (for 2011-2015), 80 (for 2016-current)
III & 50-59: 295 (for 2006-2010), 445 (for 2011-2015), 106 (for 2016-current)
III & 60-69: 138 (for 2006-2010), 247 (for 2011-2015), 89 (for 2016-current)
III & 70+: 52 (for 2006-2010), 76 (for 2011-2015), 21 (for 2016-current)
IV & 20-29: 1 (for 2006-2010), 3 (for 2011-2015), 0 (for 2016-current)
IV & 30-39: 6 (for 2006-2010), 24 (for 2011-2015), 8 (for 2016-current)
IV & 40-49: 53 (for 2006-2010), 81 (for 2011-2015), 20 (for 2016-current)
IV & 50-59: 54 (for 2006-2010), 104 (for 2011-2015), 18 (for 2016-current)
IV & 60-69: 16 (for 2006-2010), 41 (for 2011-2015), 15 (for 2016-current)
IV & 70+: 17 (for 2006-2010), 14 (for 2011-2015), 6 (for 2016-current)

i. Neoadjuvant chemotherapy

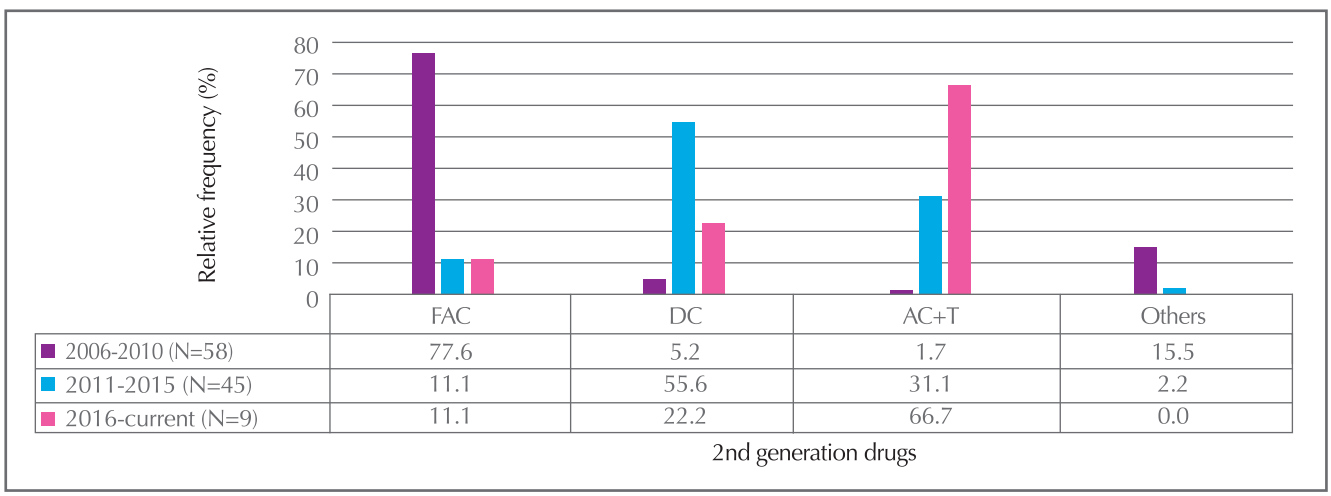
2.54 Of the patients who underwent chemotherapy in each cohort, 6.9%-18.8% (2006-2010: 6.9%; 2011-2015: 14.2%; 2016-current: 18.8%) received it as neoadjuvant treatment. The use of neoadjuvant chemotherapy increased substantially with progressing cancer stage (Table 2.31). Figures 2.11, 2.12 and 2.13 show the use of chemotherapy drugs of the three generations in neoadjuvant setting in the three cohorts. The use of HER2 regimens is shown in Figure 2.14. The generations of chemotherapy drugs used by the patients with different biological subtype in the three cohorts are shown in Figure 2.15.

Figure 2.11: Type of first generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=166)



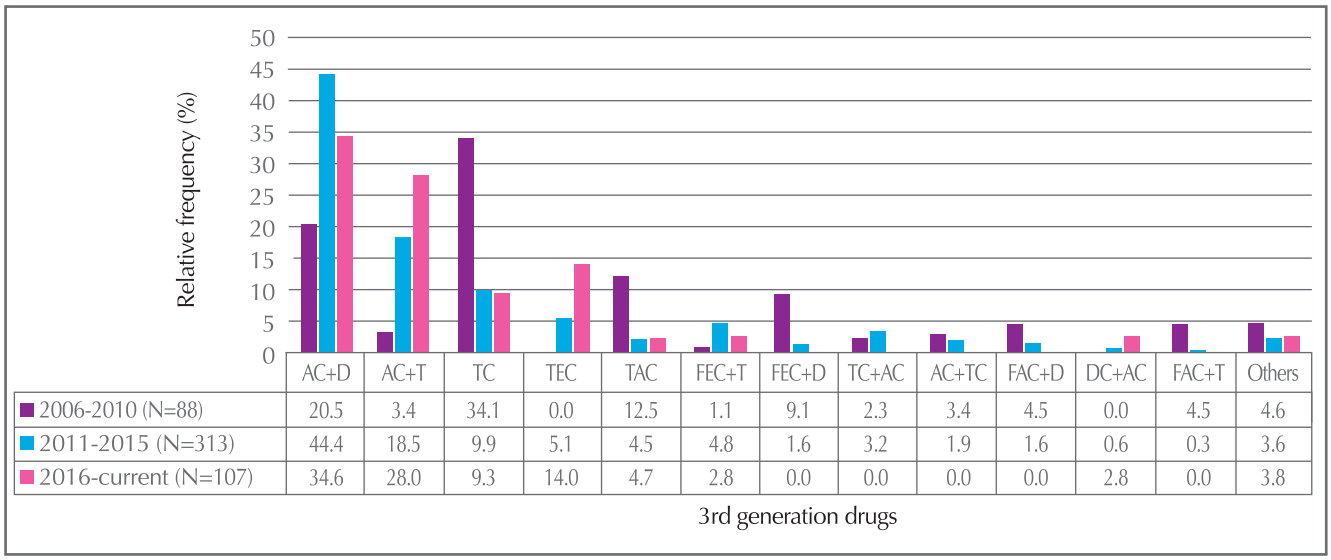
	AC	CMF	EC	Others
2006-2010 (N=80)	93.8	2.5	0.0	3.8
2011-2015 (N=75)	76.0	0.0	0.0	24.0
2016-current (N=11)	54.5	0.0	9.1	36.4

Figure 2.12: Type of second generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=112)



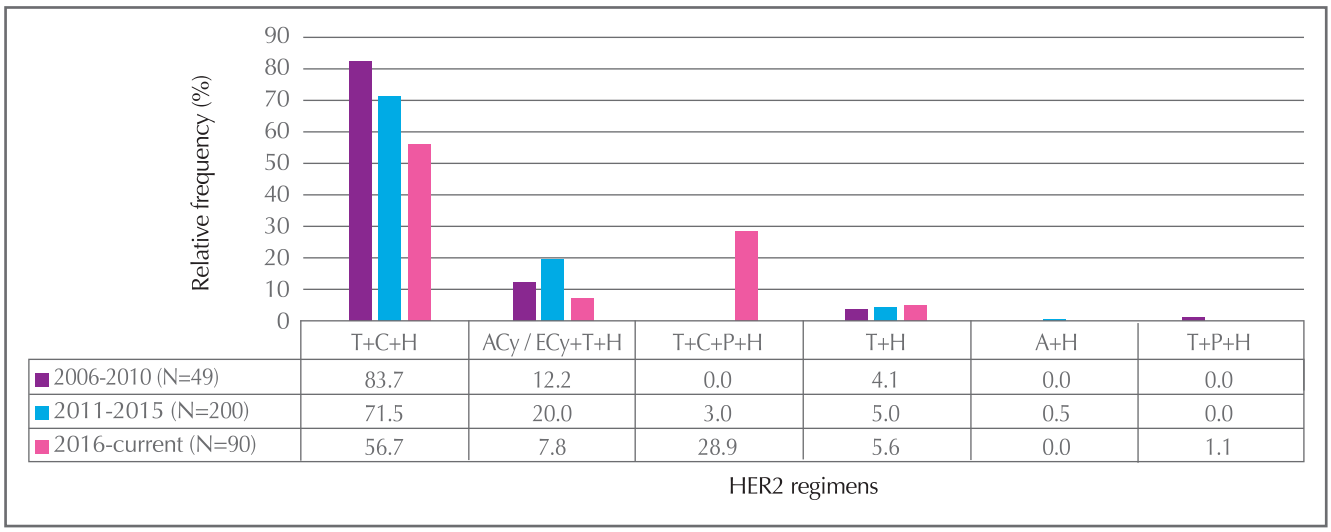
	FAC	DC	AC+T	Others
2006-2010 (N=58)	77.6	5.2	1.7	15.5
2011-2015 (N=45)	11.1	55.6	31.1	2.2
2016-current (N=9)	11.1	22.2	66.7	0.0

Figure 2.13: Type of third generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=508)



	AC+D	AC+T	TC	TEC	TAC	FEC+T	FEC+D	TC+AC	AC+TC	FAC+D	DC+AC	FAC+T	Others
2006-2010 (N=88)	20.5	3.4	34.1	0.0	12.5	1.1	9.1	2.3	3.4	4.5	0.0	4.5	4.6
2011-2015 (N=313)	44.4	18.5	9.9	5.1	4.5	4.8	1.6	3.2	1.9	1.6	0.6	0.3	3.6
2016-current (N=107)	34.6	28.0	9.3	14.0	4.7	2.8	0.0	0.0	0.0	0.0	2.8	0.0	3.8

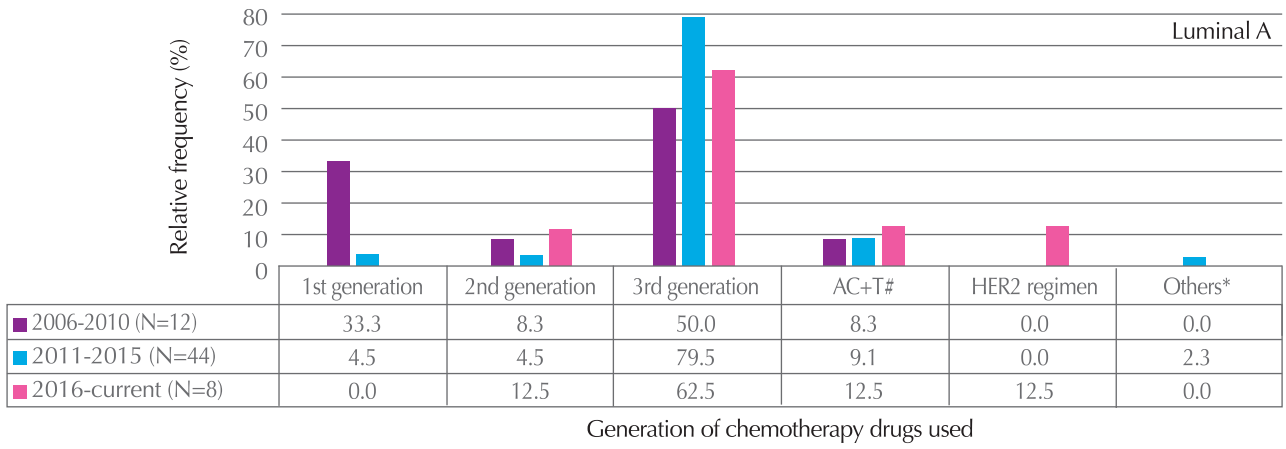
Figure 2.14: Type of HER2 regimens used in neoadjuvant setting (N=339)



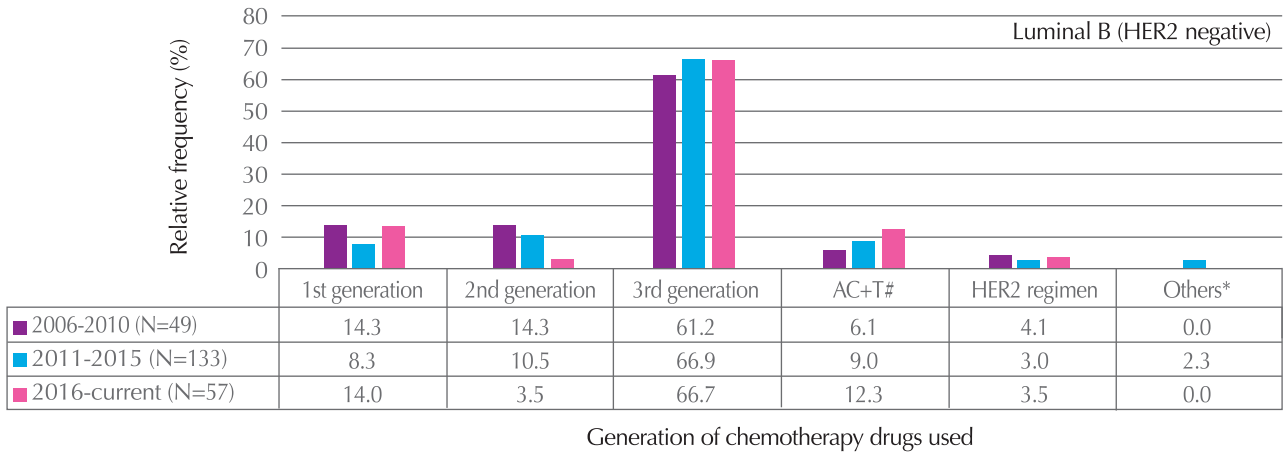
	T+C+H	ACy / ECy+T+H	T+C+P+H	T+H	A+H	T+P+H
2006-2010 (N=49)	83.7	12.2	0.0	4.1	0.0	0.0
2011-2015 (N=200)	71.5	20.0	3.0	5.0	0.5	0.0
2016-current (N=90)	56.7	7.8	28.9	5.6	0.0	1.1

A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

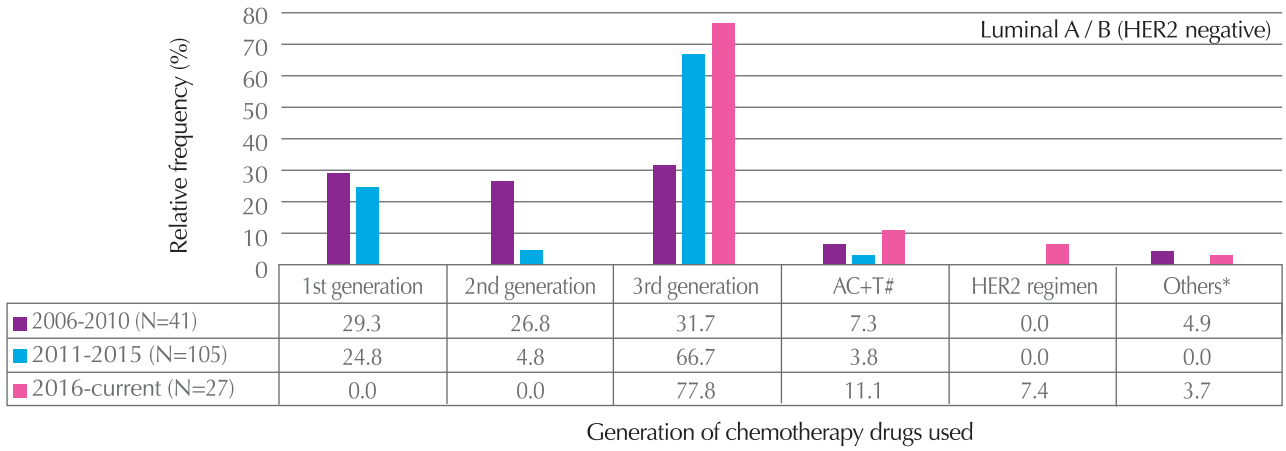
Figure 2.15: Generation of chemotherapy drugs used by biological subtype in neoadjuvant setting (N=1,025)



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=12)	33.3	8.3	50.0	8.3	0.0	0.0
2011-2015 (N=44)	4.5	4.5	79.5	9.1	0.0	2.3
2016-current (N=8)	0.0	12.5	62.5	12.5	12.5	0.0



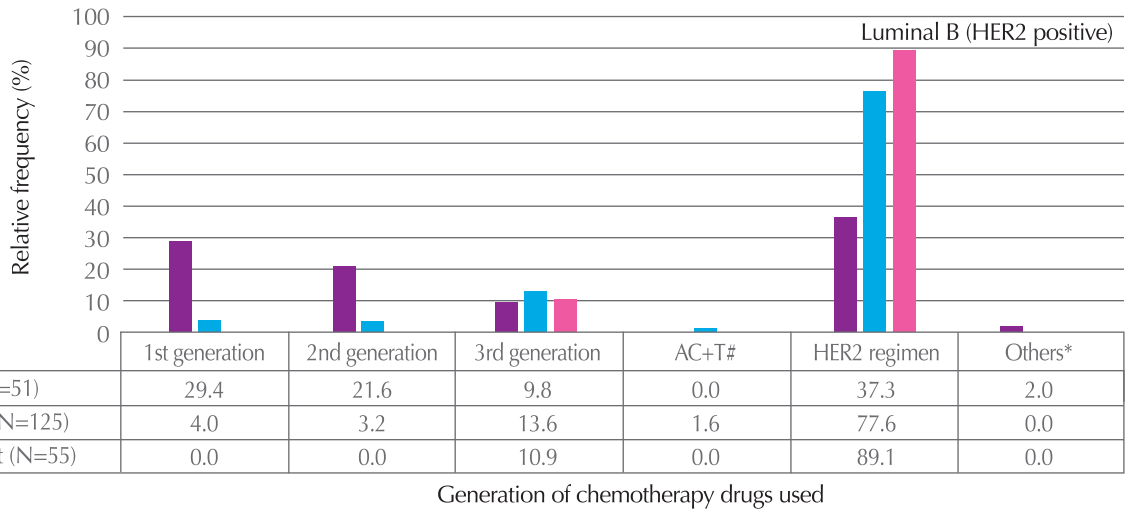
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=49)	14.3	14.3	61.2	6.1	4.1	0.0
2011-2015 (N=133)	8.3	10.5	66.9	9.0	3.0	2.3
2016-current (N=57)	14.0	3.5	66.7	12.3	3.5	0.0



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=41)	29.3	26.8	31.7	7.3	0.0	4.9
2011-2015 (N=105)	24.8	4.8	66.7	3.8	0.0	0.0
2016-current (N=27)	0.0	0.0	77.8	11.1	7.4	3.7

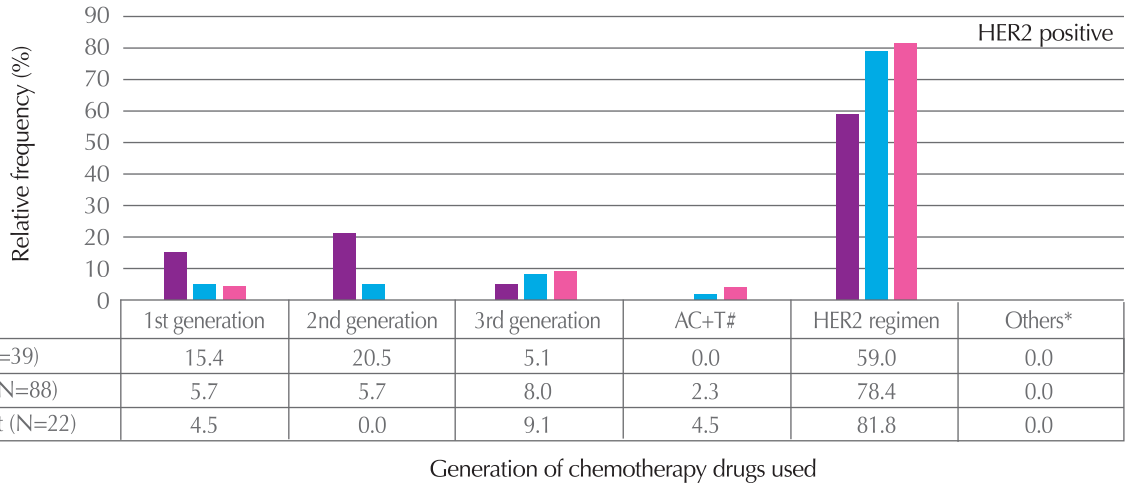
#AC+T: uncertain 2nd / 3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

Figure 2.15: Generation of chemotherapy drugs used by biological subtype in neoadjuvant setting (N=1,025) (cont'd)



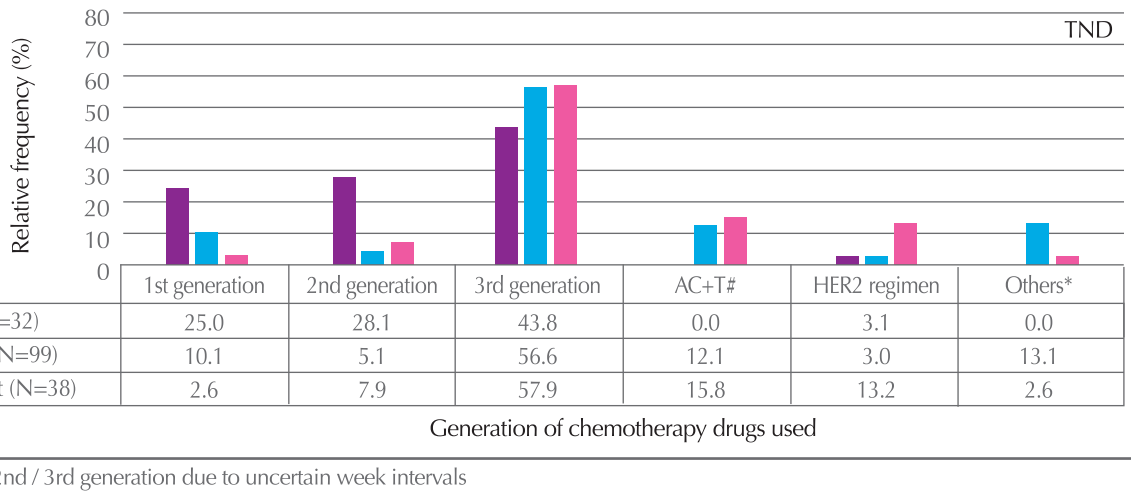
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=51)	29.4	21.6	9.8	0.0	37.3	2.0
2011-2015 (N=125)	4.0	3.2	13.6	1.6	77.6	0.0
2016-current (N=55)	0.0	0.0	10.9	0.0	89.1	0.0

Generation of chemotherapy drugs used



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=39)	15.4	20.5	5.1	0.0	59.0	0.0
2011-2015 (N=88)	5.7	5.7	8.0	2.3	78.4	0.0
2016-current (N=22)	4.5	0.0	9.1	4.5	81.8	0.0

Generation of chemotherapy drugs used



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=32)	25.0	28.1	43.8	0.0	3.1	0.0
2011-2015 (N=99)	10.1	5.1	56.6	12.1	3.0	13.1
2016-current (N=38)	2.6	7.9	57.9	15.8	13.2	2.6

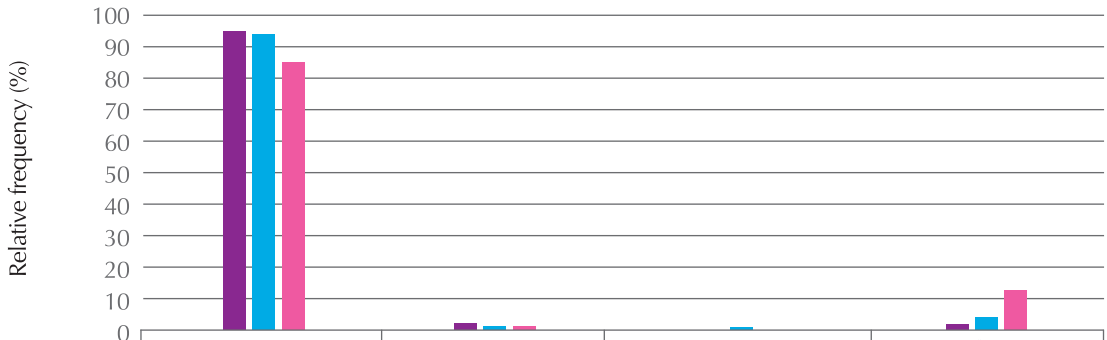
Generation of chemotherapy drugs used

#AC+T: uncertain 2nd / 3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

ii. Adjuvant chemotherapy

2.55 Of the patients who underwent chemotherapy in each cohort, the majority (2006-2010: 90.0%; 2011-2015: 81.1%; 2016-current: 77.4%) received it as adjuvant (stages I-III) treatment. Figures 2.16, 2.17 and 2.18 show the use of chemotherapy drugs of the three generations in adjuvant setting among the patients in the three cohorts. The use of HER2 regimens in adjuvant chemotherapy is shown in Figure 2.19. Figures 2.20 and 2.21 show the relative frequency for different drug generations used by biological subtype and cancer stage respectively.

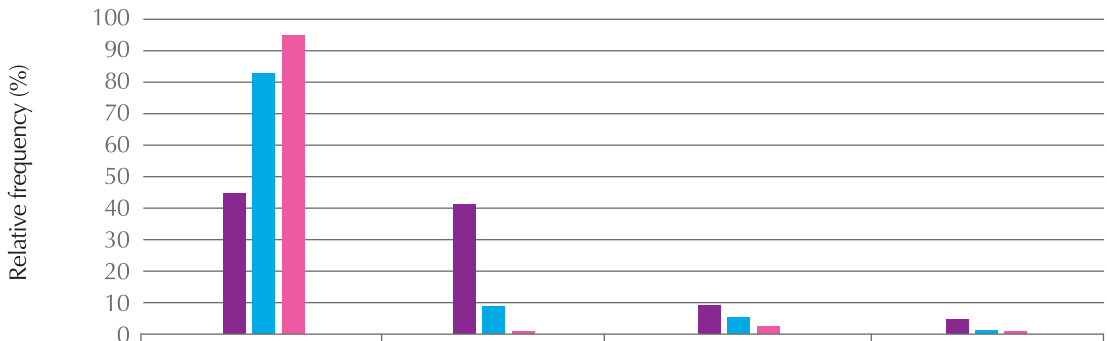
Figure 2.16: Type of first generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=1,647)



	AC	CMF	EC	Others
2006-2010 (N=977)	94.9	2.8	0.0	2.3
2011-2015 (N=583)	94.2	0.9	0.9	4.0
2016-current (N=87)	86.2	1.1	0.0	12.7

1st generation drugs

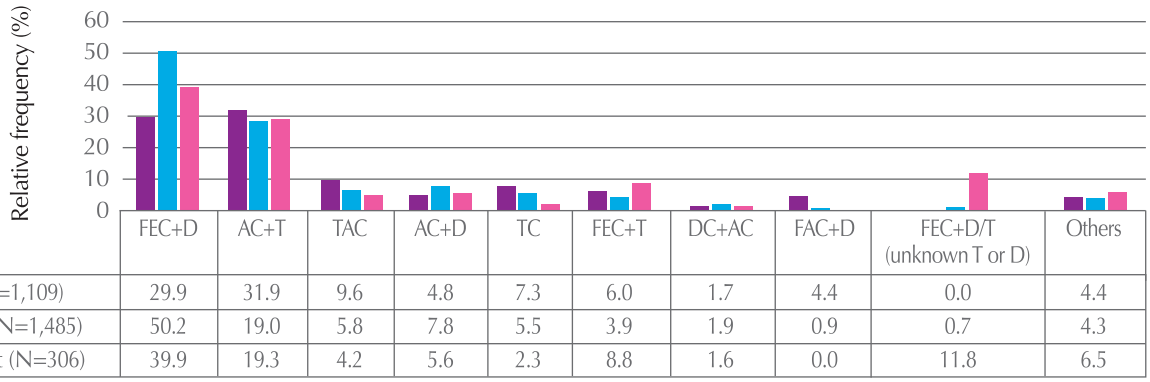
Figure 2.17: Type of second generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=2,159)



	DC	FAC	AC+T	Others
2006-2010 (N=955)	45.4	40.7	8.9	5.0
2011-2015 (N=952)	83.5	9.3	6.1	1.1
2016-current (N=252)	94.8	0.8	3.2	1.2

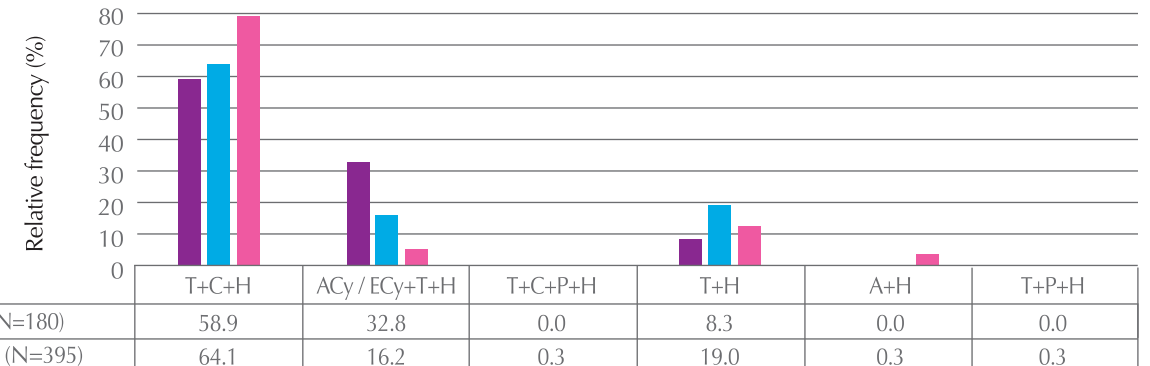
2nd generation drugs

Figure 2.18: Type of third generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=2,900)



	FEC+D	AC+T	TAC	AC+D	TC	FEC+T	DC+AC	FAC+D	FEC+D/T (unknown T or D)	Others
2006-2010 (N=1,109)	29.9	31.9	9.6	4.8	7.3	6.0	1.7	4.4	0.0	4.4
2011-2015 (N=1,485)	50.2	19.0	5.8	7.8	5.5	3.9	1.9	0.9	0.7	4.3
2016-current (N=306)	39.9	19.3	4.2	5.6	2.3	8.8	1.6	0.0	11.8	6.5

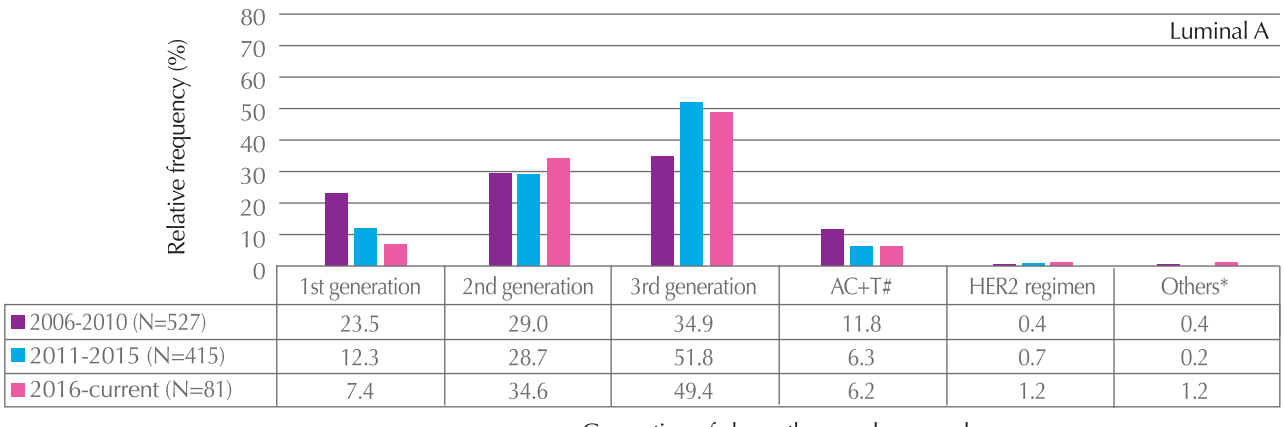
Figure 2.19: Type of HER2 regimens used in adjuvant setting (N=704)



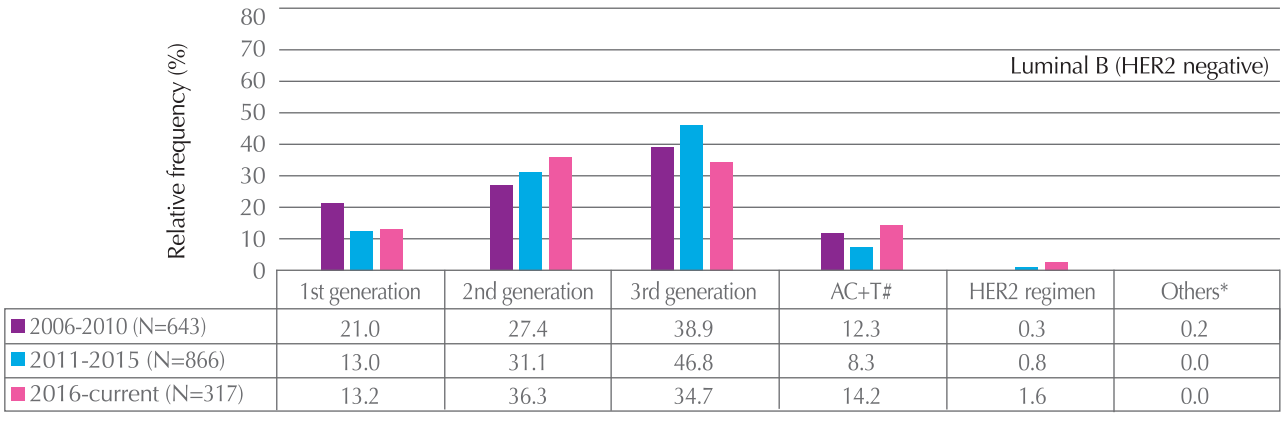
	T+C+H	ACy / ECy+T+H	T+C+P+H	T+H	A+H	T+P+H
2006-2010 (N=180)	58.9	32.8	0.0	8.3	0.0	0.0
2011-2015 (N=395)	64.1	16.2	0.3	19.0	0.3	0.3
2016-current (N=129)	79.8	5.4	0.0	13.2	1.6	0.0

A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

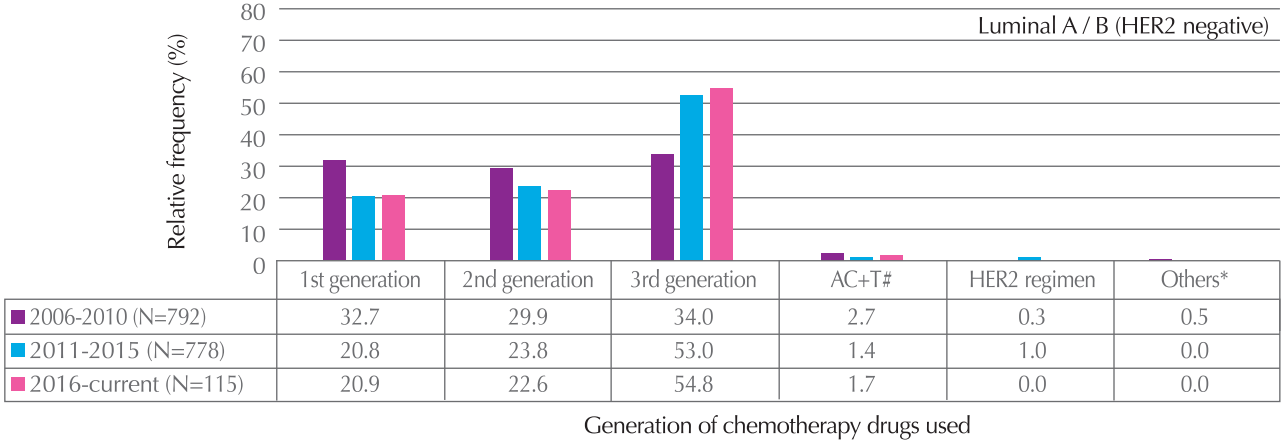
Figure 2.20: Generation of chemotherapy drugs used by biological subtype in adjuvant setting (N=7,722)



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=527)	23.5	29.0	34.9	11.8	0.4	0.4
2011-2015 (N=415)	12.3	28.7	51.8	6.3	0.7	0.2
2016-current (N=81)	7.4	34.6	49.4	6.2	1.2	1.2



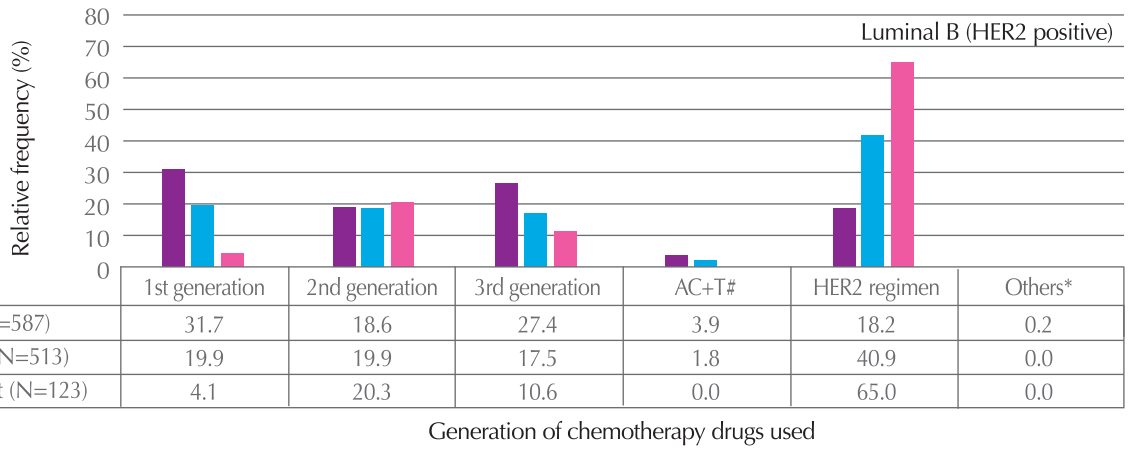
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=643)	21.0	27.4	38.9	12.3	0.3	0.2
2011-2015 (N=866)	13.0	31.1	46.8	8.3	0.8	0.0
2016-current (N=317)	13.2	36.3	34.7	14.2	1.6	0.0



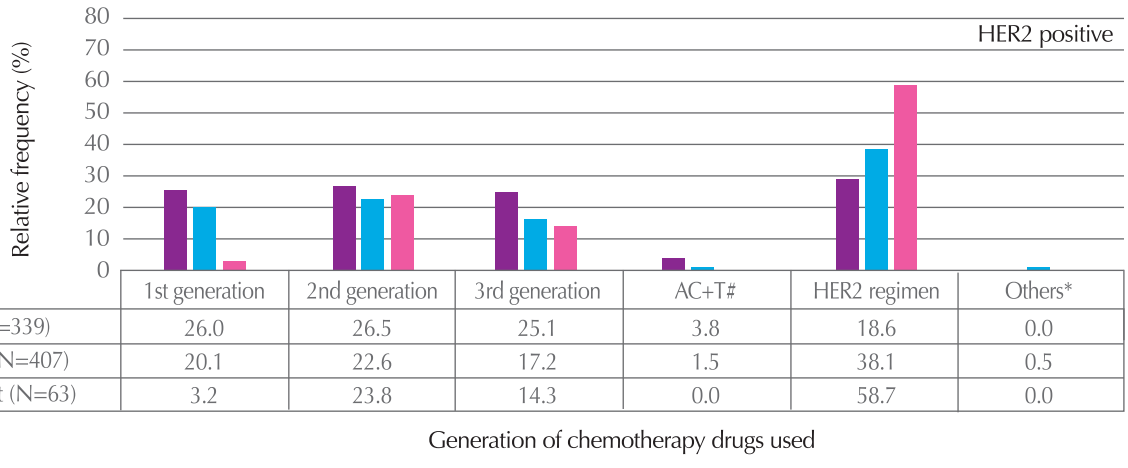
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=792)	32.7	29.9	34.0	2.7	0.3	0.5
2011-2015 (N=778)	20.8	23.8	53.0	1.4	1.0	0.0
2016-current (N=115)	20.9	22.6	54.8	1.7	0.0	0.0

#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

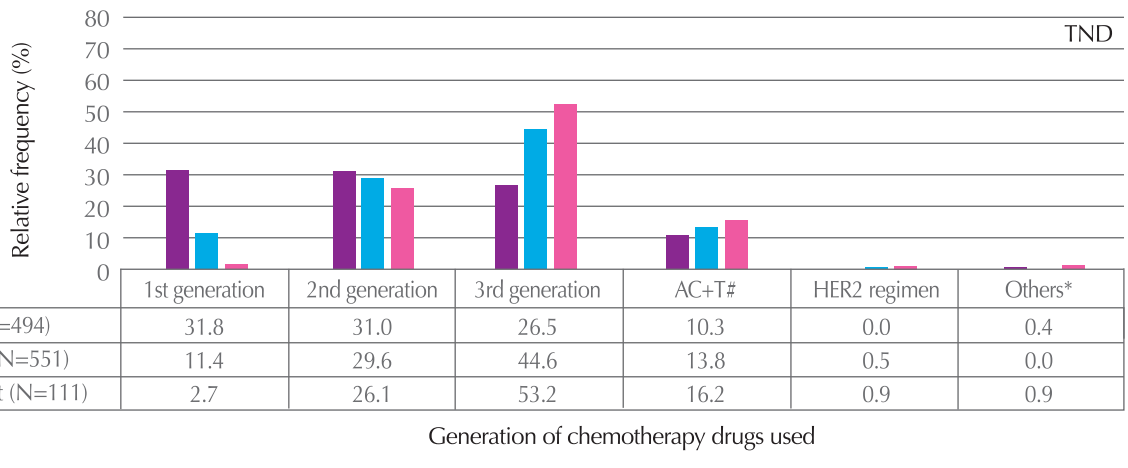
Figure 2.20: Generation of chemotherapy drugs used by biological subtype in adjuvant setting (N=7,722) (cont'd)



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=587)	31.7	18.6	27.4	3.9	18.2	0.2
2011-2015 (N=513)	19.9	19.9	17.5	1.8	40.9	0.0
2016-current (N=123)	4.1	20.3	10.6	0.0	65.0	0.0



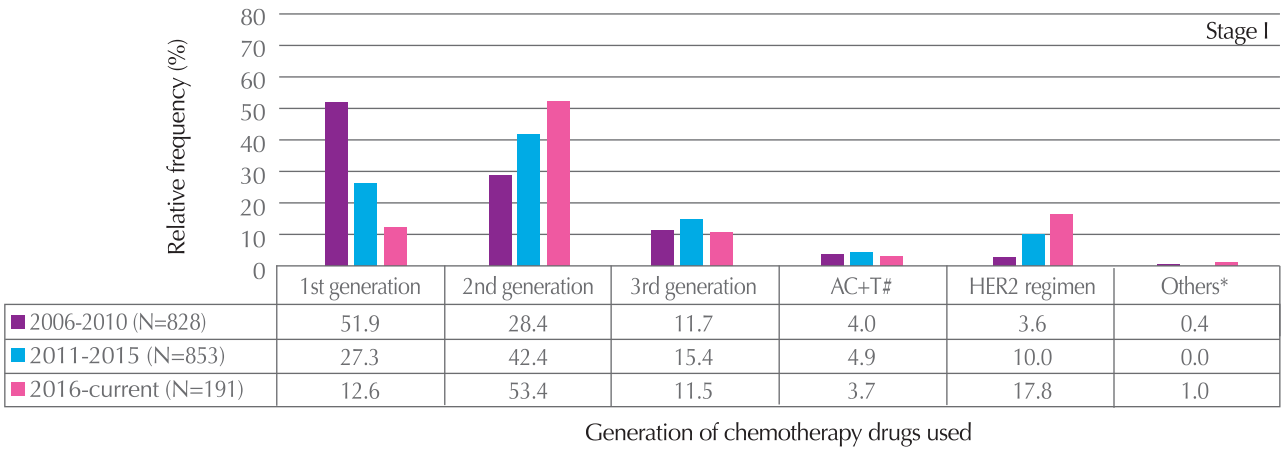
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=339)	26.0	26.5	25.1	3.8	18.6	0.0
2011-2015 (N=407)	20.1	22.6	17.2	1.5	38.1	0.5
2016-current (N=63)	3.2	23.8	14.3	0.0	58.7	0.0



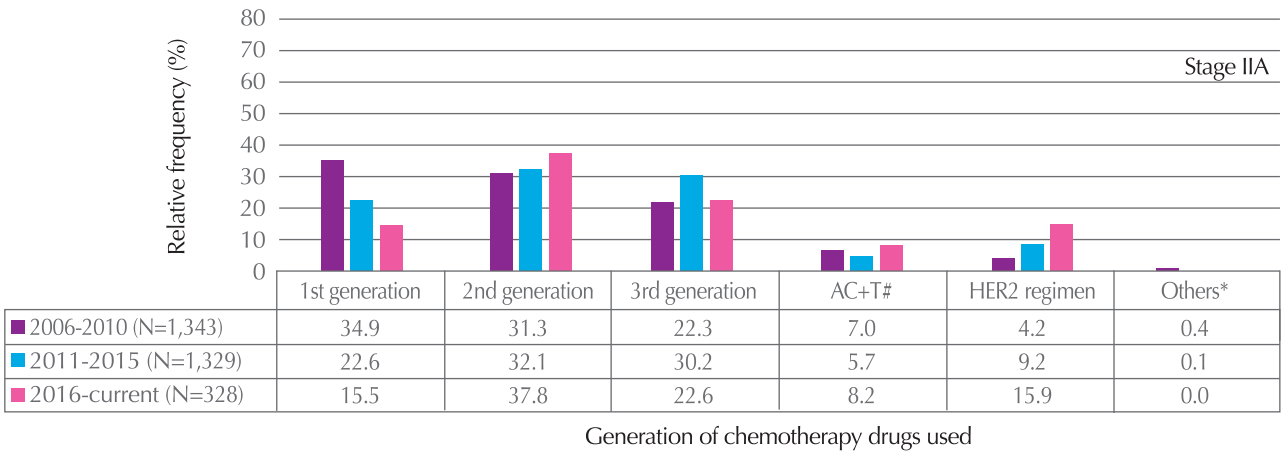
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=494)	31.8	31.0	26.5	10.3	0.0	0.4
2011-2015 (N=551)	11.4	29.6	44.6	13.8	0.5	0.0
2016-current (N=111)	2.7	26.1	53.2	16.2	0.9	0.9

#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

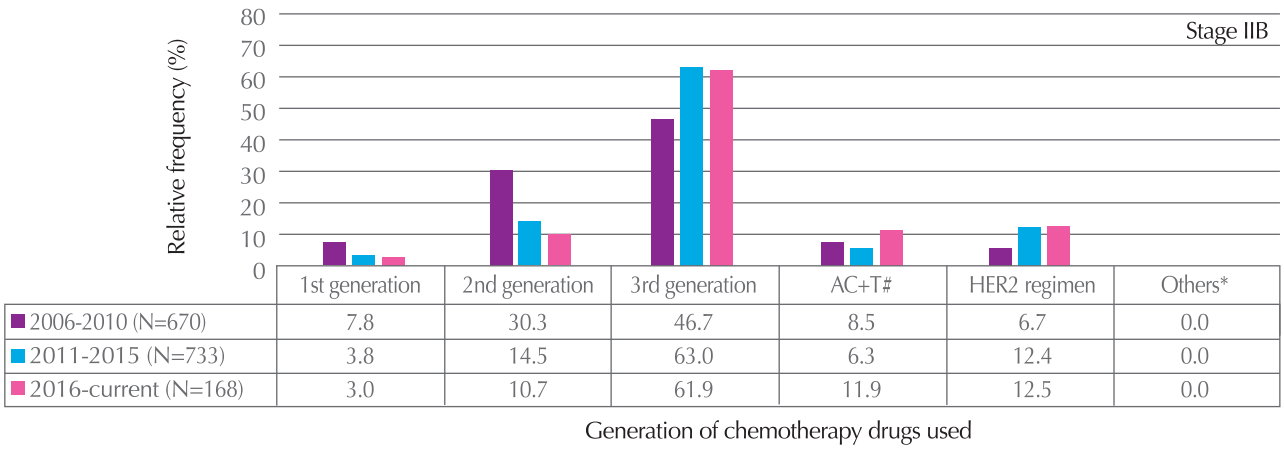
Figure 2.21: Generation of chemotherapy drugs used by cancer stage in adjuvant setting (N=7,899)



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=828)	51.9	28.4	11.7	4.0	3.6	0.4
2011-2015 (N=853)	27.3	42.4	15.4	4.9	10.0	0.0
2016-current (N=191)	12.6	53.4	11.5	3.7	17.8	1.0



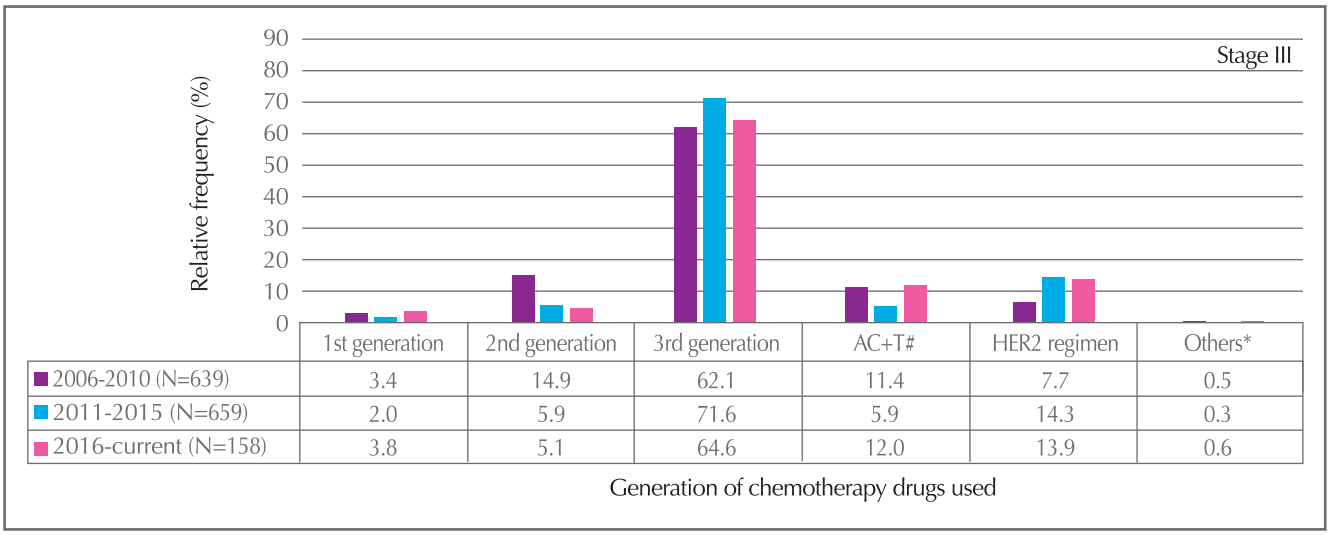
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=1,343)	34.9	31.3	22.3	7.0	4.2	0.4
2011-2015 (N=1,329)	22.6	32.1	30.2	5.7	9.2	0.1
2016-current (N=328)	15.5	37.8	22.6	8.2	15.9	0.0



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=670)	7.8	30.3	46.7	8.5	6.7	0.0
2011-2015 (N=733)	3.8	14.5	63.0	6.3	12.4	0.0
2016-current (N=168)	3.0	10.7	61.9	11.9	12.5	0.0

#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

Figure 2.21: Generation of chemotherapy drugs used by cancer stage in adjuvant setting (N=7,899) (cont'd)



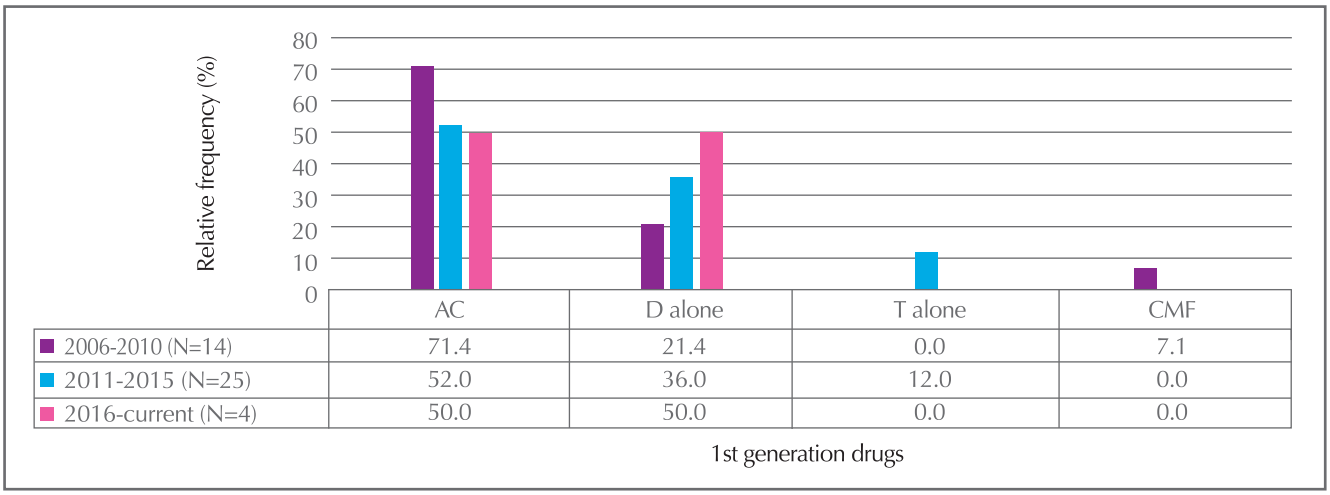
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=639)	3.4	14.9	62.1	11.4	7.7	0.5
2011-2015 (N=659)	2.0	5.9	71.6	5.9	14.3	0.3
2016-current (N=158)	3.8	5.1	64.6	12.0	13.9	0.6

#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

iii. Palliative chemotherapy

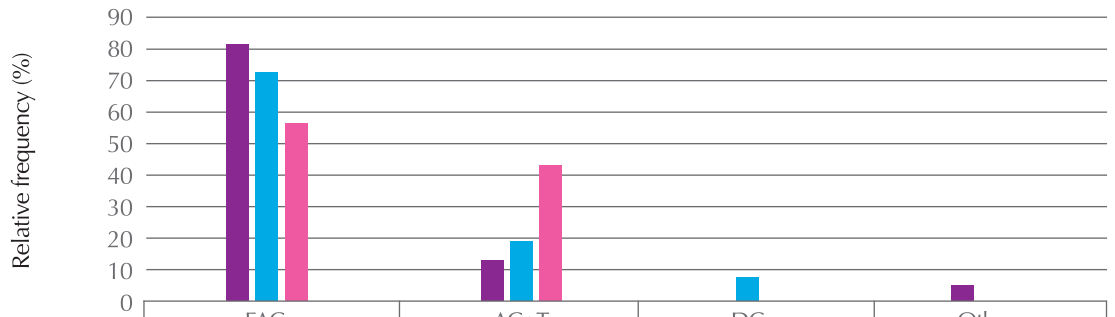
2.56 Of the patients who underwent chemotherapy, 3.0%-4.7% (2006-2010: 3.0%; 2011-2015: 4.7%; 2016-current: 3.8%) received it as palliative (stage IV) treatment. Figures 2.22, 2.23 and 2.24 show the use of chemotherapy drugs of the three generations in palliative setting in the three cohorts. The use of HER2 regimens in palliative chemotherapy is shown in Figure 2.25. Figure 2.26 shows the relative frequency for different generations of drugs used by biological subtype.

Figure 2.22: Type of first generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=43)



	AC	D alone	T alone	CMF
2006-2010 (N=14)	71.4	21.4	0.0	7.1
2011-2015 (N=25)	52.0	36.0	12.0	0.0
2016-current (N=4)	50.0	50.0	0.0	0.0

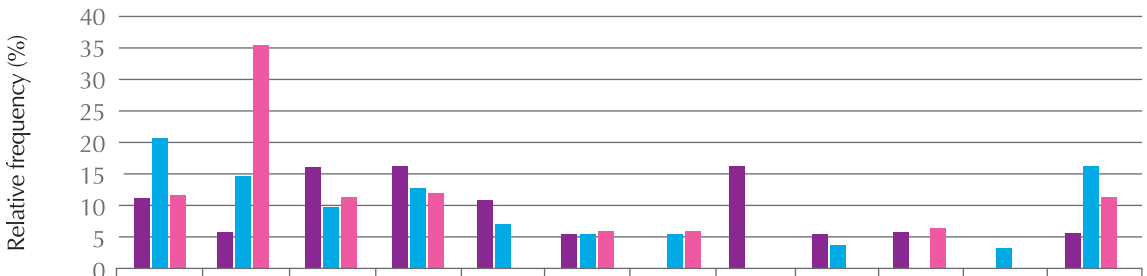
Figure 2.23: Type of second generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=75)



	FAC	AC+T	DC	Others
2006-2010 (N=31)	80.6	12.9	0.0	6.5
2011-2015 (N=37)	73.0	18.9	8.1	0.0
2016-current (N=7)	57.1	42.9	0.0	0.0

2nd generation drugs

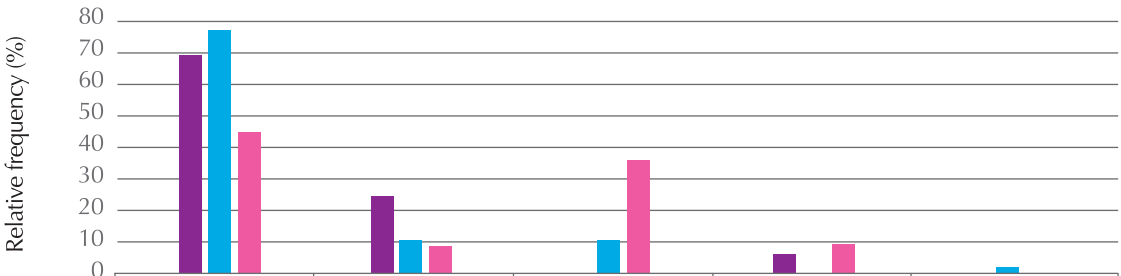
Figure 2.24: Type of third generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=89)



	AC+D	AC+T	FAC+TC	TC	TAC	FEC+D	TEC	FAC+D	TC+AC	FAC+T	FEC+T	Others
2006-2010 (N=18)	11.1	5.6	16.7	16.7	11.1	5.6	0.0	16.7	5.6	5.6	0.0	5.3
2011-2015 (N=54)	20.4	14.8	9.3	13.0	7.4	5.6	5.6	0.0	3.7	0.0	3.7	16.5
2016-current (N=17)	11.8	35.3	11.8	11.8	0.0	5.9	5.9	0.0	0.0	5.9	0.0	11.6

3rd generation drugs

Figure 2.25: Type of HER2 regimens used in palliative setting (N=76)

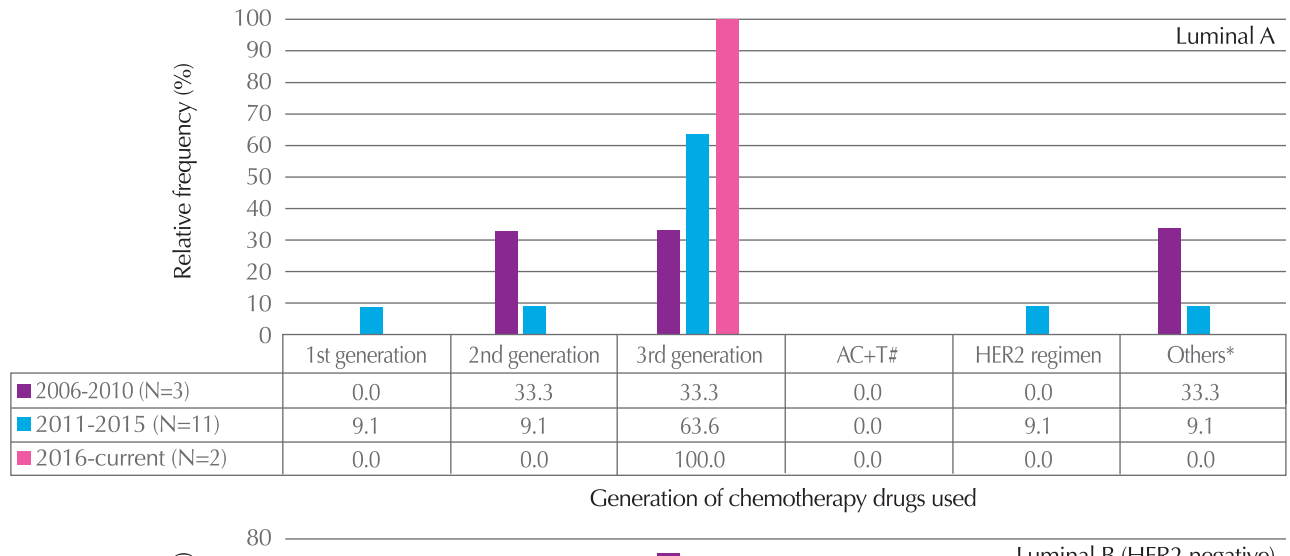


	T+C+H	T+H	T+C+P+H	ACy/ECy+T+H	T+P+H
2006-2010 (N=16)	68.8	25.0	0.0	6.3	0.0
2011-2015 (N=49)	77.6	10.2	10.2	0.0	2.0
2016-current (N=11)	45.5	9.1	36.4	9.1	0.0

HER2 regimens

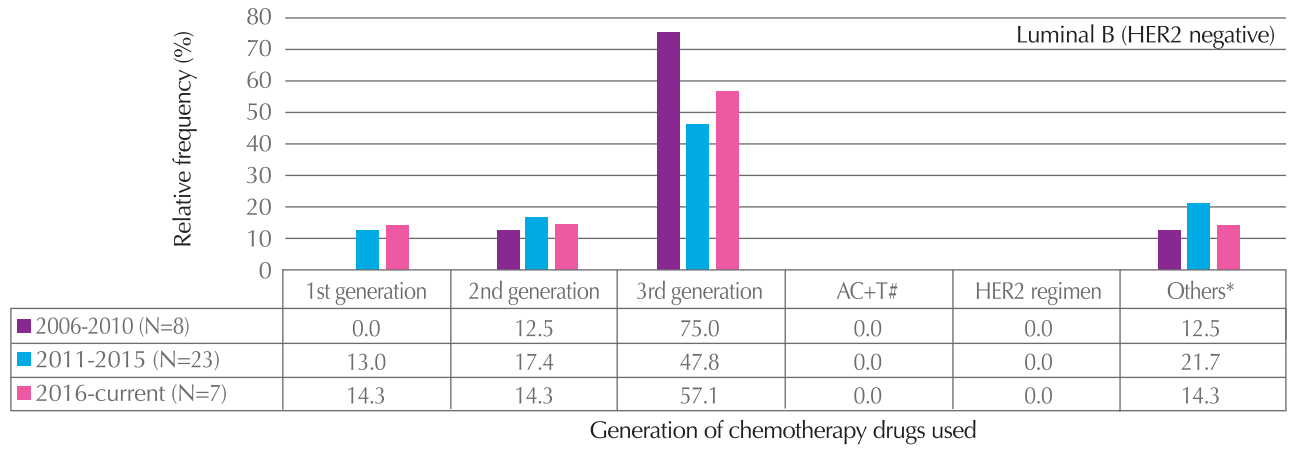
A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

Figure 2.26: Generation of chemotherapy drugs used by biological subtype in palliative setting (N=190)



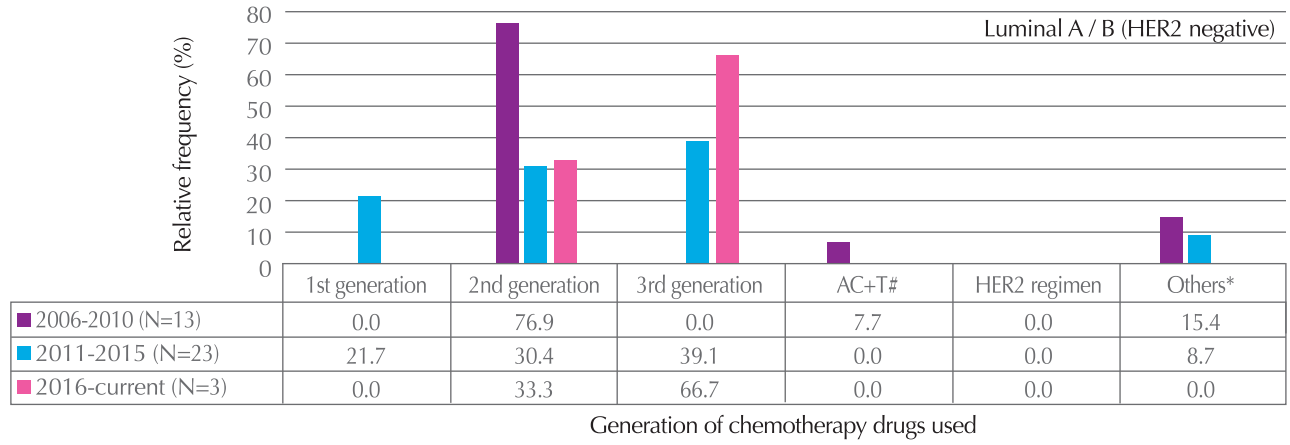
	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=3)	0.0	33.3	33.3	0.0	0.0	33.3
2011-2015 (N=11)	9.1	9.1	63.6	0.0	9.1	9.1
2016-current (N=2)	0.0	0.0	100.0	0.0	0.0	0.0

Generation of chemotherapy drugs used



	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=8)	0.0	12.5	75.0	0.0	0.0	12.5
2011-2015 (N=23)	13.0	17.4	47.8	0.0	0.0	21.7
2016-current (N=7)	14.3	14.3	57.1	0.0	0.0	14.3

Generation of chemotherapy drugs used

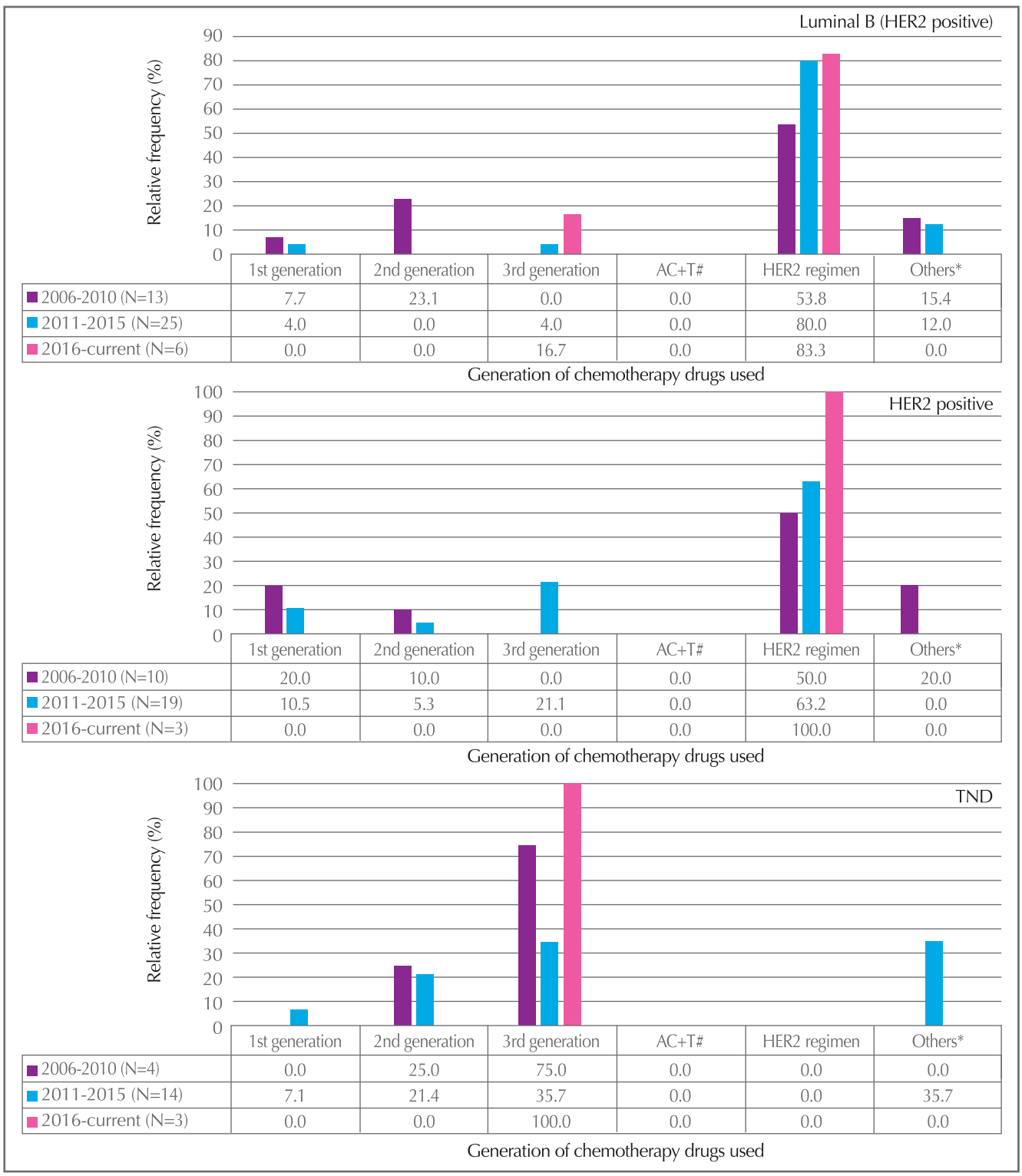


	1st generation	2nd generation	3rd generation	AC+T#	HER2 regimen	Others*
2006-2010 (N=13)	0.0	76.9	0.0	7.7	0.0	15.4
2011-2015 (N=23)	21.7	30.4	39.1	0.0	0.0	8.7
2016-current (N=3)	0.0	33.3	66.7	0.0	0.0	0.0

Generation of chemotherapy drugs used

#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

Figure 2.26: Generation of chemotherapy drugs used by biological subtype in palliative setting (N=190) (cont'd)



#AC+T: uncertain 2nd/3rd generation due to uncertain week intervals
*Others included any regimens containing Capecitabine, Gemcitabine, or Vinorelbine

D. Endocrine therapy

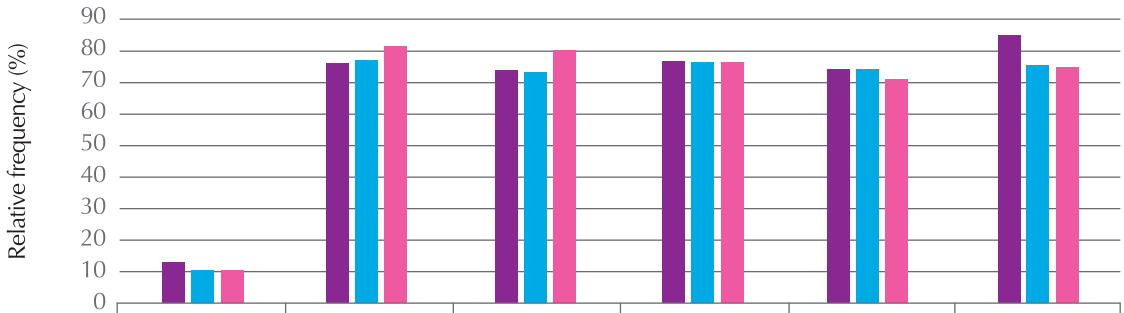
2.57 Endocrine therapy plays an important role in all stages of the treatment and prevention strategy for hormone receptor-positive invasive or in situ breast cancer. Breast cancer develops from abnormal breast cells that are often sensitive to sex hormones, such as estrogen and progesterone. Endocrine therapy acts on the hormone receptors of cancer cells.

2.58 In the cohorts, about two-thirds (2006-2010: 67.6%; 2011-2015: 67.9%; 2016-current: 69.1%) of the patients were treated with endocrine therapy, over 96% (2006-2010: 97.3%; 2011-2015: 96.4%; 2016-current: 96.9%) being adjuvant, while neoadjuvant (2006-2010: 0.2%; 2011-2015: 0.6%; 2016-current: 1.0%) and palliative (2006-2010: 2.5%; 2011-2015: 3.1%; 2016-current: 2.1%) accounted for small proportions. In addition, about 90% (2006-2010: 88.8%; 2011-2015: 92.6%; 2016-current: 88.0%) of the patients received endocrine therapy at public medical facilities, while the remainder (2006-2010: 11.2%; 2011-2015: 7.4%; 2016-current: 12.0%) at private medical facilities.

2.59 For the patients with invasive breast cancer, high proportions received endocrine therapy (74.0%-85.0%), while for in situ breast cancer, only about one-tenth (10.3%-12.8%) received endocrine therapy (Figure 2.27).

2.60 Two types of drugs are commonly used for reducing the level of female hormones: anti-estrogens and aromatase inhibitors. Anti-estrogen drugs slow down breast cancer growth by sticking to ER on breast cancer cells. The most common anti-estrogen is Tamoxifen which is used in both pre-menopausal and post-menopausal women. Aromatase inhibitors decrease the level of estrogen in the body. Aromatase inhibitors, including Anastrozole, Letrozole and Exemestane, are only effective for women who are post-menopausal. Table 2.33 shows the use of Tamoxifen and aromatase inhibitors by age group in the three patient cohorts.

Figure 2.27: Use of endocrine therapy by cancer stage (N=17,774)



	0	I	IIA	IIB	III	IV
2006-2010 (N=6,756)	12.8	75.4	74.3	77.6	75.4	85.0
2011-2015 (N=8,460)	10.4	77.9	74.0	77.2	75.0	76.0
2016-current (N=2,558)	10.3	81.8	80.1	75.3	71.5	75.0

Cancer stage

Table 2.33: Forms of endocrine therapy by age group (N=11,295)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current								
	<45			45-55			≥55		
Tamoxifen	94.1	97.5	95.8	75.0	87.3	78.7	42.2	52.7	34.7
Tamoxifen-> Aromatase inhibitors	4.8	1.2	1.0	14.8	4.2	1.2	22.6	8.4	4.1
Aromatase inhibitors	1.0	1.3	3.2	10.2	8.6	20.1	35.3	38.9	61.1

Total number of patients in each group:

<45: 1,094 (for 2006-2010), 1,074 (for 2011-2015), 310 (for 2016-current)

45-55: 1,776 (for 2006-2010), 1,903 (for 2011-2015), 492 (for 2016-current)

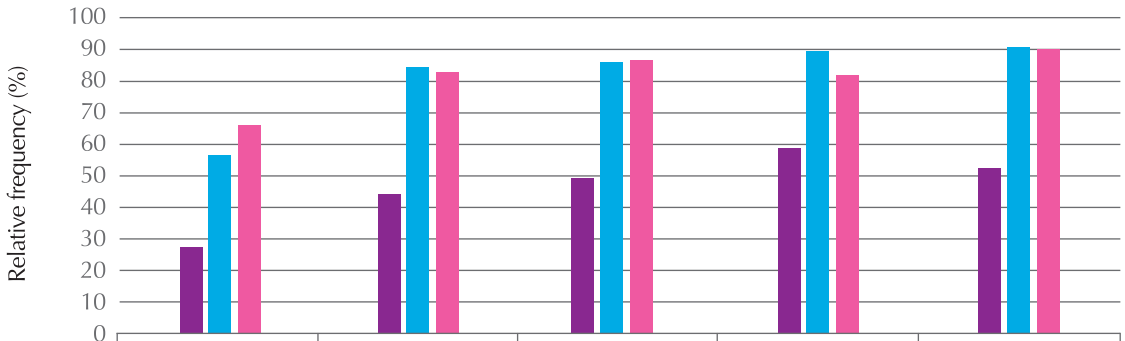
≥55: 1,449 (for 2006-2010), 2,425 (for 2011-2015), 772 (for 2016-current)

E. Anti-HER2 targeted therapy

2.61 Targeted therapy uses a drug that specifically attacks the abnormal growth pathway of cancer cells by blocking specific molecules required for tumour growth or carcinogenesis. Anti-HER2 targeted therapy is used for treating patients with invasive breast cancer cells that over-express HER2 oncogene (HER2-positive breast cancer).

2.62 Of the patients with invasive HER2 positive breast cancer in the three cohorts, 43.1%-79.5% (2006-2010: 43.1%; 2011-2015: 78.1%; 2016-current: 79.5%) underwent anti-HER2 targeted therapy. Among them, 88.4%-94.5% (2006-2010: 94.5%; 2011-2015: 93.1%; 2016-current: 88.4%) were adjuvant, 3.4%-10.5% (2006-2010: 3.4%; 2011-2015: 4.3%; 2016-current: 10.5%) were neoadjuvant and 1.0%-2.6% (2006-2010: 2.1%; 2011-2015: 2.6%; 2016-current: 1.0%) were palliative. In addition, the majority (2006-2010: 87.0%; 2011-2015: 90.3%; 2016-current: 89.1%) of the patients received anti-HER2 targeted therapy at public medical facilities, while the remainder (2006-2010: 13.0%; 2011-2015: 9.7%; 2016-current: 10.9%) at private medical facilities. In each cohort, the use of anti-HER2 targeted therapy was much lower for stage I patients, and the proportions of stage II or above patients who had anti-HER2 targeted therapy were roughly the same for the 2011-2015 and 2016-current cohorts (Figure 2.28).

Figure 2.28: Use of anti-HER2 targeted therapy in HER2 positive patients by cancer stage (N=3,215)



	I	IIA	IIB	III	IV
2006-2010 (N=1,377)	28.2	44.1	49.5	58.4	53.3
2011-2015 (N=1,499)	57.5	85.2	86.4	89.4	90.6
2016-current (N=339)	66.1	83.0	87.0	82.4	90.0

Cancer stage

F. Multimodality treatment

2.63 Combinations of treatment modalities, including surgery, radiotherapy, chemotherapy, endocrine therapy and anti-HER2 targeted therapy, are usually used for treating breast cancer effectively. Table 2.34 shows the multimodality treatment pattern of the patients. In general, the number of modalities increased with increasing cancer stage. In the three cohorts, the majority (92.7%-94.6%) of the stage 0 patients received two or less modalities. On the other hand, more than three-quarters of the patients with stage IIA (78.5%-81.5%), stage IIB (88.4%-93.7%) or stage III (94.3%-97.3%) breast cancer received three or more modalities.

G. Complementary and alternative therapies

2.64 Apart from the standard medical treatments and care of breast cancer described in the previous sections of this chapter, some patients may seek different kinds of complementary and alternative therapies, such as taking traditional Chinese medicines, health foods and supplements. A total of 6,827 (2006-2010: 41.6%; 2011-2015: 37.6%; 2016-current: 24.5%) patients in the three cohorts sought complementary and alternative therapies as part of their treatment. Among them, over 95% (2006-2010: 95.6%; 2011-2015: 95.5%; 2016-current: 96.7%) were adjuvant, while neoadjuvant (2006-2010: 3.7%; 2011-2015: 3.2%; 2016-current: 0.9%) and palliative (2006-2010: 0.7%; 2011-2015: 1.3%; 2016-current: 2.4%) accounted for only small proportions. In addition, about two-thirds (64.1%-67.7%) of the patients used traditional Chinese medicines (Figure 2.29).

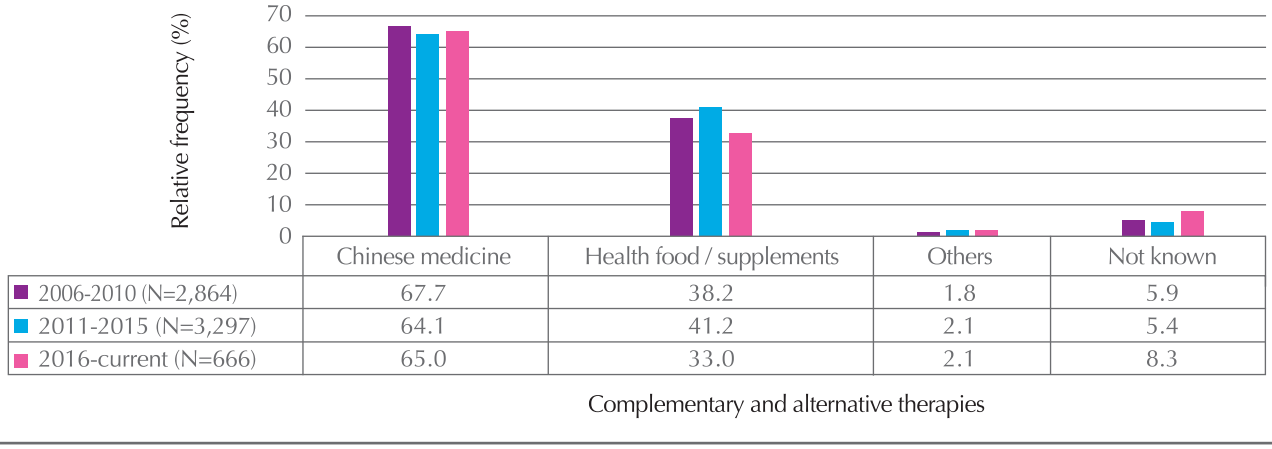
Table 2.34: Number of treatment modalities by cancer stage (N=17,379)

	Cancer stage % for 2006-2010, % for 2011-2015, % for 2016-current																	
	0			I			IIA			IIB			III			IV		
0	0.4	0.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.2	0.0	0.0	0.8	0.0
1	41.9	42.9	39.7	6.2	6.7	4.7	1.9	1.9	3.1	0.7	1.1	1.7	0.4	0.6	1.6	6.8	8.0	17.2
2	52.3	50.6	52.4	32.0	32.9	32.1	16.6	19.2	18.4	6.6	5.2	9.6	2.3	2.4	4.1	19.6	13.6	14.1
3	5.5	5.8	7.0	42.5	41.1	45.2	38.4	35.6	35.9	28.9	27.1	24.5	18.7	17.7	18.3	35.1	31.2	21.9
4	0.0	0.1	0.3	17.8	15.4	14.3	39.3	37.4	35.7	56.9	54.7	54.6	67.3	62.5	62.8	33.1	34.8	32.8
5	0.0	0.1	0.0	1.6	3.9	3.7	3.8	5.8	6.9	6.9	11.9	9.3	11.3	16.6	13.2	5.4	11.6	14.1

Total number of patients in each group:

0: 842 (for 2006-2010), 1,007 (for 2011-2015), 330 (for 2016-current)
I: 2,089 (for 2006-2010), 2,679 (for 2011-2015), 810 (for 2016-current)
IIA: 1,764 (for 2006-2010), 2,021 (for 2011-2015), 619 (for 2016-current)
IIB: 844 (for 2006-2010), 1,096 (for 2011-2015), 302 (for 2016-current)
III: 950 (for 2006-2010), 1,247 (for 2011-2015), 317 (for 2016-current)
IV: 148 (for 2006-2010), 250 (for 2011-2015), 64 (for 2016-current)

Figure 2.29: Type of complementary and alternative therapies used (N=6,827)



	Chinese medicine	Health food / supplements	Others	Not known
2006-2010 (N=2,864)	67.7	38.2	1.8	5.9
2011-2015 (N=3,297)	64.1	41.2	2.1	5.4
2016-current (N=666)	65.0	33.0	2.1	8.3

Others include: Tai Chi, Qigong, Naturopathy, acupuncture and moxibustion, massage and yoga

VI. Patient status

2.65 Once treatment is completed, the Hong Kong Breast Cancer Registry will follow up with the registered patients annually to ascertain the efficacy of the treatment. To date, a total of 16,603 patients in the three cohorts completed at least one follow-up. About two-fifths (43.8%) of them had the last follow-up within the past two years and about one-third (36.8%) have been followed up for five or more years (Table 2.35). The mean and median follow-up period were 4.2 and 3.5 years respectively.

2.66 Of the patients who have been followed up, 1.4% experienced only locoregional recurrence (LR), 1.9% experienced only distant recurrence (DR), and 1.4% experienced both locoregional and distant recurrence concurrently or sequentially. The mean and median time to recurrence are shown in Table 2.35.

2.67 Table 2.36 shows the number of invasive breast cancer patients with LR in different groups specified by surgery type received and cancer stage at diagnosis in the patient cohort. Patients with stage I and II disease who received breast-conserving surgery without radiotherapy had higher LR rates than those who received breast-conserving surgery with radiotherapy (Table 2.36). Overall, the patients who received mastectomy had lower LR rates than those who received breast-conserving surgery without radiotherapy. The common sites for LR were chest wall (32.8%) and breast (29.9%) (Table 2.37).

Table 2.35: Follow-up of 16,603 patients

	Number	%
Follow-up period		
< 1 year	2,295	13.8
1-2 years	2,972	17.9
2-5 years	5,220	31.4
5-10 years	5,574	33.6
10+ years	536	3.2
Mean follow-up period		4.2 years
Median follow-up period		3.5 years
Locoregional recurrence		
No. of locoregional recurrences	237	1.4
Mean time to locoregional recurrence		3.3 years
Median time to locoregional recurrence		2.6 years
Distant recurrence		
No. of distant recurrences	313	1.9
Mean time to distant recurrence		3.4 years
Median time to distant recurrence		2.7 years
Locoregional and distant recurrence		
No. of locoregional and distant recurrences	238	1.4
Mean time to locoregional and distant recurrence		3.3 years
Median time to locoregional and distant recurrence		2.6 years
Mortality*		
No. of deaths from breast cancer	196	1.2
No. of deaths from unrelated causes	100	0.6
No. of deaths with causes not known	69	0.4

*Data as of Feb 2019 with traceable medical records only.

Table 2.36: Locoregional recurrence by type of surgery received and cancer stage at diagnosis

	Cancer stage, Number (% in the overall patient cohort with surgeries)				
	I	IIA	IIB	III	Total
BCS with RT	26/2,583	45/1,525	9/518	13/339	93/4,965
	(1.0)	(3.0)	(1.7)	(3.8)	(1.9)
BCS without RT	6/107	5/67	1/16	0/7	12/197
	(5.6)	(7.5)	(6.3)	(0.0)	(6.1)
MTX	48/2,915	69/2,918	49/1,734	112/2,187	278/9,754
	(1.6)	(2.4)	(2.8)	(5.1)	(2.9)

BCS: Breast-conserving surgery; MTX: Mastectomy; RT: Radiotherapy

Table 2.37: Sites involved in locoregional recurrence (N=475)

	Number	%
Chest wall	156	32.8
Breast	142	29.9
Axilla	149	31.4
Supraclavicular fossa	93	19.6
Internal mammary node	34	7.2
Infraclavicular fossa	4	0.8
Others	35	7.4

Note: Recurrence may involve multiple sites simultaneously, so the total percentages for recurrence sites may exceed 100.

2.68 In the cohort, 551 (3.3%) patients experienced distant recurrence. Among them, the top four organs involved were bone (57.4%), lung (48.8%), liver (40.8%) and brian (17.1%) (Table 2.38). The median time for distant recurrence to bone, lung, liver and brain and the distribution of biological subtypes of the patients involved are shown in Table 2.39.

Table 2.38: Organs involved in distant recurrence (N=551)

	Number	%
Bone	316	57.4
Lung	269	48.8
Liver	225	40.8
Brain	94	17.1
Mediastinal nodes	92	16.7
Neck nodes	43	7.8
Distant lymph nodes	42	7.6
Pleural cavity	27	4.9
Adrenal	12	2.2
Peritoneal	11	2.0
Contralateral axillary nodes	5	0.9
Ovary	5	0.9
Spleen	4	0.7
Thyroid glands	2	0.4
Pancreas	1	0.2
Kidney	1	0.2
Uterus	1	0.2
Unspecified	34	6.2

Note: Recurrence may involve multiple sites simultaneously, so the total percentages for recurrence sites may exceed 100.

Table 2.39: Time for organ specific metastasis and distribution of the biological subtypes of patients

	Bone (N=316)	Lung (N=269)	Liver (N=225)	Brain (N=94)
Time for metastasis, median years (range)	3.4 (0.3-11.2)	3.4 (0.2-11.2)	3.1 (0.2-9.8)	3.3 (0.2-10.0)
Biological subtypes				
Luminal A*	31 (11.1)	16 (6.9)	22 (10.8)	8 (9.4)
Luminal B (HER2-ve)#	63 (22.6)	42 (18.2)	46 (22.7)	13 (15.3)
Luminal A/B (HER2-ve)†	89 (31.9)	66 (28.6)	62 (30.5)	14 (16.5)
Luminal B (HER2+ve)^	48 (17.2)	39 (16.9)	32 (15.8)	16 (18.8)
HER2+ve ❋	20 (7.2)	22 (9.5)	19 (9.4)	15 (17.6)
TND§	28 (10.0)	46 (19.9)	22 (10.8)	19 (22.4)
Not known	37	38	22	9

* Luminal A: ER and/or PR+, HER2-, and low Ki-67 index (<14%)
\# Luminal B (HER2 negative): ER and/or PR+, HER2-, and high Ki-67 index (≥14%)
† Luminal A/B (HER2 negative): ER and/or PR+, HER2-, and Ki-67 index not known
^ Luminal B (HER2 positive): ER and/or PR+, HER2+, and any Ki-67 index
❋ HER2 positive: ER and PR-, HER2+, and any Ki-67 index
§ TND (Triple Negative Disease): ER and PR-, HER2-, and any Ki-67 index

2.69 In the cohort, the proportion of those patients with only LR did not show any association with cancer stage at diagnosis. However, the proportion of the patients with only DR increased from 0.9% of stage I patients to 5.8% of stage III patients. Stage III patients had higher rates of only DR (5.8%) and combination of LR and DR (3.8%) than those with lower cancer stages (Table 2.40).

2.70 In the cohort, 196 (1.2%) patients died from breast cancer. About three-fifths (59.1%) of them were stage III or IV at initial diagnosis. Survival time ranged from 0.6 to 11.2 years. Information on biological subtypes of these patients is shown in Table 2.41.

Table 2.40: Locoregional and distant recurrence among invasive breast cancer patients by cancer stage (N=13,734)

	Cancer stage, Number (%)				
	I (N=5,157)	IIA (N=4,137)	IIB (N=2,100)	III (N=2,340)	Total (N=13,734)
LR only	57 (1.1)	61 (1.5)	18 (0.9)	38 (1.6)	174 (1.3)
DR only	45 (0.9)	60 (1.5)	54 (2.6)	136 (5.8)	295 (2.1)
LR and DR	23 (0.4)	58 (1.4)	41 (2.0)	90 (3.8)	212 (1.5)

LR: Locoregional recurrence; DR: Distant recurrence

Table 2.41: Characteristics of breast cancer-specific deaths (N=196)

	Cancer stage at initial diagnosis						
	0	I	IIA	IIB	III	IV	Unstaged
No. of cases (% of breast cancer death cases)	**4 (2.0)**	**18 (9.2)**	**28 (14.3)**	**18 (9.2)**	**82 (41.8)**	**34 (17.3)**	**12 (6.1)**
Survival time (range in years)	**4.5 – 7.3**	**1.6 – 9.6**	**1.6 – 10.3**	**2.1 – 11.2**	**0.6 – 11.2**	**0.6 – 7.4**	**1.1 – 6.2**
Time from first diagnosis of DM to death (years), mean (range)	**1.0 (0.5-1.5)**	**2.1 (0.7-4.6)**	**1.2 (0.1-5.9)**	**1.7 (0.1-6.2)**	**1.4 (0.0-6.2)**	**3.3 (0.6-7.4)**	**1.5 (0.3-3.2)**
Biological subtypes							
Luminal A*	0	2	2	2	5	0	0
Luminal B(HER2 negative)#	0	4	4	2	10	2	1
Luminal A/B (HER2 negative)†	2	2	9	8	25	12	2
Luminal B (HER2 positive)^	2	2	2	1	14	7	4
HER2 positive ❉	0	3	4	0	11	6	0
TND§	0	5	6	4	12	4	0
Not known	0	0	1	1	5	3	5

* Luminal A: ER and/or PR+, HER2-, and low Ki-67 index (<14%)

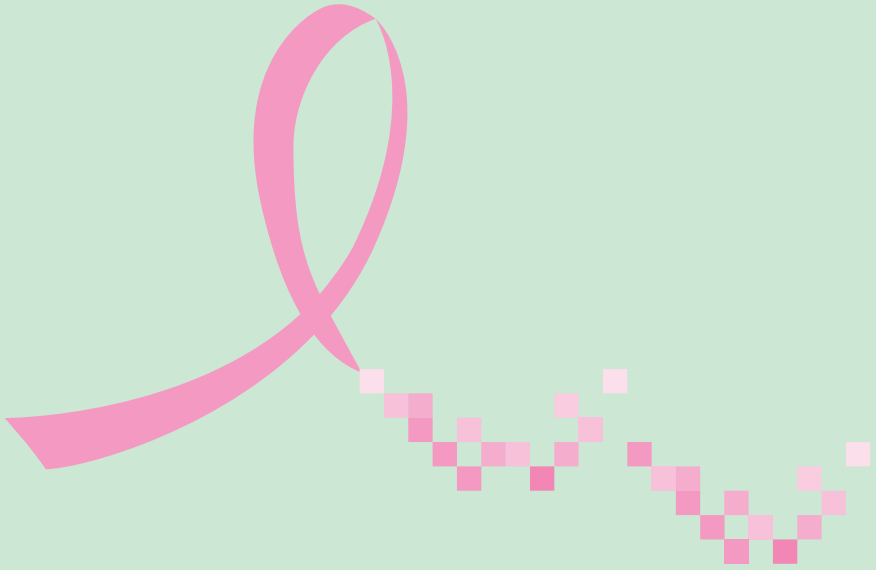
\# Luminal B (HER2 negative): ER and/or PR+, HER2-, and high Ki-67 index (≥14%)

† Luminal A/B (HER2 negative): ER and/or PR+, HER2-, and Ki-67 index not known

^ Luminal B (HER2 positive): ER and/or PR+, HER2+, and any Ki-67 index

❉ HER2 positive: ER and PR-, HER2+, and any Ki-67 index

§ TND (Triple Negative Disease): ER and PR-, HER2-, and any Ki-67 index



CHAPTER 3

PHYSICAL AND PSYCHOSOCIAL IMPACT OF BREAST CANCER AND ITS TREATMENT

CHAPTER 3
PHYSICAL AND PSYCHOSOCIAL IMPACT OF BREAST CANCER AND ITS TREATMENT

I. Introduction

3.1 Being diagnosed with breast cancer can be overwhelming for a woman. During treatment or recovery, women often experience emotional turmoil as a result of physical, psychological and social changes. This chapter analyses the physical and psychosocial impact of breast cancer and its treatment on the 16,222 patients in the three cohorts. The mean time at which the patients did the survey was two years after initial cancer diagnosis.

Key findings

The patients covered in this report, according to their year of cancer diagnosis, were divided into three cohorts (2006-2010, 2011-2015 and 2016-current) and analysed separately.

Physical impact of treatments

- Overall, two-thirds to three-quarters (65.5%-76.6%) of the patients who had surgery experienced no or minimal physical discomfort, while about one-tenth of them (8.4%-10.3%) experienced severe discomfort. Wound pain (16.3%-22.3%) was the most common form of discomfort after surgery.
- Two-thirds to three-quarters (65.4%-74.1%) of the patients who had radiotherapy experienced no or minimal discomfort. Dry skin (11.5%-16.5%) and skin burns (5.1%-10.5%) were the most common forms of discomfort experienced after radiotherapy.
- Two-fifths to about one-half (40.1%-54.1%) of the patients who had chemotherapy experienced severe physical discomfort due to side effects. Vomiting (10.0%-26.6%) and loss of appetite (10.3%-19.9%) were the most common forms of discomfort experienced during or after chemotherapy.
- About four-fifths (79.3%-83.9%) of the patients who had undergone endocrine therapy experienced no or minimal discomfort. Hot flushes (11.2%-15.0%) was the most common form of discomfort experienced after endocrine therapy.
- The majority (80.1%-87.0%) of the patients who had undergone anti-HER2 targeted therapy experienced no or minimal discomfort. Fatigue (3.3%-5.3%) was the most common form of discomfort experienced after anti-HER2 targeted therapy.
- Nearly all (96.4%-98.9%) the patients who received complementary and alternative therapies felt no or minimal discomfort.

Psychosocial impact and adjustments after diagnosis and treatment

- At diagnosis, 45.5%-53.0% of the patients accepted their diagnosis with a calm or positive attitude. In contrast, 20.0%-25.3% could not accept their diagnosis.
- After treatment, 24.1%-32.7% of the patients felt that cancer was a wake-up call that caught them by surprise.
- As for other changes, 40.8%-52.8% of the patients reported having a positive change in their outlook on life and 32.4%-44.8% reported having a positive change in their self-image after cancer diagnosis and treatment.
- About three-quarters (74.4%-82.3%) of the patients reported having changes in their lifestyle after diagnosis with breast cancer. A change in diet (69.7%-74.8%) was the most common lifestyle change, followed by increased exercise (57.9%-62.5%). In addition, about one-tenth (11.0%-12.0%) of the patients resigned from their jobs.
- In the patient cohorts, the two most common ways of managing negative emotions were direct verbal expression (49.3%-55.7%) and diverting attention from negative emotions (25.3%-33.2%).

► About a quarter (22.8%-28.2%) of the patients did not worry about recurrence, while one-half to three-fifths (52.5%-58.8%) always or sometimes worried about recurrence. In each cohort, the proportion of the patients who never worried about recurrence increased with increasing age, while the proportion of the patients who always worried about recurrence decreased with increasing age.

II. Physical discomfort after treatment

A. Physical discomfort after surgery

3.2 Overall, 65.5%-76.6% of the patients who had surgery experienced no or minimal physical discomfort, while 8.4%-10.3% experienced severe discomfort (Figure 3.1). In terms of level of discomfort by type of surgery, the proportion of the patients who reported severe physical discomfort was highest (11.8%-15.8%) among those patients who had undergone both mastectomy and reconstruction (Table 3.1). In addition, wound pain (16.3%-22.3%) was the most common form of discomfort after surgery (Table 3.2).

Figure 3.1: Level of physical discomfort after surgery (N=16,153)

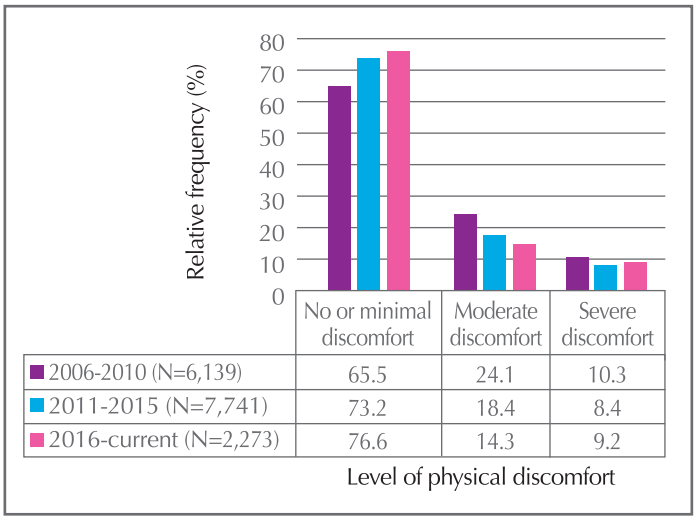


Table 3.1: Level of physical discomfort by type of surgery (N=16,066)

	Type of surgery % for 2006-2010, % for 2011-2015, % for 2016-current								
	Breast-conserving surgery			Mastectomy			Mastectomy + reconstruction		
No or minimal discomfort	68.2	76.8	80.1	66.5	73.1	77.7	47.5	57.7	52.4
Moderate discomfort	24.7	17.9	13.2	22.0	17.1	11.9	36.7	30.4	34.1
Severe discomfort	7.2	5.3	6.7	11.4	9.9	10.5	15.8	11.8	13.5

Total number of patients in each group:

Breast-conserving surgery: 2,154 (for 2006-2010), 2,711 (for 2011-2015), 907 (for 2016-current)

Mastectomy: 3,465 (for 2006-2010), 4,387 (for 2011-2015), 1,161 (for 2016-current)

Mastectomy + reconstruction: 499 (for 2006-2010), 597 (for 2011-2015), 185 (for 2016-current)

Table 3.2: Five most common forms of discomfort after surgery (N=16,153)

	2006-2010 (N=6,139) %	2011-2015 (N=7,741) %	2016-current (N=2,273) %
Wound pain	16.3	16.8	22.3
Wound problems	4.2	9.4	15.4
Difficulty in arm movement	5.2	5.8	1.5
Numbness	2.8	3.9	2.5
Lymphoedema	2.9	2.6	1.0

B. Physical discomfort after radiotherapy

3.3 About three-quarters (65.4%-74.1%) of the patients who had radiotherapy experienced no or minimal discomfort (Figure 3.2). A higher proportion of the patients who had undergone chest wall irradiation reported having severe discomfort than those who had undergone breast irradiation, regardless of whether or not they had regional lymph nodes irradiation (Table 3.3). In addition, dry skin (11.5%-16.5%) and skin burns (5.1%-10.5%) were the most common forms of discomfort the patients experienced after radiotherapy (Table 3.4).

Figure 3.2: Level of physical discomfort after radiotherapy (N=9,664)

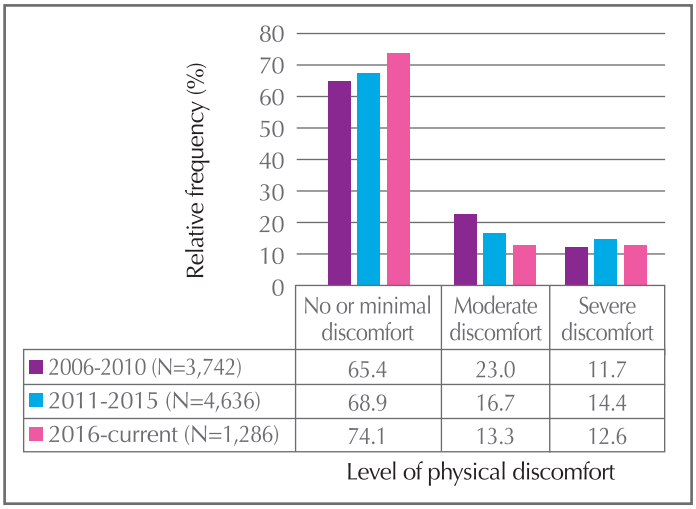


Table 3.3: Level of physical discomfort after radiotherapy by irradiated regions (N=6,431)

	Irradiated regions: % for 2006-2010, % for 2011-2015, % for 2016-current											
	Breast			Breast + regional lymph nodes			Chest wall			Chest wall + regional lymph nodes		
No or minimal discomfort	69.7	69.9	71.4	70.9	72.0	80.5	61.3	66.3	73.0	64.7	66.3	74.4
Moderate discomfort	22.5	16.3	13.1	20.4	16.7	7.3	24.8	17.3	10.8	20.1	15.3	9.1
Severe discomfort	7.8	13.8	15.6	8.7	11.3	12.2	13.9	16.4	16.2	15.2	18.3	16.5

Total number of patients in each group:

Breast: 1,185 (for 2006-2010), 1,243 (for 2011-2015), 360 (for 2016-current)

Breast + regional lymph nodes: 230 (for 2006-2010), 257 (for 2011-2015), 41 (for 2016-current)

Chest wall: 375 (for 2006-2010), 329 (for 2011-2015), 74 (for 2016-current)

Chest wall + regional lymph nodes: 993 (for 2006-2010), 1,090 (for 2011-2015), 254 (for 2016-current)

Table 3.4: Five most common forms of discomfort after radiotherapy (N=9,664)

	2006-2010 (N=3,742) %	2011-2015 (N=4,636) %	2016-current (N=1,286) %
Dry skin	11.5	16.5	14.3
Skin burns	10.5	8.9	5.1
Pain	5.7	6.6	7.1
Fatigue	1.3	0.9	1.1
Skin ulceration	3.3	2.3	0.7

C. Physical discomfort after chemotherapy

3.4 Two-fifths to about one-half (40.1%-54.1%) of the patients who had chemotherapy experienced severe physical discomfort due to side effects (Figure 3.3). Vomiting (10.0%-26.6%) and loss of appetite (10.3%-19.9%) were the most common forms of discomfort experienced during or after chemotherapy in the patient cohorts (Table 3.5).

Figure 3.3: Level of physical discomfort after chemotherapy (N=9,575)

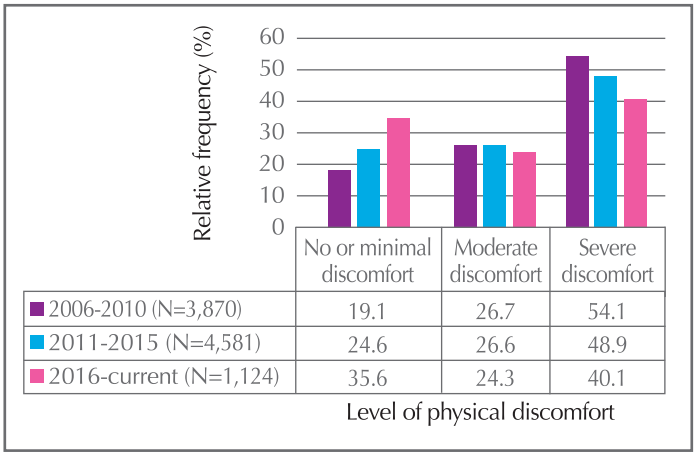


Table 3.5: Five most common forms of discomfort after chemotherapy (N=9,575)

	2006-2010 (N=3,870) %	2011-2015 (N=4,581) %	2016-current (N=1,124) %
Vomiting	26.6	10.0	10.1
Loss of appetite	19.9	10.3	14.9
Hair loss	17.3	6.4	6.0
Weakness	10.7	9.7	15.2
Pain (including bone pain)	8.0	7.2	1.2

D. Physical discomfort after endocrine therapy

3.5 About four-fifths (79.3%-83.9%) of the patients who had undergone endocrine therapy experienced no or minimal discomfort (Figure 3.4). Hot flushes (11.2%-15.0%) was the most common form of discomfort experienced after endocrine therapy in the patient cohorts (Table 3.6).

Figure 3.4: Level of physical discomfort after endocrine therapy (N=10,426)

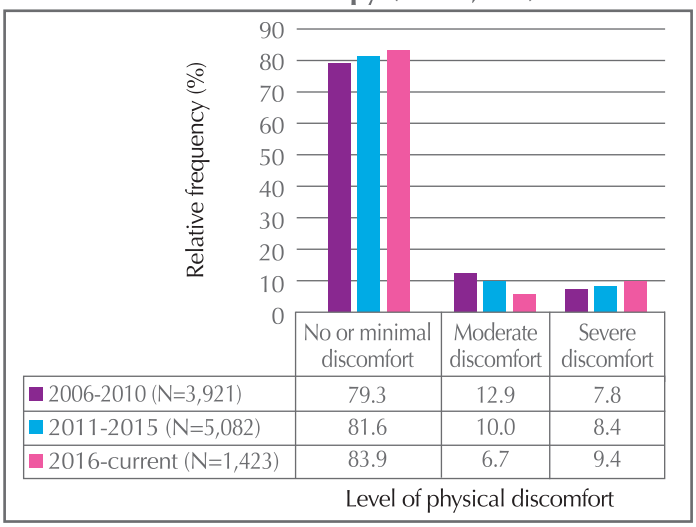


Table 3.6: Five most common forms of discomfort after endocrine therapy (N=10,426)

	2006-2010 (N=3,921) %	2011-2015 (N=5,082) %	2016-current (N=1,423) %
Hot flushes	11.2	14.7	15.0
Bone pain	6.6	7.1	9.3
Tiredness	4.0	4.8	7.2
Menstrual disorder	4.1	4.1	3.4
Emotionally unstable	1.7	2.1	1.1

E. Physical discomfort after anti-HER2 targeted therapy

3.6 The majority (80.1%-87.0%) of the patients who had undergone anti-HER2 targeted therapy experienced no or minimal discomfort (Figure 3.5). Fatigue (3.3%-5.3%) was the most common form of discomfort experienced after anti-HER2 targeted therapy in the patient cohorts (Table 3.7).

Figure 3.5: Level of physical discomfort after anti-HER2 targeted therapy (N=2,048)

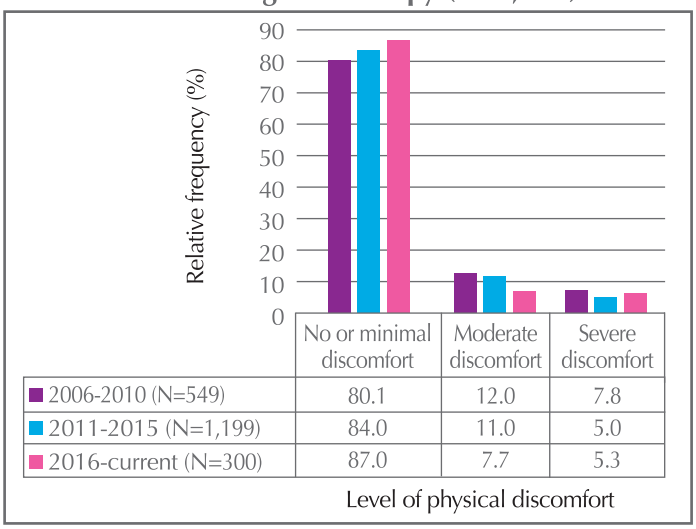


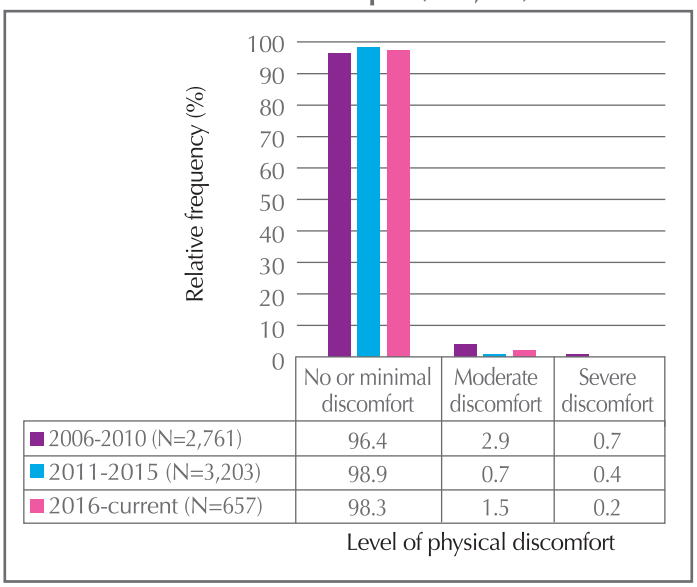
Table 3.7: Five most common forms of discomfort after anti-HER2 targeted therapy (N=2,048)

	2006-2010 (N=549) %	2011-2015 (N=1,199) %	2016-current (N=300) %
Fatigue	3.8	5.3	3.3
Pain	2.2	2.0	4.3
Numbness	1.5	1.3	1.7
Other organs affected	1.8	0.9	0.3
Dizziness	1.1	1.3	0.3

F. Physical discomfort after complementary and alternative therapies

3.7 Nearly all (96.4%-98.9%) the patients who received complementary and alternative therapies felt no or minimal discomfort (Figure 3.6).

Figure 3.6: Level of physical discomfort after complementary and alternative therapies (N=6,621)



III. Psychosocial impact and adjustments after diagnosis and treatment

A. Psychosocial impact after diagnosis and treatment

3.8 At diagnosis, 45.5%-53.0% of the patients accepted their diagnosis with a calm or positive attitude. In contrast, 20.0%-25.3% could not accept their diagnosis (Table 3.8). After treatment, 24.1%-32.7% of the patients felt that cancer was a wake-up call that caught them by surprise. As for other changes, 40.8%-52.8% of the patients reported having a positive change in their outlook on life and 32.4%-44.8% reported having a positive change in their self-image after cancer diagnosis and treatment (Table 3.8).

Table 3.8: Psychosocial impact of breast cancer

	2006-2010 %	2011-2015 %	2016-current %
Feelings at time of breast cancer diagnosis (N=15,776)	**(N=5,988)**	**(N=7,529)**	**(N=2,259)**
Acceptance and positive attitude to fight	23.2	19.5	24.5
Calm acceptance	22.3	26.9	28.5
Acceptance with depression	32.0	27.5	20.3
Lack of acceptance (“It cannot be true.”)	20.0	24.7	25.3
Acceptance with anger ("Something must be wrong.")	2.4	1.4	1.4
Feelings after breast cancer treatments (N=11,306)	**(N=4,759)**	**(N=5,168)**	**(N=1,379)**
Cancer was a wake-up call that caught patient by surprise	31.8	32.7	24.1
Life was not fair	54.1	56.3	63.8
Cancer changed patient's value system	6.7	5.4	5.9
Cancer took away something from patient	7.4	5.6	6.1
Change in outlook on life (N=15,869)	**(N=6,024)**	**(N=7,536)**	**(N=2,309)**
Positive	51.4	52.8	40.8
Negative	6.5	7.2	8.9
No change	42.1	40.0	50.3
Change in self-image (N=15,862)	**(N=6,035)**	**(N=7,518)**	**(N=2,309)**
Positive	38.9	44.8	32.4
Negative	8.9	9.3	10.7
No change	52.2	45.8	57.0

3.9 In the patient cohorts, positive change in outlook on life was negatively associated with increasing age. The proportions of the patients who reported having no change in the outlook on life increased with age (Table 3.9).

3.10 In the patient cohorts, positive change in self-image was negatively associated with increasing age (Table 3.10).

Table 3.9: Change in outlook on life by age group (N=15,684)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current														
	<40			40-49			50-59			60-69			70+		
Positive	65.1	65.8	60.1	56.5	60.2	49.8	49.4	51.7	43.9	39.9	42.8	26.8	29.2	41.3	23.1
Negative	3.9	5.7	7.1	6.4	6.6	7.8	6.9	7.7	8.6	7.8	8.4	10.0	6.3	6.1	11.1
No change	31.0	28.4	32.8	37.1	33.1	42.4	43.7	40.6	47.5	52.3	48.8	63.1	64.6	52.5	65.8

Total number of patients in each group:

<40: 642 (for 2006-2010), 644 (for 2011-2015), 183 (for 2016-current)
40-49: 2,280 (for 2006-2010), 2,236 (for 2011-2015), 602 (for 2016-current)
50-59: 1,948 (for 2006-2010), 2,535 (for 2011-2015), 733 (for 2016-current)
60-69: 770 (for 2006-2010), 1,508 (for 2011-2015), 548 (for 2016-current)
70+: 319 (for 2006-2010), 537 (for 2011-2015), 199 (for 2016-current)

Table 3.10: Change in self-image by age group (N=15,682)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current														
	<40			40-49			50-59			60-69			70+		
Positive	44.4	49.5	37.6	41.5	49.8	40.0	39.4	44.9	33.8	32.5	38.4	24.4	25.0	38.4	22.3
Negative	9.0	13.2	10.2	9.7	9.2	11.2	8.6	9.4	9.4	8.2	8.6	10.4	5.6	7.3	13.7
No change	46.6	37.4	52.2	48.8	41.0	48.8	52.0	45.7	56.8	59.4	52.9	65.3	69.4	54.3	64.0

Total number of patients in each group:

<40: 646 (for 2006-2010), 645 (for 2011-2015), 186 (for 2016-current)
40-49: 2,289 (for 2006-2010), 2,231 (for 2011-2015), 598 (for 2016-current)
50-59: 1,949 (for 2006-2010), 2,527 (for 2011-2015), 734 (for 2016-current)
60-69: 770 (for 2006-2010), 1,506 (for 2011-2015), 550 (for 2016-current)
70+: 320 (for 2006-2010), 534 (for 2011-2015), 197 (for 2016-current)

B. Psychosocial adjustments and coping strategies

3.11 Of the 16,222 patients in the three cohorts, about three-quarters (2006-2010: 80.6%; 2011-2015: 82.3%; 2016-current: 74.4%) reported having changes in their lifestyle after diagnosis with breast cancer. A change in diet (69.7%-74.8%) was the most common lifestyle change, followed by increased exercise (57.9%-62.5%). In addition, about one-tenth (11.0%-12.0%) of the patients resigned from their jobs (Table 3.11).

3.12 In the patient cohorts, the two most common ways of managing negative emotions were direct verbal expression (49.3%-55.7%) and diverting attention from negative emotions (25.3%-33.2%) (Table 3.11).

Table 3.11: Psychosocial adjustments and coping strategies for survivorship

	2006-2010 %	2011-2015 %	2016-current %
Types of lifestyle changes (N=13,048)	**(N=4,945)**	**(N=6,363)**	**(N=1,740)**
Changing diet	73.0	74.8	69.7
Doing more exercise	60.3	62.5	57.9
Taking health supplements	25.4	19.2	17.9
Reducing workload	20.4	18.1	17.4
Quitting job	12.0	11.0	12.0
Ways of managing negative emotions (N=15,968)	**(N=5,989)**	**(N=7,651)**	**(N=2,328)**
Direct verbal expression	55.3	55.7	49.3
Divert attention from them	33.2	32.7	25.3
Ignoring them	11.7	10.2	11.8
Feeling depressed	8.1	6.2	5.6
Others	7.2	12.7	14.7
Levels of worry about recurrence (N=15,902)	**(N=6,037)**	**(N=7,574)**	**(N=2,291)**
Never	22.8	28.2	22.8
Seldom	18.4	19.3	21.3
Sometimes	47.5	42.4	43.0
Always	11.3	10.1	12.8

C. Level of worry about recurrence

3.13 About a quarter (22.8%-28.2%) of the patients did not worry about recurrence, while one-half to three-fifths (52.5%-58.8%) always or sometimes worried about recurrence (Table 3.11). The level of worry about recurrence showed correlation with the patients' age: the proportion of the patients who never worried about recurrence increased with increasing age, while the proportion of the patients who always worried about recurrence decreased with increasing age (Table 3.12).

Table 3.12: Level of worry about recurrence by age group (N=15,713)

	Age group % for 2006-2010, % for 2011-2015, % for 2016-current														
	<40			40-49			50-59			60-69			70+		
Never	14.7	13.3	8.1	15.4	19.0	12.1	22.5	27.3	20.7	38.8	39.9	34.8	57.8	58.1	45.9
Seldom	19.7	15.8	20.0	19.0	19.3	21.2	17.9	20.9	22.4	17.0	19.3	22.1	17.1	15.6	17.3
Sometimes	53.9	54.8	53.5	52.9	49.6	51.3	48.3	42.1	44.9	34.9	33.5	32.9	20.6	22.2	25.4
Always	11.8	16.1	18.4	12.7	12.0	15.4	11.4	9.8	12.0	9.3	7.3	10.2	4.4	4.1	11.4

Total number of patients in each group:

<40: 646 (for 2006-2010), 646 (for 2011-2015), 185 (for 2016-current)
40-49: 2,303 (for 2006-2010), 2,271 (for 2011-2015), 604 (for 2016-current)
50-59: 1,937 (for 2006-2010), 2,541 (for 2011-2015), 735 (for 2016-current)
60-69: 771 (for 2006-2010), 1,504 (for 2011-2015), 538 (for 2016-current)
70+: 315 (for 2006-2010), 532 (for 2011-2015), 185 (for 2016-current)

第一章
預防和及早發現乳癌

第一章　預防和及早發現乳癌

I. 簡介

1.1　過去的研究發現乳癌風險與健康背景和生活習慣有顯著的關係。本章綜述18,663名香港乳癌患者的人口統計特徵，社會經濟狀況資料，生活方式，患者健康背景及這些數字在本地患者中的分佈。本報告亦會包括患者病發前的乳房檢查習慣。這些分析的目的在於分辨出與本港乳癌病例有關的重要因素。

主要分析結果

本報告書根據患者的確診年份，將患者分成三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）作數據分析。

► 三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）患者的確診乳癌的年齡中位數分別為50.2歲、52.8歲及54.4歲。

► 受訪群組中，約有三分之一（58.2%-69.1%）患者的年齡介乎40歲至59歲。

高危因素

► 受訪群組中常見的十大高危因素及患者擁有該高危因素的比率為：

	%
缺乏運動（每周少於3小時）	76.5 – 78.6
從未餵哺母乳	64.5 – 67.1
超重 / 肥胖	37.1 – 39.3
高度精神壓力（超過一半時間）	36.0 – 37.2
沒有生育 / 35歲後首次生育	23.8 – 30.4
有家族乳癌病史	14.1 – 17.0
飲食含豐富肉類 / 乳類製品	13.5 – 14.4
提早初經（<12歲）	13.4 – 14.3
飲酒	4.8 – 7.3
曾使用荷爾蒙補充劑治療	2.5 – 4.4

檢查習慣

► 整體而言，患者缺乏乳房檢查習慣。不多於五分之一的患者定期進行自我乳房檢查（19.3%-21.6%）、接受乳房X光造影檢查（18.8%-19.9%）或接受乳房超聲波檢查（15.5%-19.0%）。

► 患者年齡愈高，愈少有乳房檢查習慣。

► 相比教育程度或每月家庭收入高的患者，教育程度或每月家庭收入較低的患者較少接受定期的乳房檢查。

► 在未確診乳癌前，高比率（63.8%-69.3%）的40歲或以上患者從未接受乳房X光造影檢查。

II. 患者人口統計特徵

A. 確診年齡

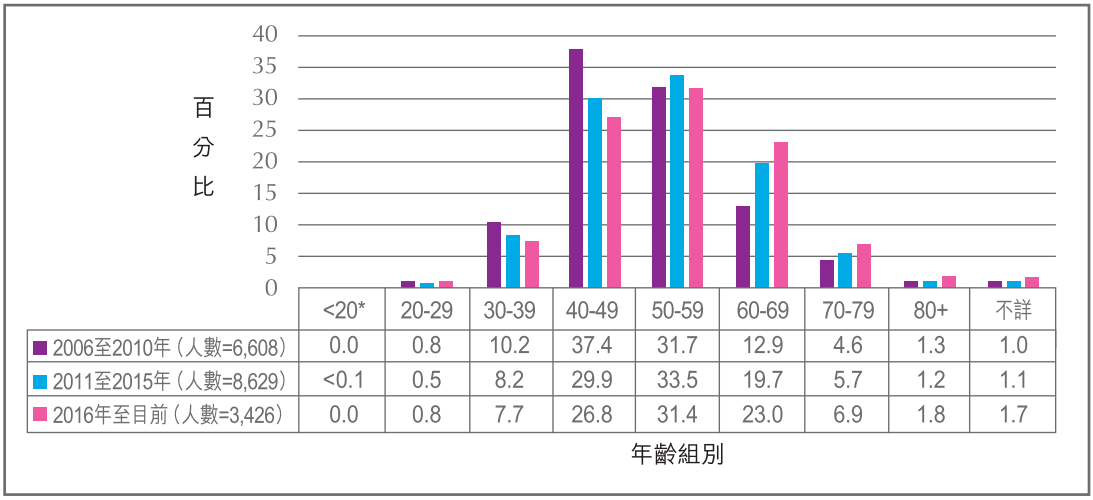
1.2 罹患乳癌的風險普遍隨著年齡增加而上升。[1-2] 表1.1顯示不同年齡的婦女患上乳癌的一生累積風險。[1]

1.3 受訪群組的年齡介乎18歲到101歲之間，約有三分之二（58.2%-69.1%）患者的年齡介乎40歲至59歲（圖1.1）。確診年齡中位數在2006至2010年確診受訪群組，2011至2015年確診受訪群組和2016年至目前確診受訪群組中，分別為50.2歲、52.8歲和54.4歲。不同年齡的患者在病發前有不同的乳房檢查習慣（第IV部分）。

表1.1： 香港婦女罹患乳癌的一生累積風險（2010至2015年的平均數據）

年齡	一生累積風險
30歲之前	每2,818人有1位
35歲之前	每700人有1位
40歲之前	每243人有1位
45歲之前	每105人有1位
50歲之前	每56人有1位
55歲之前	每38人有1位
60歲之前	每29人有1位
65歲之前	每23人有1位
70歲之前	每19人有1位
75歲之前	每17人有1位

圖1.1：確診年齡的分佈（總人數 = 18,663）



	<20*	20-29	30-39	40-49	50-59	60-69	70-79	80+	不詳
2006至2010年（人數=6,608）	0.0	0.8	10.2	37.4	31.7	12.9	4.6	1.3	1.0
2011至2015年（人數=8,629）	<0.1	0.5	8.2	29.9	33.5	19.7	5.7	1.2	1.1
2016年至目前（人數=3,426）	0.0	0.8	7.7	26.8	31.4	23.0	6.9	1.8	1.7

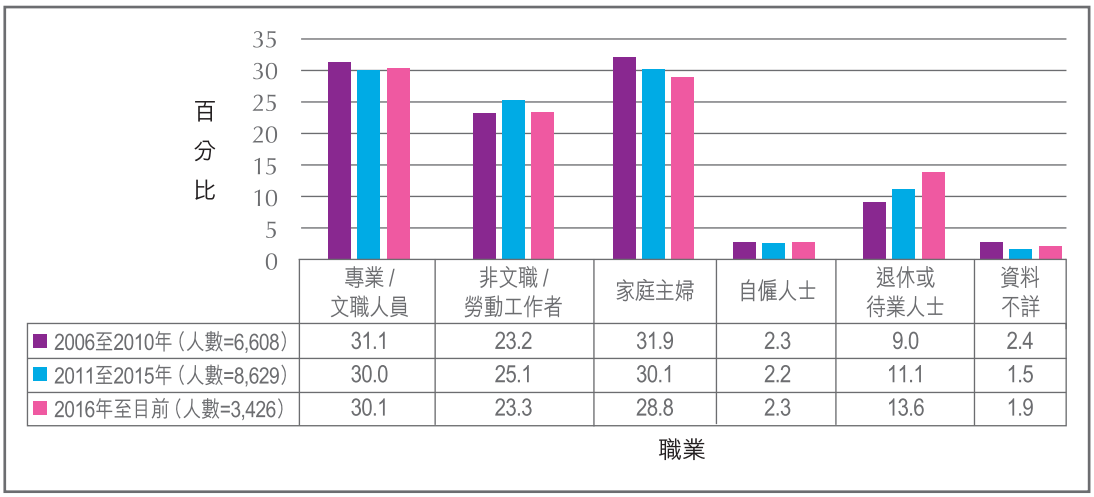
* <20歲的年齡組別只有1名患者在2011至2015年確診受訪群組中

B. 職業

1.4 雖然國際文獻上仍沒有證據顯示患者的職業與乳癌有關，[3]但過去的研究發現夜更工作與乳癌風險增加有關，論據是夜更工作會使人在晚上暴露於人造光源中，令個人的晝夜節律產生紊亂。[4]

1.5 本地研究指出香港女性每周的平均工作時數是43.2小時。[5]受訪群組中，略多於半數患者（55.7%-57.3%）在確診時仍然有工作，其工作時間的中位數為每周45.4至47.6小時（2006-2010：47.6小時；2011-2015：46.4小時；2016-目前：45.4小時）。各受訪群組均有約十分之一的患者需要於夜更工作（2006-2010：9.1%；2011-2015：8.5%；2016-目前：10.4%），夜更工作頻繁度中位數在2006至2010年確診受訪群組為每年76.3個晚上，在2011至2015年確診受訪群組為每年54.7個晚上和在2016年至目前確診受訪群組為56.0個晚上。

圖1.2：受訪群組的職業（總人數 = 18,663）



	專業/文職人員	非文職/勞動工作者	家庭主婦	自僱人士	退休或待業人士	資料不詳
2006至2010年（人數=6,608）	31.1	23.2	31.9	2.3	9.0	2.4
2011至2015年（人數=8,629）	30.0	25.1	30.1	2.2	11.1	1.5
2016年至目前（人數=3,426）	30.1	23.3	28.8	2.3	13.6	1.9

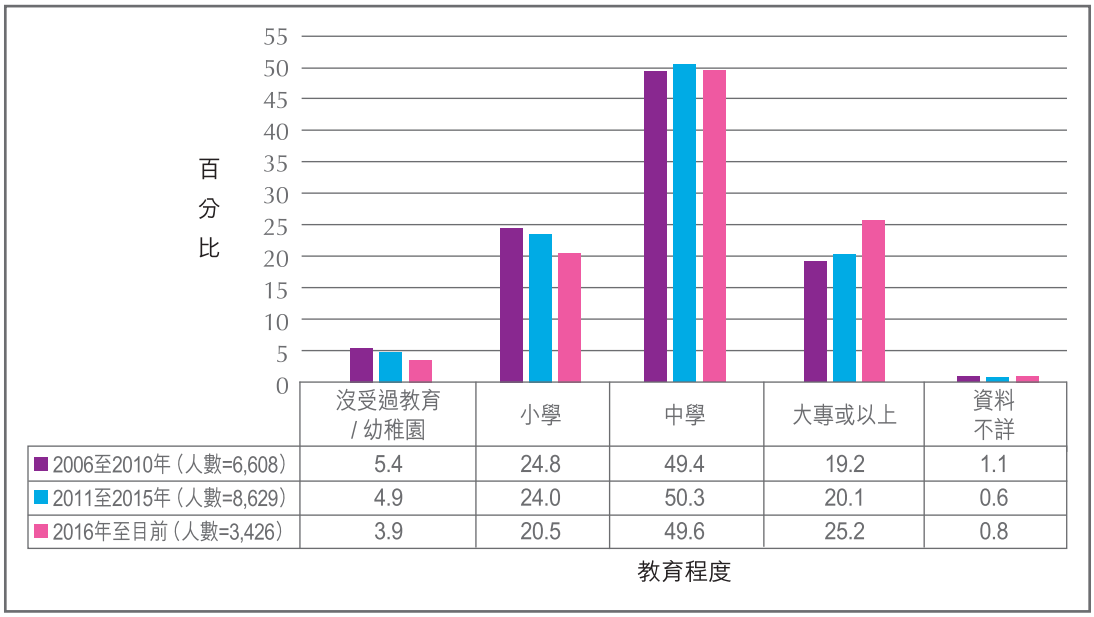
C. 教育程度和每月家庭收入

1.6 研究文獻表示即使居住在同一城市，教育程度較低或每月家庭收入較少的婦女，她們對於預防乳癌的意識較貧乏，同時乳房檢查的習慣也較差。[6,7]

1.7 約有三分之二（68.6%-74.8%）受訪患者有中學或以上的教育程度，少於三分之一（24.4%-30.2%）屬於小學或以下（圖1.3）。相比教育程度高的患者，教育程度低的患者較少會接受定期的乳房檢查（第IV部分）。

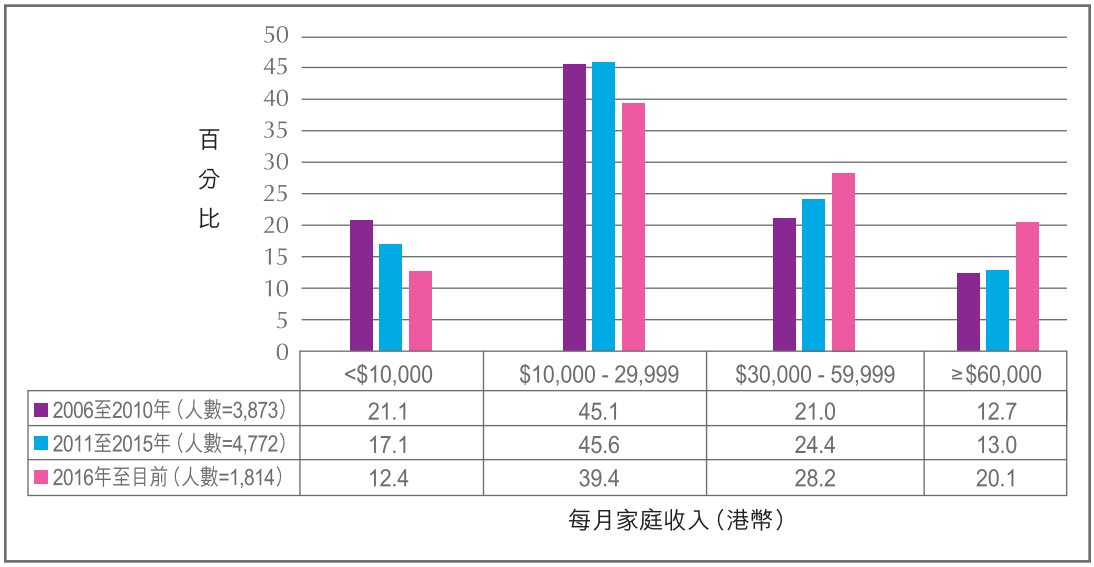
1.8 三個受訪群組中，每月家庭收入為港幣30,000元或以上的比例介乎33.7%至48.3%。而每月家庭收入少於港幣10,000元的三個受訪群組比例介乎12.4%至21.1%之間（圖1.4）。相比每月家庭收入較高的患者，每月家庭收入較低的患者較少會接受定期的乳房檢查（第IV部）。

圖1.3：受訪群組的教育程度（總人數 = 18,663）



	沒受過教育 / 幼稚園	小學	中學	大專或以上	資料不詳
2006至2010年（人數=6,608）	5.4	24.8	49.4	19.2	1.1
2011至2015年（人數=8,629）	4.9	24.0	50.3	20.1	0.6
2016年至目前（人數=3,426）	3.9	20.5	49.6	25.2	0.8

圖1.4：受訪群組的每月家庭收入（港幣）（總人數 = 10,459）

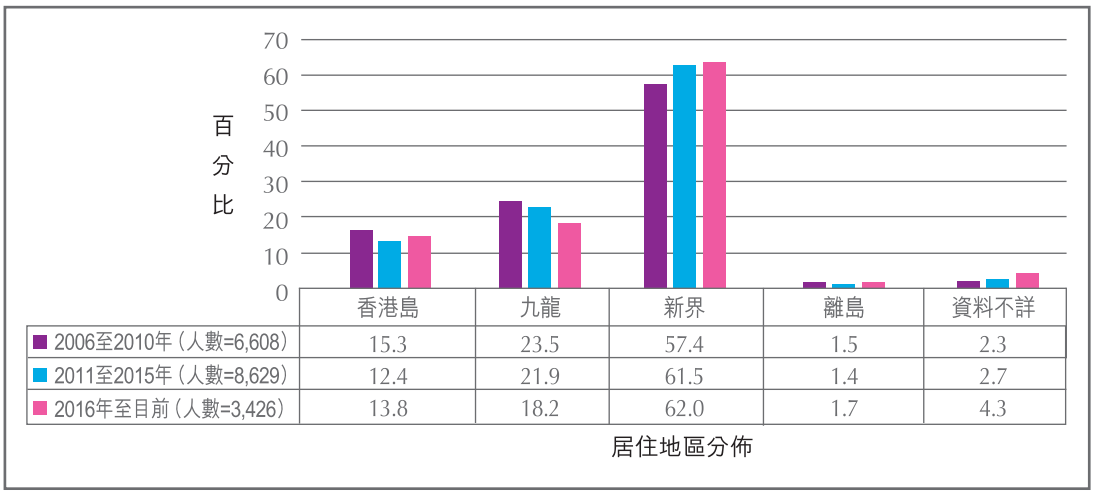


	<$10,000	$10,000 - 29,999	$30,000 - 59,999	≥$60,000
2006至2010年（人數=3,873）	21.1	45.1	21.0	12.7
2011至2015年（人數=4,772）	17.1	45.6	24.4	13.0
2016年至目前（人數=1,814）	12.4	39.4	28.2	20.1

D. 居住地區

1.9 在三個受訪群組中，確診時居住在新界的比率介乎57.4%至62.0%之間，居住在九龍的比率介乎18.2%至23.5%之間，居住在港島的比率介乎12.4%至15.3%之間（圖1.5）。與居住在香港島的患者相比，居住九龍或新界患者的乳房檢查習慣較差（第IV部分）。

圖1.5：受訪群組的居住地區分佈（總人數 = 18,663）



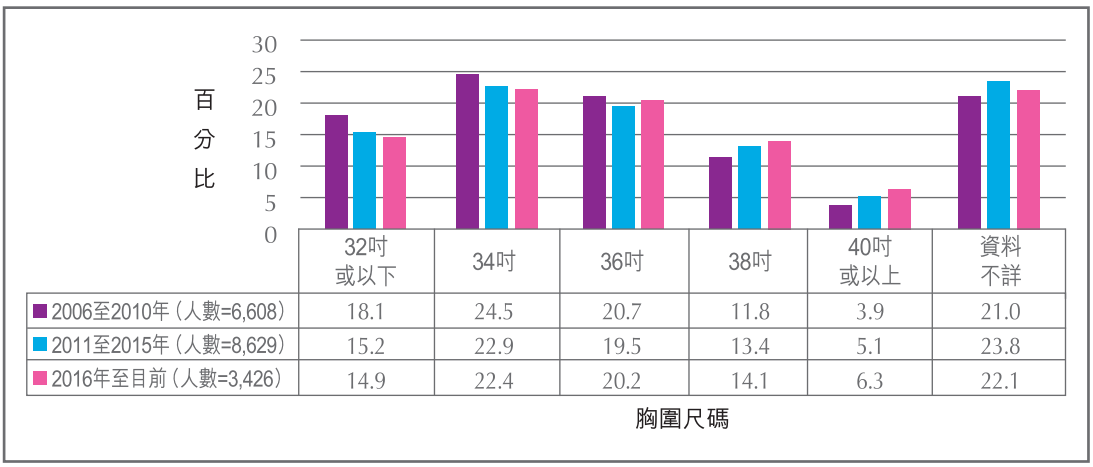
	香港島	九龍	新界	離島	資料不詳
2006至2010年（人數=6,608）	15.3	23.5	57.4	1.5	2.3
2011至2015年（人數=8,629）	12.4	21.9	61.5	1.4	2.7
2016年至目前（人數=3,426）	13.8	18.2	62.0	1.7	4.3

E. 胸圍尺碼及罩杯尺碼

1.10 研究發現較大的胸部尺碼與乳癌是相關的。[8-10] 不過，這些研究對象都是西方國家的女性，而本地則缺乏有關數據支持這個說法。

1.11 三個受訪群組分別有60.9%-63.0%患者的胸圍尺碼是34吋或以上，有15.7%-20.4%患者的胸圍尺碼更是38吋或以上（圖1.6）。至於罩杯尺碼，有近半數（48.3%-52.0%）的罩杯尺碼為B級或以下，只有小部分（3.6%-5.3%）是D級或以上（圖1.7）。

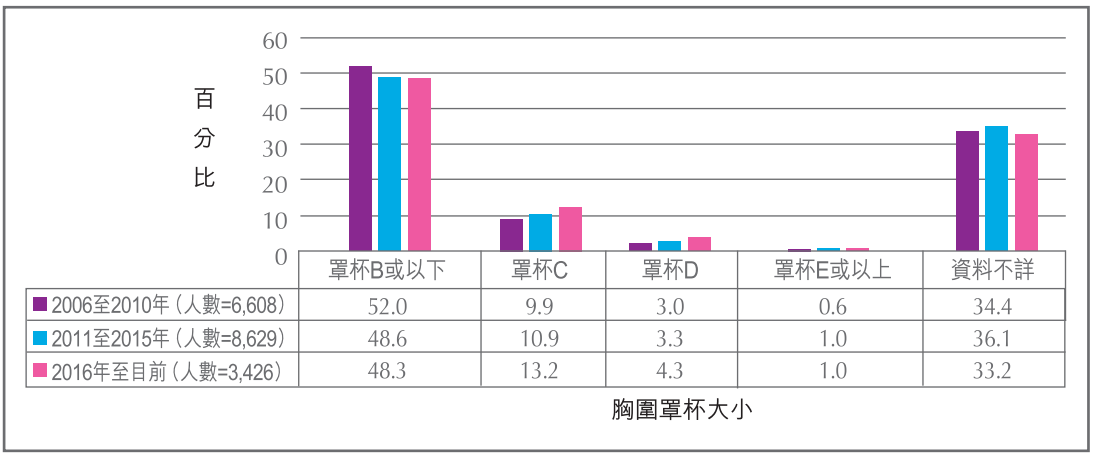
圖1.6：受訪群組的胸圍尺碼（總人數 = 18,663）



	32吋或以下	34吋	36吋	38吋	40吋或以上	資料不詳
2006至2010年（人數=6,608）	18.1	24.5	20.7	11.8	3.9	21.0
2011至2015年（人數=8,629）	15.2	22.9	19.5	13.4	5.1	23.8
2016年至目前（人數=3,426）	14.9	22.4	20.2	14.1	6.3	22.1

胸圍尺碼

圖1.7：受訪群組的胸圍罩杯大小（總人數 = 18,663）



	罩杯B或以下	罩杯C	罩杯D	罩杯E或以上	資料不詳
2006至2010年（人數=6,608）	52.0	9.9	3.0	0.6	34.4
2011至2015年（人數=8,629）	48.6	10.9	3.3	1.0	36.1
2016年至目前（人數=3,426）	48.3	13.2	4.3	1.0	33.2

胸圍罩杯大小

III. 風險因素及健康背景

A. 吸煙

1.12 國際癌症研究機構把吸煙歸類為「很可能導致乳癌的成因」。[9]不過，主動或被動吸煙與乳癌的因果關係仍有待研究。一項研究指出，於2016年，香港有3.2%的婦女有吸煙習慣。[12]

1.13 在三個受訪群組中，少部分患者在確診前有吸煙的習慣（2006-2010：4.5%；2011-2015：4.9%；2016-目前：5.3%）。當中在確診時仍有吸煙習慣的患者在2006至2010年確診受訪群組為38.7%，在2011至2015年確診受訪群組為51.3%和在2016年至目前確診受訪群組為53.0%。戒煙少於一年或仍有吸煙習慣的患者中，在確診前十二個月內平均每周吸煙3.6至4.1包（2006-2010：4.1包；2011-2015：3.6包；2016-目前：3.7包）。

B. 飲酒

1.14 世界衛生組織已經將酒精飲品列為第一組別的乳癌致癌物，並適用於所有年齡組別的人士。[4,13]飲用酒精越多，乳癌風險也越高：劑量與效應的綜合分析顯示，每天飲用每10克酒精（一個標準酒精飲品，大約相當於一罐330毫升啤酒、一杯100毫升餐酒或一杯30毫升高濃度酒精飲品）會增加5%的乳癌風險（未收經的婦女）及9%的乳癌風險（收經後的婦女）。[13]一項研究發現，在2016年，香港有10.4%婦女最少每周飲酒精飲品一次。[14]

1.15 受訪者被詢問有關確診前的飲酒習慣，表示甚少或偶爾飲酒，即是十二個月內少於5杯的患者，則不會歸類為有飲酒習慣。

1.16 三個受訪群組中，只有小部分的患者曾有喝酒的習慣（2006-2010：4.8%；2011-2015：4.8%；2016-目前：7.3%）。當中31.7%-44.6%患者在確診時仍有飲酒習慣（2006-2010：31.7%；2011-2015：42.5%；2016-目前：44.6%）。戒酒少於一年或仍有飲酒習慣的患者中，在確診前十二個月內平均每周飲5.4 - 6.1杯酒（2006 - 2010：6.1杯；2011 - 2015：5.7杯；2016-目前：5.4杯）。各受訪群組均以飲用紅酒和啤酒最為常見。

C. 飲食、運動習慣及精神壓力水平

1.17 縱然過去有不少有關飲食對乳癌風險影響的研究，迄今大部分研究結果都各自表述，未能定論。另一方面，研究顯示運動能幫助收經後婦女預防患上乳癌，[13]收經後婦女的人體脂肪增加時，乳癌的風險也相繼增加，故此婦女應該限制熱量攝取並經常做運動，以保持健康體重和人體脂肪水平。

1.18 各受訪群組均有超過三分之二（67.8%-70.7%）的患者飲食均衡，多於十分之一（13.5%-14.4%）患者飲食含豐富肉類 / 乳類製品（圖1.8）。少於四分之一（21.0%-23.1%）患者確診前每周運動三小時或以上，而35.1%-49.9%的患者確診前一年內從不運動（圖1.9）。

1.19 現存的研究尚未能確定精神壓力為乳癌的一項風險因素，需要作進一步研究。不過，一些研究顯示，長期承受壓力的人可能會衍生一些與乳癌風險因素有關的習慣，例如吸煙或喝酒，從而有可能增加患癌症的風險。各個受訪群組中，略多於三分之一（36.0%-37.2%）在確診前一年內曾承受高度壓力（圖1.10）。

圖1.8：確診前的飲食習慣（總人數 = 18,663）

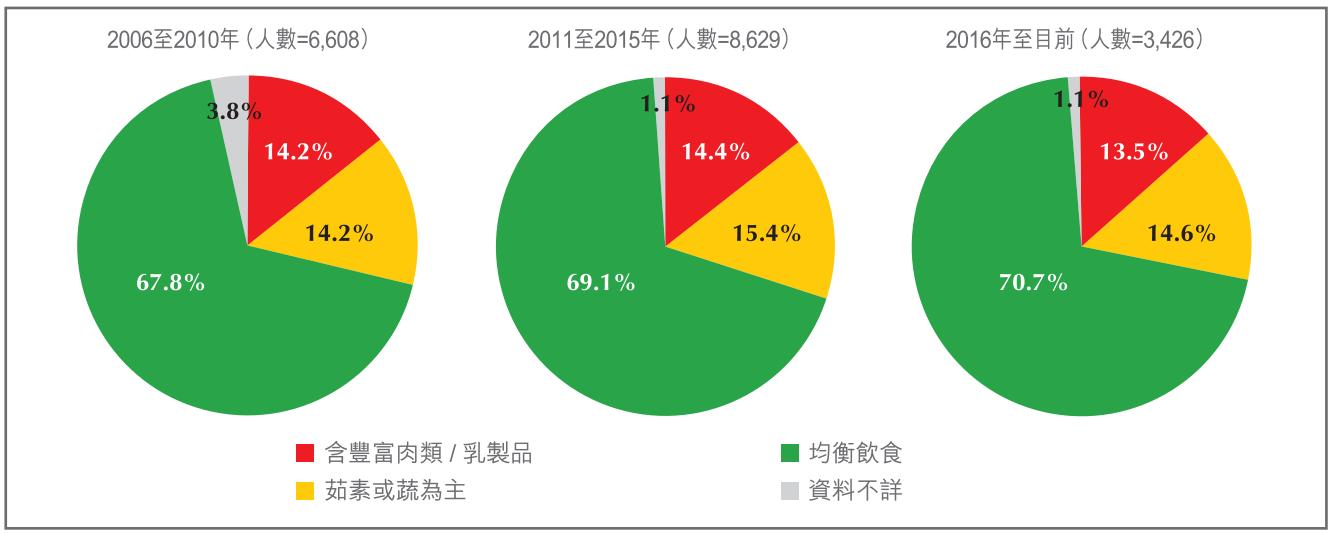


圖1.9：確診前的運動習慣（總人數 = 18,663）

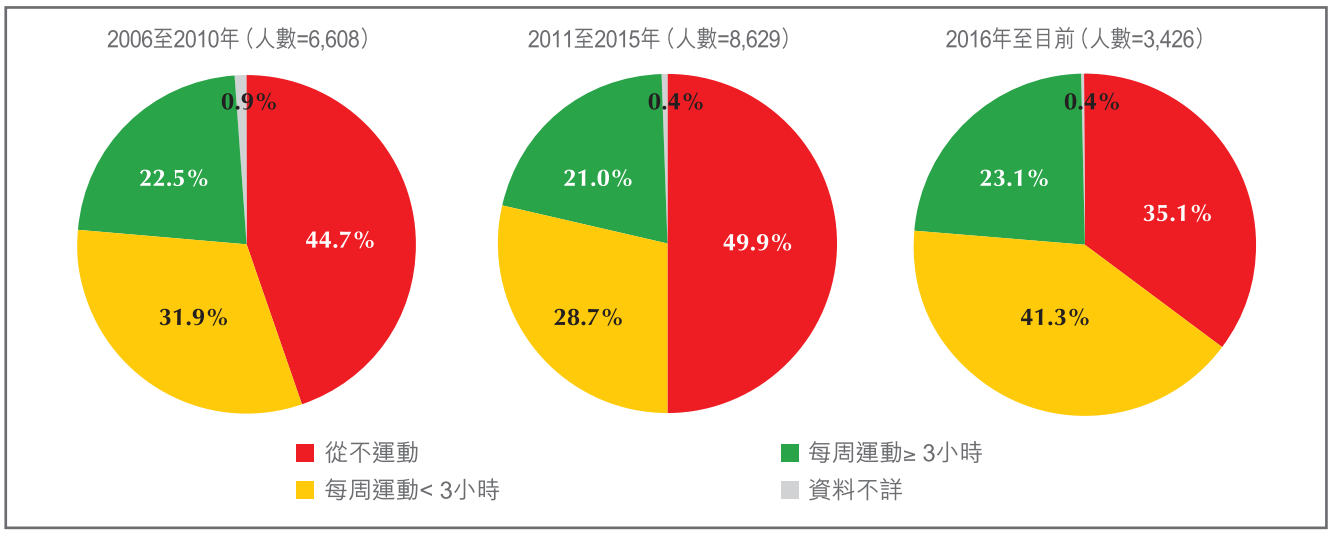
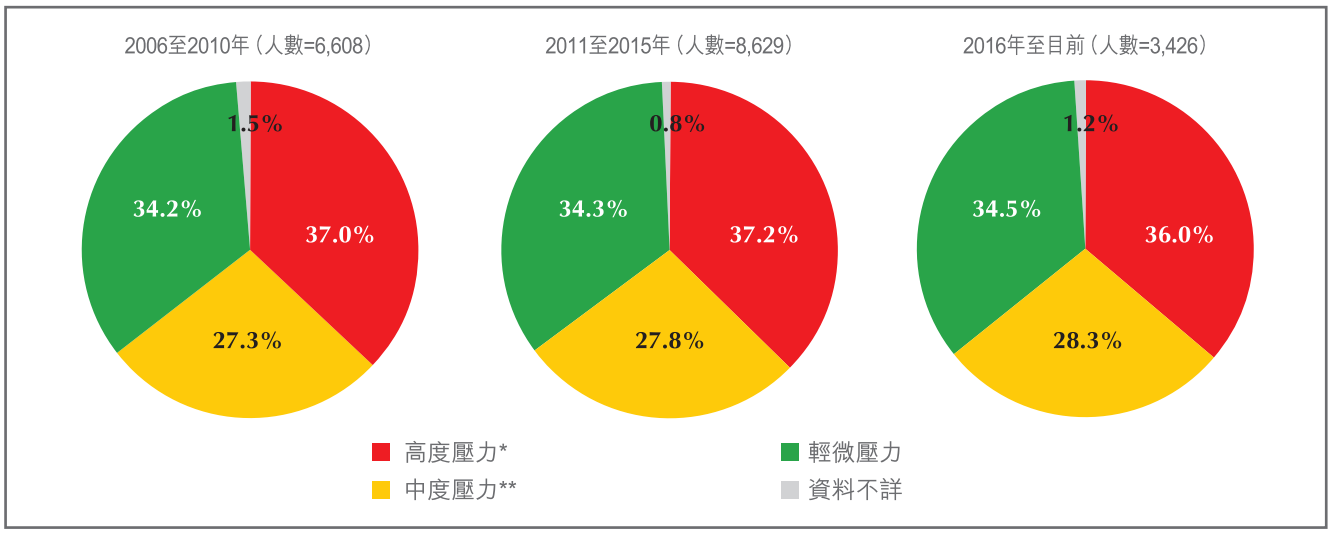


圖1.10：確診前的精神壓力水平（總人數 = 18,663）



*高度壓力：多於一半時間

**中度壓力：25-50%時間

D. 身高、體重及體重指數

1.20 體重指數（BMI）是根據個人身高和體重來評估人體脂肪量的探索式方法，計算方法是把體重（公斤）除以身高（米）的平方。亞洲女性的過重和肥胖標準分別設定為體重指數23.0至24.9和25.0或以上。肥胖是乳癌風險因素。[15] 一項研究顯示，在2016年，香港有16.3%和14.2%的女性是分別屬於過重和肥胖。[16]

1.21 三個受訪群組的平均身高均為157.9厘米。而平均體重則介乎56.8公斤至58.0公斤之間。各個受訪群組的體重分佈相約，約有五分之二（37.1%-39.3%）患者在確診時屬於過重或肥胖（表1.2）。

表1.2：確診前的體重指數（總人數 = 18,663）

	2006至2010年（人數=6,608） %	2011至2015年（人數=8,629） %	2016年至目前（人數=3,426） %
≥ 25.0（肥胖）	20.3	22.1	23.7
23.0-24.9（過重）	16.8	17.2	15.3
18.5-22.9（正常）	42.3	40.1	39.8
< 18.5（過輕）	7.1	6.2	5.5
資料不詳	13.5	14.4	15.8

E. 家族乳癌病史

1.22 研究發現，有直系親屬罹患乳癌的婦女，比沒有直系親屬患乳癌的婦女的乳癌風險較高。如果有較多直系親屬患乳癌，或這些親屬在50歲前患乳癌，則有關婦女罹患乳癌的風險更高。[17,18] 三個受訪群組中有家族乳癌史的患者介乎14.1%至16.9%（表1.3）。

F. 個人非乳房腫瘤病歷

1.23 國際研究發現曾經罹患某些種類癌症的婦女，患上乳癌的風險會較高，這些癌症包括霍傑金淋巴瘤、黑色素瘤、肺腺癌、腸癌、子宮癌、慢性淋巴細胞性白血病，或兒童時期曾經患上癌症。[19-24] 另一方面，宮頸鱗狀細胞癌的康復者患上乳癌的風險則較低。[23,24] 三個受訪群組有1.6%至2.0%患者曾罹患其他種類的惡性腫瘤（表1.4）。這些惡性腫瘤當中，以甲狀腺癌最為常見（16.4%-20.9%）（表1.5）。

表1.3：確診前的家族乳癌病歷（總人數 = 18,663）

	2006至2010年（人數=6,608）%	**2011至2015年（人數=8,629）%**	**2016年至目前（人數=3,426）%**
沒有	84.6	84.5	82.1
有			
直系親屬	9.8	10.4	12.4
非直系親屬	4.0	4.0	4.4
資料不詳	0.3	0.1	0.1
乳癌家族史資料不詳	1.3	1.0	0.9

表1.4：確診前的個人非乳房腫瘤病歷（總人數 = 18,663）

	2006至2010年（人數=6,608）%	**2011至2015年（人數=8,629）%**	**2016年至目前（人數=3,426）%**
沒有	81.8	81.7	81.1
良性腫瘤	13.7	15.3	15.8
惡性腫瘤	1.9	1.6	2.0
腫瘤性質不詳	0.5	0.3	0.3
腫瘤病歷不詳	2.1	1.1	0.9

表1.5：患者曾患惡性腫瘤的身體部位（總人數 = 327）

	2006至2010年（人數=126）		2011至2015年（人數=134）		2016年至目前（人數=67）	
	人數	%	人數	%	人數	%
甲狀腺	21	16.7	22	16.4	14	20.9
大腸	18	14.3	20	14.9	9	13.4
子宮	9	7.1	23	17.2	14	20.9
子宮頸	11	8.7	10	7.5	2	3.0
卵巢	6	4.8	7	5.2	6	9.0
肺	2	1.6	12	9.0	5	7.5
鼻咽	9	7.1	3	2.2	2	3.0
小腸	2	1.6	6	4.5	5	7.5
血液	1	0.8	1	0.7	0	0.0
淋巴	3	2.4	4	3.0	2	3.0
肝	1	0.8	4	3.0	2	3.0
骨	1	0.8	2	1.5	0	0.0
食道	1	0.8	3	2.2	0	0.0
皮膚	2	1.6	2	1.5	1	1.5
胃	3	2.4	0	0.0	1	1.5
泌尿系統	1	0.8	3	2.2	0	0.0
肌肉	1	0.8	1	0.7	1	1.5
腦	0	0.0	2	1.5	0	0.0
舌	1	0.8	1	0.7	0	0.0
骨盆腔	0	0.0	1	0.7	0	0.0
其他	3	2.4	3	2.2	1	1.5
資料不詳	38	30.2	9	6.7	5	7.5

*其他癌症包括：輸卵管、髓質、頸、口腔、腮腺及唾腺

G. 良性乳房狀況及癌症前的乳房病變病歷

1.24 研究發現若婦女曾患有某些種類的良性乳房狀況或癌症前的乳房病變，患上乳癌的風險會有所增加。良性乳房狀況分為三類：非增生性病變，無非典型增生性病變和非典型增生。非增生性病變的例子有纖維乳腺瘤或其他囊變性纖維瘤，一般而言不會增加患上乳癌的風險。[25] 另一方面，無非典型增生性病變，例如乳頭狀瘤或乳頭狀瘤病，以及非典型增生如非典型導管或小葉增生都與乳癌風險增加有關。[25] 乳小葉原位癌是癌症前乳房病變的一種，也會增加婦女罹患乳癌的風險。

1.25 三個受訪群組有12.1%至14.9%患者曾患有良性乳房狀況（表1.6），不會增加患上乳癌風險的纖維乳腺瘤最常見（44.8%-51.3%）。只有十名患者曾患有與乳癌風險增加有關的非典型導管增生和兩名患者在確診乳癌前曾患有乳小葉原位癌（表1.6）。

表1.6：確診前的乳房狀況或疾病病歷（總人數 = 18,663）

	2006至2010年（人數=6,608） %	2011至2015年（人數=8,629） %	2016年至目前（人數=3,426） %
乳房疾病病歷	**14.0**	**14.9**	**12.1**
乳房疾病的種類			
纖維乳腺瘤	44.8	48.6	51.3
囊變性纖維瘤	17.6	15.0	14.2
乳頭狀瘤	2.3	0.9	1.7
乳頭狀瘤病	0.4	0.1	0.2
非典型導管增生	0.6	0.3	0.0
乳小葉原位癌	0.0	0.2	0.0
其他（如乳腺增生、其他良性腫瘤）	28.1	30.1	23.4
資料不詳	8.7	6.7	11.1

H. 患者提早初經，延遲收經和生育紀錄

1.26 研究顯示婦女的生理現象，例如提早初經（12歲前），延遲收經（55歲後），沒有生育和第一胎晚育（35歲後）都會增加她們一生中受雌激素的影響的時間及程度，從而增加罹患乳癌的風險。相反，延遲初經、提早收經、有生育經驗和較早生育第一胎都會減低乳癌的風險。[13]

1.27 三個受訪群組當中，初經的平均年齡均為13歲，而13.4%至14.3%患者有提早初經的情況（表1.7）。各受訪群組大約半數患者在確診時已經收經（2006-2010：49.3%；2011-2015：53.4%；2016-目前：57.9%），而各受訪群組均有少部份患者有延遲收經的情況（4.8%-5.9%）。此外，確診癌症時未曾生育的患者介乎20.3%至25.6%之間，只有少數（3.5%-4.8%）患者在35歲後生育第一胎（表1.7）。約有70%（69.3%-72.7%）患者曾生育兩個或以上子女（表1.8），而各個受訪群組第一胎平均的生育年齡均為27歲。

1.28 婦女餵哺母乳可以預防患上乳癌，並適用於所有年齡組別的婦女。[13]各個受訪群組均有約三分之一（31.3%-33.7%）患者曾餵哺母乳，平均哺乳時間介乎13.5個月至16.4個月之間（表1.7）。

表1.7：確診前初經、收經及生育紀錄

	2006至2010年 %	2011至2015年 %	2016年至目前 %
初經（總人數=18,663）	（人數=6,608）	（人數=8,629）	（人數=3,426）
提早初經（<12歲）	13.4	14.3	14.2
正常初經（≥12歲）	79.5	77.3	76.7
年齡不詳	7.1	8.5	9.1
更年期（總人數=9,843）	（人數=3,255）	（人數=4,605）	（人數=1,983）
延遲收經（>55歲）	4.8	5.9	5.0
正常收經（≤55歲）	82.6	81.5	79.9
收經年齡不詳	12.6	12.6	15.1
生育紀錄（總人數=18,663）	（人數=6,608）	（人數=8,629）	（人數=3,426）
沒有生育	20.3	23.8	25.6
首次生育（≤35歲）	69.9	69.4	66.7
首次生育（>35歲）	3.5	4.4	4.8
首次生育年齡不詳	2.6	2.2	2.4
生育紀錄不詳	3.7	0.2	0.6
餵哺母乳（總人數=18,663）	（人數=6,608）	（人數=8,629）	（人數=3,426）
有	31.3	32.5	33.7
沒有（曾生育）	43.7	43.2	39.9
沒有（不曾生育）	20.3	23.8	25.6
沒有（生育紀錄不詳）	0.5	0.1	0.1
資料不詳	4.2	0.4	0.8

表1.8：受訪群組的生育次數（總人數 = 14,106）

	2006至2010年 （人數=5,022） %	2011至2015年 （人數=6,554） %	2016年至目前 （人數=2,530） %
1	26.6	28.8	30.2
2	44.6	44.6	46.0
3	17.5	16.7	16.7
4	6.3	6.0	4.5
5	2.4	2.0	0.9
6	1.3	1.0	0.9
7	0.5	0.4	0.2
8	0.1	0.2	<0.1
9+	0.1	0.1	0.0
資料不詳	0.7	0.3	0.5

I. 使用荷爾蒙避孕劑

1.29 荷爾蒙避孕劑含有人工合成的性荷爾蒙，使用的形式可以是口服藥片、注射、植入和透皮貼劑。雖然國際癌症研究機構把目前或近期使用雌激素－黃體酮混合口服避孕劑列為乳癌成因之一，但是最近的研究指出婦女停止服用口服避孕劑十年或以上後，患上乳癌的風險會回復正常。[4] 然而乳癌風險與注射式或植入式避孕劑之間的關係，卻有不一致的研究結果。[26-30] 有見荷爾蒙避孕劑與乳癌關係的研究結果不一致，故此需要進一步探索兩者的關係才有結論。

1.30 三個受訪群組當中未曾使用荷爾蒙避孕劑的患者佔65.1%至73.2%（表1.9）。曾使用荷爾蒙避孕劑的患者中，大部分在確診癌症時已經停止使用（2006-2010：69.4%；2011-2015：87.4%；2016-目前：80.8%）。而各受訪群組停止使用的平均年期介乎17.5年至20.3年（2006-2010：17.5年；2011-2015：19.4年；2016-目前：20.3年）。

表1.9：確診前使用荷爾蒙避孕劑的情況（總人數 = 18,663）

	2006至2010年（人數=6,608）%	2011至2015年（人數=8,629）%	2016年至目前（人數=3,426）%
沒有服用	65.1	69.0	73.2
服用少於5年	14.5	15.1	12.3
服用了5-10年	8.2	7.5	5.9
服用超過10年	3.8	3.0	2.2
服用年期不詳	5.2	4.7	5.4
使用與否不詳	3.3	0.7	1.0

J. 使用荷爾蒙補充劑療法

1.31 荷爾蒙補充劑治療使用含有人工合成性荷爾蒙，用以紓緩婦女收經後出現的不適。國際癌症研究機構把目前用於紓緩婦女收經後不適的雌激素－黃體酮混合劑列為乳癌成因之一。[4] 在三個受訪群組的已收經患者中，小部份（4.3%-8.8%）曾使用荷爾蒙補充劑療法。只有1.8%至3.1%使用超過五年（表1.10）。

表1.10：已收經患者在確診前使用荷爾蒙補充劑的情況（總人數 = 9,843）

	2006至2010年（人數=3,255）%	2011至2015年（人數=4,605）%	2016年至目前（人數=1,983）%
沒有服用	87.3	92.9	94.7
服用少於5年	4.7	3.5	2.0
服用了5-10年	2.5	2.0	1.4
服用超過10年	0.6	0.5	0.4
服用年期不詳	1.0	0.4	0.5
使用與否不詳	3.8	0.7	1.1

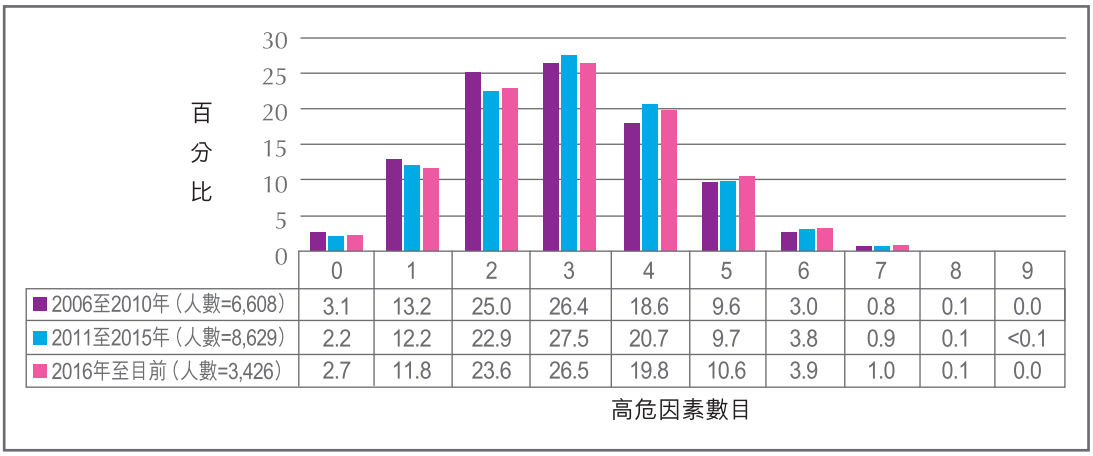
K. 患者十大高危因素

1.32 三個受訪群組中，缺乏運動是最常見的高危因素其次是從未餵哺母乳以及超重/肥胖（表1.11）。多項高危因素累積會增加罹患乳癌的風險。各受訪群組中，五分之三（58.5%-62.7%）的患者有三項或以上的高危因素，而多於三分之一（35.1%-38.2%）則有一至兩項高危因素，只有小部分（2.2%-3.1%）患者並沒有任何常見的高危因素（圖1.11）。

表1.11：受訪群組罹患乳癌十大高危因素（總人數 = 18,663）

	2006至2010年（人數=6,608）%	2011至2015年（人數=8,629）%	2016年至目前（人數=3,426）%
缺乏運動（每周少於3小時）	76.5	78.6	76.5
從未餵哺母乳	64.5	67.1	65.5
超重/肥胖	37.1	39.3	39.0
高度精神壓力（超過一半時間）	37.0	37.2	36.0
沒有生育/35歲後首次生育	23.8	28.2	30.4
有家族乳癌病史	14.1	14.5	17.0
飲食含豐富肉類/乳類製品	14.2	14.4	13.5
提早初經（<12歲）	13.4	14.3	14.2
飲酒	4.8	4.8	7.3
曾使用荷爾蒙補充劑治療	4.4	3.4	2.5

圖1.11：患者確診前擁有的乳癌高危因素數目分佈（總人數 = 18,663）



	0	1	2	3	4	5	6	7	8	9
2006至2010年（人數=6,608）	3.1	13.2	25.0	26.4	18.6	9.6	3.0	0.8	0.1	0.0
2011至2015年（人數=8,629）	2.2	12.2	22.9	27.5	20.7	9.7	3.8	0.9	0.1	<0.1
2016年至目前（人數=3,426）	2.7	11.8	23.6	26.5	19.8	10.6	3.9	1.0	0.1	0.0

IV. 乳房檢查習慣

A. 乳房檢查方法

1.33 乳房檢查是指在婦女沒有任何乳癌跡象或徵狀時檢查乳房，以達到及早發現乳癌的目的。及早發現可以減低乳癌的死亡率。檢測乳癌有三種方法，包括自我檢查、臨床乳房檢查、乳房X光造影檢查。婦女可自己進行自我檢查，檢查乳房是否有硬塊，觀察乳房大小和形狀上的變化，還有乳房和腋下的其他任何變化。臨床乳房檢查需要由醫生或護士等專業醫護人員進行，透過雙手觸檢來檢查有沒有硬塊或其他變化。乳房X光造影檢查是目前乳房檢查的標準測試，使用低能量X光來檢查婦女的乳房。

1.34 香港乳癌基金會建議40歲以上的婦女需提高乳房健康的自覺性，每月自我檢查乳房，並接受定期的臨床乳房檢查和乳房X光造影檢查。對於乳房密度較高的婦女，除了乳房X光造影檢查之外，也可能需要接受乳房超聲波檢查。香港現時並沒有為婦女推行全民乳房篩檢計劃，本報告書所報告的都是婦女在確診癌症前的自發性乳房檢查習慣。

B. 乳房檢查習慣與年齡

1.35 三個受訪群組的乳房檢查習慣（即是自發的乳房檢查習慣）及年齡組別的關係可見於表1.12。少於四分之一患者定期進行自我乳房檢查、乳房X光造影檢查及乳房超聲波檢查。60歲以下患者當中，約有30%-40%有定期接受臨床乳房檢查，不過，該比例在60至69歲（24.7%-26.5%）及70歲或以上（9.1% - 11.5%）的患者則有所下降（表1.12）。除了40歲以下的患者外，從沒有接受自我乳房檢查、臨床乳房檢查和超聲波乳房檢查的比例與年齡成正比。此外，高比率（58.0%-85.6%）的40歲或以上的患者在確診前從沒接受過乳房X光造影檢查（表1.12）。

表1.12：按年齡分析檢查乳房的習慣（總人數 = 18,450）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	<40			40-49			50-59			60-69			70+		
自我檢查															
從不	35.8	38.2	39.7	34.6	37.2	30.9	40.9	36.7	36.2	47.6	42.5	43.9	66.4	54.2	57.8
不定期	43.1	43.2	37.9	39.4	42.1	46.1	33.5	41.9	42.0	29.8	37.5	37.0	21.5	30.3	26.4
每月	19.4	17.8	21.7	24.1	20.3	21.6	23.3	20.1	20.3	20.6	19.1	18.1	10.1	14.7	15.2
資料不詳	1.6	0.8	0.7	1.9	0.4	1.4	2.2	1.2	1.5	2.0	0.9	1.0	2.0	0.8	0.7
臨床乳房檢查															
從不	45.8	53.0	54.5	38.3	44.8	43.2	45.7	44.2	45.4	60.3	57.3	55.3	80.1	77.3	76.6
不定期	13.0	14.0	14.8	13.0	14.9	18.9	11.7	16.8	18.7	11.5	14.7	19.0	8.3	9.5	13.2
定期*	39.4	32.6	29.7	47.1	39.5	36.6	40.4	38.0	34.9	25.9	26.5	24.7	9.1	11.5	9.2
資料不詳	1.8	0.4	1.0	1.5	0.8	1.3	2.1	1.0	1.1	2.3	1.6	1.0	2.5	1.7	1.0
乳房X光造影檢查#															
從不	——			67.0	71.1	63.5	64.3	63.1	58.0	70.5	66.9	62.7	85.6	85.2	81.4
不定期	——			10.4	10.9	15.8	10.8	13.3	16.1	10.9	12.4	16.9	6.6	7.0	12.2
定期*	——			20.6	17.3	19.9	22.6	22.6	24.7	16.5	19.2	18.6	5.1	6.0	6.1
資料不詳	——			2.0	0.7	0.9	2.2	1.1	1.2	2.1	1.4	1.8	2.8	1.8	0.3
乳房超聲波檢查#															
從不	——			66.9	69.4	60.1	69.9	68.4	60.3	76.9	75.5	70.6	85.1	88.5	82.4
不定期	——			10.1	10.5	15.7	9.3	11.9	14.9	8.7	9.2	13.9	6.6	5.2	11.1
定期*	——			18.7	19.4	23.2	16.5	18.6	23.2	10.0	13.1	13.8	4.0	5.2	5.1
資料不詳	——			4.3	0.8	1.0	4.3	1.1	1.6	4.5	2.2	1.6	4.3	1.2	1.4

按年齡劃分參與自我檢查和臨床乳房檢查的各個受訪群組人數：

<40: 731（2006至2010年），757（2011至2015年），290（2016年至目前）

40-49: 2,470（2006至2010年），2,583（2011至2015年），919（2016年至目前）

50-59: 2,094（2006至2010年），2,893（2011至2015年），1,076（2016年至目前）

60-69: 853（2006至2010年），1,704（2011至2015年），789（2016年至目前）

70+: 396（2006至2010年），600（2011至2015年），295（2016年至目前）

按年齡劃分參與乳房X光造影檢查和乳房超聲波檢查的各個受訪群組人數：

40-49: 2,470（2006至2010年），2,583（2011至2015年），919（2016年至目前）

50-59: 2,094（2006至2010年），2,893（2011至2015年），1,076（2016年至目前）

60-69: 853（2006至2010年），1,704（2011至2015年），789（2016年至目前）

70+: 396（2006至2010年），600（2011至2015年），295（2016年至目前）

*「定期」的定義為每隔1-3年檢查一次

只包括40歲或以上患者

C. 乳房檢查習慣和教育程度

1.36 乳房檢查習慣與教育程度的關係可見於表1.13，結果發現在確診乳癌前，教育程度愈低的患者，愈少有乳房檢查的習慣。三個受訪群組分別有59.8%-72.9%沒受過教育或幼稚園教育程度的患者從未進行過自我乳房檢查，相比只有

24.5%-29.6%大專或以上的患者明顯較多。至於臨床乳房檢查、乳房X光造影檢查和乳房超聲波檢查也有同樣的情況，三個受訪群組中沒有接受過臨床乳房檢查的由74.9%-78.2%降至29.6%-33.3%，沒有接受乳房X光造影檢查由85.6%-88.1%降至47.0%-53.2%，而沒有接受乳房超聲波檢查則由87.9%-90.5%降至46.5%-55.1%。

表1.13：按教育程度分析檢查乳房的習慣（總人數 = 18,507）

	教育程度 2006至2010年（%），2011至2015年（%），2016年至目前（%）											
	沒受過教育 / 幼稚園			小學			中學			大專或以上		
自我檢查												
從不	67.9	59.8	72.9	51.8	45.8	49.9	38.0	38.4	37.4	24.5	29.6	26.4
不定期	20.4	26.6	18.8	26.7	35.5	32.5	35.8	39.4	40.0	50.7	52.0	51.2
每月	10.3	13.2	8.3	20.4	18.0	16.7	24.4	21.5	21.6	21.9	17.3	20.6
資料不詳	1.4	0.5	0.0	1.2	0.7	0.9	1.8	0.8	1.1	2.8	1.1	1.8
臨床乳房檢查												
從不	74.9	75.3	78.2	62.2	62.0	65.3	42.7	48.9	50.8	29.6	33.3	33.1
不定期	8.9	10.8	9.8	9.6	13.1	17.1	11.8	15.0	17.8	17.3	18.5	20.9
定期*	14.5	13.4	12.0	27.1	24.3	16.8	43.3	35.1	30.7	51.2	46.8	43.8
資料不詳	1.7	0.5	0.0	1.1	0.6	0.7	2.2	1.0	0.7	1.9	1.4	2.2
乳房X光造影檢查#												
從不	87.1	85.6	88.1	78.7	75.7	70.7	66.2	68.1	63.7	47.0	53.2	49.1
不定期	3.4	7.8	6.3	8.2	9.7	16.0	10.4	11.5	15.2	16.5	17.3	19.0
定期*	8.6	5.9	4.8	11.6	13.9	12.4	21.1	19.2	20.2	34.0	28.6	29.8
資料不詳	0.9	0.7	0.8	1.5	0.7	0.9	2.3	1.2	0.9	2.5	1.0	2.1
乳房超聲波檢查#												
從不	87.9	88.0	90.5	80.9	81.1	75.7	69.5	71.4	66.3	51.2	55.1	46.5
不定期	2.3	5.4	6.3	6.7	7.3	13.4	9.4	10.4	13.5	16.0	16.0	19.3
定期*	8.3	5.9	2.4	9.3	10.6	9.9	17.1	17.0	19.0	25.4	27.4	32.0
資料不詳	1.4	0.7	0.8	3.1	1.0	1.0	4.0	1.2	1.1	7.4	1.6	2.2

按教育程度劃分參與自我檢查和臨床乳房檢查的各個受訪群組人數：

沒受過教育 / 幼稚園：358（2006至2010年），425（2011至2015年），133（2016年至目前）

小學：1,640（2006至2010年），2,074（2011至2015年），701（2016年至目前）

中學：3,264（2006至2010年），4,340（2011至2015年），1,701（2016年至目前）

大專或以上：1,271（2006至2010年），1,735（2011至2015年），865（2016年至目前）

按教育程度劃分參與乳房X光造影檢查和乳房超聲波檢查的各個受訪群組人數：

沒受過教育 / 幼稚園：348（2006至2010年），410（2011至2015年），126（2016年至目前）

小學：1,596（2006至2010年），2,041（2011至2015年），686（2016年至目前）

中學：2,862（2006至2010年），3,913（2011至2015年），1,568（2016年至目前）

大專或以上：942（2006至2010年），1,366（2011至2015年），677（2016年至目前）

*「定期」的定義為每隔1-3年檢查一次

只包括40歲或以上患者

D. 乳房檢查習慣和每月家庭收入

1.37 乳房檢查習慣與每月家庭收入的關係可見於表1.14，結果發現在確診乳癌之前，每月家庭收入愈低的患者，愈少有乳房檢查的習慣。各個受訪群組中，40.9%-45.7%每月家庭收入為少於港幣10,000元的患者從未進行過自我乳房檢查，相比19.1%-23.2%每月家庭收入為港幣60,000元或以上的患者明顯較多。至於臨床乳房檢查、乳房X光造影檢查和乳房超聲波檢查也有同樣的情況，沒有接受過臨床乳房檢查的患者由58.2%-59.2%降至17.4%-21.5%，沒有接受乳房X光造影檢查由64.9%-76.9%降至35.3%-42.9%，而沒有接受乳房超聲波檢查則由71.1%-80.6%降至41.5%-46.2%。

表1.14：按每月家庭收入（港幣）分析檢查乳房的習慣（總人數 = 10,459）

	每月家庭收入（港幣） 2006至2010年（%），2011至2015年（%），2016年至目前（%）											
	<10,000			10,000-29,999			30,000-59,999			≥60,000		
自我檢查												
從不	45.7	43.3	40.9	36.0	37.0	39.9	28.2	31.7	27.8	19.1	23.2	22.5
不定期	33.6	37.9	41.3	37.1	43.9	36.6	47.6	48.5	50.9	56.4	57.9	55.2
每月	18.3	18.2	16.9	25.3	18.3	22.7	21.9	19.4	20.4	22.1	17.4	21.2
資料不詳	2.4	0.6	0.9	1.5	0.7	0.8	2.3	0.5	1.0	2.4	1.5	1.1
臨床乳房檢查												
從不	59.2	59.0	58.2	41.3	44.1	52.2	29.8	32.6	35.2	17.4	21.5	21.4
不定期	12.2	14.5	17.8	12.2	16.6	15.4	14.8	18.5	20.2	16.2	19.7	25.3
定期*	26.7	25.6	22.7	45.0	38.7	31.5	53.5	48.0	43.8	64.3	56.3	51.9
資料不詳	1.8	0.9	1.3	1.5	0.6	1.0	2.0	0.9	0.8	2.0	2.6	1.4
乳房X光造影檢查#												
從不	76.9	73.7	64.9	68.1	67.4	63.8	52.9	54.7	50.9	35.3	42.6	42.9
不定期	8.2	10.0	16.6	11.0	13.0	13.5	15.5	16.0	19.0	18.9	19.5	21.6
定期*	12.9	15.3	16.6	18.9	18.8	21.3	29.3	28.4	29.2	44.4	36.1	35.6
資料不詳	2.0	1.1	1.9	2.1	0.7	1.4	2.3	0.8	1.0	1.4	1.9	0.0
乳房超聲波檢查#												
從不	80.6	79.7	71.1	71.6	70.4	65.0	56.1	58.1	50.1	41.5	46.2	42.2
不定期	7.1	7.8	14.7	9.5	11.8	12.3	13.9	14.8	18.5	19.3	18.5	22.5
定期*	8.4	11.7	11.8	15.1	16.9	21.1	25.1	26.3	30.7	31.0	33.0	34.3
資料不詳	3.8	0.8	2.4	3.8	0.9	1.6	4.9	0.8	0.7	8.1	2.3	1.0

按每月家庭收入劃分參與自我檢查和臨床乳房檢查的各個受訪群組人數：

<$10,000：819（2006至2010年），815（2011至2015年），225（2016年至目前）

$10,000-29,999：1,748（2006至2010年），2,175（2011至2015年），714（2016年至目前）

$30,000-59,999：813（2006至2010年），1,162（2011至2015年），511（2016年至目前）

≥$60,000：493（2006至2010年），620（2011至2015年），364（2016年至目前）

按每月家庭收入劃分參與乳房X光造影檢查和乳房超聲波檢查的各個受訪群組人數：

<$10,000：758（2006至2010年），752（2011至2015年），211（2016年至目前）

$10,000-29,999：1,512（2006至2010年），1,915（2011至2015年），634（2016年至目前）

$30,000-59,999：618（2006至2010年），961（2011至2015年），411（2016年至目前）

≥$60,000：419（2006至2010年），524（2011至2015年），315（2016年至目前）

*「定期」的定義為每隔1-3年檢查一次

只包括40歲或以上患者

E. 乳房檢查習慣和居住地區

1.38 乳房檢查習慣也根據患者的居住地區分組，結果載列於表1.15。相比居住在香港島的患者（2006-2010：14.8%；2011-2015：20.8%；2016-目前：18.8%），居住在九龍（2006-2010：34.7%；2011-2015：30.3%；2016-目前：28.8%）或新界（2006-2010：28.6%；2011-2015：26.2%；2016-目前：29.7%）的患者較多從未接受任何乳房檢查（包括自我乳房檢查、臨床乳房檢查、乳房X光造影檢查和乳房超聲波檢查）。此外，相比居住在九龍（17.5%-20.6%）或新界（16.3%-17.7%）的患者，居住在香港島的患者（26.1%-33.4%）較多有定期接受乳房X光造影檢查（表1.15）。

表1.15：按居住地區分析檢查乳房的習慣（總人數 = 17,852）

	居住地區 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	香港島			九龍			新界		
自我檢查									
從不	28.1	34.6	30.2	45.1	40.2	37.2	41.8	40.1	41.3
不定期	47.0	46.1	48.8	33.6	38.5	46.2	33.4	40.0	36.5
每月	21.4	17.6	19.5	18.7	20.5	14.5	23.7	19.3	21.4
資料不詳	3.5	1.6	1.5	2.6	0.8	2.1	1.2	0.6	0.8
臨床乳房檢查									
從不	30.4	35.7	38.1	51.5	55.7	50.3	49.4	51.4	53.6
不定期	14.3	19.0	18.8	12.6	13.1	18.8	11.7	14.7	17.5
定期*	52.0	42.5	41.6	33.1	30.5	29.2	37.7	33.2	28.2
資料不詳	3.3	2.8	1.5	2.8	0.7	1.6	1.2	0.7	0.8
乳房X光造影檢查#									
從不	46.5	55.3	53.4	70.1	71.0	62.4	72.8	70.5	66.1
不定期	16.2	16.5	17.9	9.3	10.7	15.2	9.4	11.3	15.3
定期**	33.4	26.1	27.5	17.9	17.5	20.6	16.3	17.5	17.7
資料不詳	3.9	2.2	1.2	2.6	0.8	1.8	1.5	0.7	0.8
乳房超聲波檢查#									
從不	51.9	59.8	53.1	73.4	75.1	64.5	75.0	73.8	68.2
不定期	15.0	14.4	16.2	8.4	9.8	14.7	8.3	9.7	13.9
定期*	23.8	22.4	29.5	13.5	14.3	19.1	14.1	15.8	16.7
資料不詳	9.3	3.4	1.2	4.7	0.8	1.6	2.6	0.7	1.2

按居住地區劃分參與自我檢查和臨床乳房檢查的各個受訪群組人數：

香港島： 1,009（2006至2010年），1,071（2011至2015年），473（2016年至目前）

九龍： 1,551（2006至2010年），1,892（2011至2015年），625（2016年至目前）

新界： 3,795（2006至2010年），5,311（2011至2015年），2,125（2016年至目前）

按居住地區劃分參與乳房X光造影檢查和乳房超聲波檢查的各個受訪群組人數：

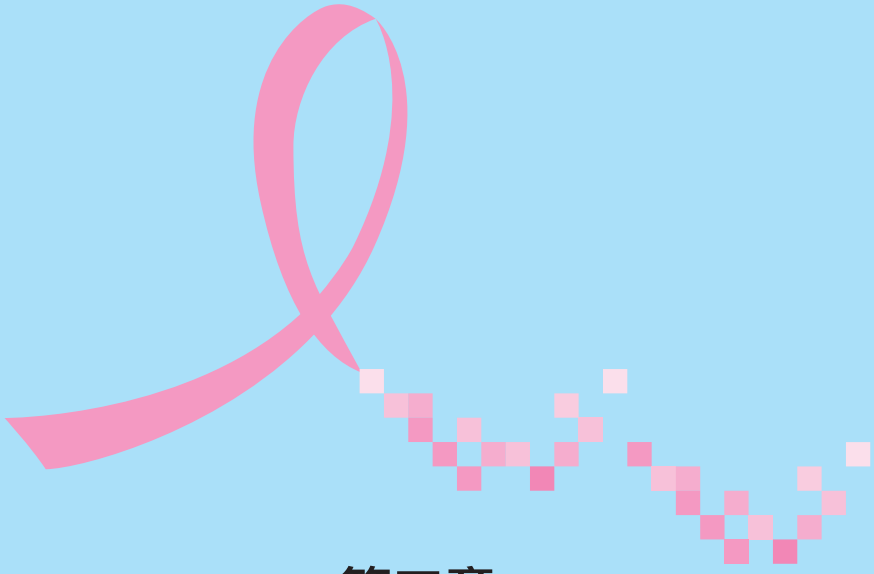
香港島： 881（2006至2010年），966（2011至2015年），414（2016年至目前）

九龍： 1,373（2006至2010年），1,705（2011至2015年），563（2016年至目前）

新界： 3,350（2006至2010年），4,819（2011至2015年），1,933（2016年至目前）

*「定期」的定義為每隔1-3年檢查一次

只包括40歲或以上患者



第二章

香港乳癌病況、治療趨勢及臨床結果

第二章　香港乳癌病況、治療趨勢及臨床結果

I. 簡介

2.1　本章審視共收集到的18,358個乳癌個案的臨床表現、癌症特性及治療方法。透過分析乳癌的臨床管理和辨別本地的疾病及治療趨勢，相信這些資料有助於發展和提高對香港乳癌患者的治療水平。

主要分析結果

本報告書根據患者的確診年份，將患者分成三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）作數據分析。

臨床表現

- 自己無意中發現是受訪群組中最主要發現乳癌的方式（81.4%-84.2%）。相比III期或IV期患者（分別有2.2%-2.9%及0.7%-3.9%），較多0期或I期的患者（分別有31.8%-36.6%及11.9%-16.6%）經由乳房X光造影檢查發現。
- 大部分（90.8%-92.4%）自己無意中發現乳癌的患者都發現她們乳房中出現無痛腫塊。痛楚通常不是乳癌的症狀，只有5.6%至8.0%患者於發現乳癌時感到乳房痛楚。有部分患者（8.0%-9.6%）怠到乳頭有異樣（例如含分泌物、內陷、泛紅、結鱗或增厚）。
- 自我發現乳癌的患者在症狀出現後，只有約三分之一（32.7%-38.2%）在一個月內首次求醫，有多於四分之一（27.9%-31.7%）則在三個月或以後才首次求醫。
- 受訪者大部分（94.9%-95.6%）患有單側乳癌，而有小部分（2.3%-2.8%）患者在首次確診時患有同時性的雙側乳癌。另有1.9%至2.3%患者在首次確診時患有單側乳癌，但隨後另一邊乳房相繼出現乳癌。
- 患有入侵性乳癌的患者中，36.6%至56.0%沒有接受癌症期數檢定為確診及治療的程序之一。接受期數檢定的患者中，對於2006至2010年確診受訪群組，最常用的方法是胸部X光和超聲波腹部掃描（53.3%），但對於2011至2015年及2016年至目前確診受訪群組，正電子掃描則是最見的方法（2011-2015：59.2%；2016-目前：71.4%）。
- 受訪群組最常見的確診期數是II期（35.7%-38.5%），其次為III至IV期（14.9%-17.7%）。此外，有11.6%至12.5%的患者被診斷為原位乳癌。

癌症特徵

- 各個受訪群組中，入侵性乳癌的腫瘤平均大小為2.2厘米（標準偏差：±1.5厘米）。15.8%至16.8%患者的腫瘤大小屬於1厘米或以下，46.8%至48.0%患者的腫瘤大於2厘米。各個受訪群組中，經乳房X光造影檢查發現的入侵性腫瘤明顯小於由無意中自我發現的腫瘤（平均大小：1.3±1.0厘米比2.3±1.5厘米；p值<0.001）。此外，在三個受訪群組中罹患入侵性乳癌的患者當中，56.3%至60.1%腋下沒有陽性淋巴結，而30.1%至34.5%腋下則有至少一個陽性淋巴結（轉移範圍大於2毫米）。最常見的種類是入侵性乳腺管癌（沒指定類別）（86.9%-87.3%）。入侵性乳癌患者中，78.5%至83.4%的雌激素受體或黃體酮受體呈陽性，17.5%至24.7%第二型人類上皮生長素受體（HER2）呈陽性。

► 各個受訪群組中，原位乳癌的腫瘤平均大小是2.0厘米（標準偏差：±1.7厘米）。30.4%至36.3%患者的腫瘤大於2厘米。在有接受乳房X光造影檢查的原位乳癌患者裡，有大約五分之三（59.9%-62.3%）在檢查中顯示有微鈣化點。乳腺管癌是各個受訪群組中最常見的原位乳癌類型（92.6%-93.6%）。原位乳癌患者中，81.7%至84.2%的雌激素受體或黃體酮受體呈陽性，17.5%至28.9% HER2呈陽性。

治療方法

► 在受訪的18,358名患者中，10.0%至14.5%只在私營醫療機構接受治療，46.6%至53.6%只在公營醫療機構接受治療，和33.6%至38.8%曾在公營及私營醫療機構接受治療。

► 手術治療

- 受訪患者大部分（97.4%-98.4%）都接受了手術治療。47.0%至53.5%在私營醫療機構接受手術，46.5%至53.0%在公營醫療機構接受手術。
- 在入侵性乳癌患者中，超過半數（58.8%-65.7%）接受了乳房切除手術，當中有11.3%至12.9%接受乳房重建手術。接近所有（94.8%-96.6%）入侵性乳癌患者接受了淋巴結手術，當中23.1%至50.6%接受了腋下淋巴切除手術，而35.5%至62.3%患者只進行了前哨淋巴結切片檢查。
- 少於半數（39.4%-47.6%）原位乳癌患者接受了乳房切除手術，當中有19.4%至27.4%接受乳房重建手術。接受了淋巴結手術的患者中，有76.7%至96.7%只接受了前哨淋巴結切片檢查，並有2.3%至19.4%只進行了腋下淋巴切除手術而沒有接受前哨淋巴結切片檢查。
- 接受乳房切除手術的患者比率與患者確診年齡和癌症期數成正比。
- 在淋巴結手術方面，45.2%至79.9%臨床淋巴結狀況呈陰性的患者接受了前哨淋巴結切片檢查而沒有接受腋下淋巴切除手術，比率較臨床淋巴結狀況呈陽性的患者為多（10.0%-23.1%）。接受腋下淋巴切除手術而沒有接受前哨淋巴結切片檢查的患者比例與癌症期數成正比。

► 放射性治療

- 受訪群組中，三分之二（62.6%-64.2%）患者接受局部區域性放射性治療。85.7%至89.3%患者在公營醫療機構接受放射性治療，10.7%至14.3%患者則在私營醫療機構接受放射性治療。
- 接受乳房保留手術的入侵性乳癌患者隨後接受局部區域性放射性治療的比例很高（超過92%）。另一方面，在曾接受乳房切除手術的入侵性乳癌患者隨後接受局部區域性放射性治療的比例從I期的9.3%至14.0%增加到III期的89.9%至94.4%。
- 在曾接受乳房保留手術的原位乳癌患者中，超過90%隨後都接受局部區域性放射性治療，只有2.8%至3.7%曾接受乳房切除手術的原位乳癌患者隨後接受了局部區域性放射性治療。
- 在患有轉移性乳癌的患者中，57.8%至63.2%接受紓緩性放射性治療。當中6.9%至27.3%接受脊柱放射性治療，0.6%至14.8%接受盆骨放射性治療。

► 化學治療

- 受訪群組中，59.2%至70.7%患有入侵性乳癌的患者接受了化療。大部分（85.4%-87.0%）患者在公營醫療機構接受化療，其餘（13.0%-14.6%）則在私營醫療機構接受化療。
- 在受訪群組中，接受根治性化療的患者比例與癌症期數（I至III期）成正比。相反，大部分

（73.5%-86.2%）第IV期患者接受了紓緩性化療。另外，手術前的前置化療的使用比例隨著癌症期數上升而增加。

► 內分泌治療

- 受訪群組中，67.6%至69.1%患者曾接受內分泌治療。88.0%至92.6%患者在公營醫療機構接受內分泌治療，7.4%至12.0%則在私營醫療機構接受內分泌治療。
- 高比率（74.0%-85.0%）的入侵性乳癌患者接受內分泌治療。 相反，只有10.3%至12.8%的原位乳癌患者接受內分泌治療。

► 抗HER2靶向治療

- 患有HER2呈陽性的入侵性乳癌患者中，43.1%至79.5%患者接受了抗HER2靶向治療。大部分（87.0%-90.3%）受訪患者在公營醫療機構接受抗HER2靶向治療，其餘（9.7%-13.0%）則在私營醫療機構接受。
- 在各受訪群組中，第I期的乳癌患者接受抗HER2靶向治療的比率明顯較少。在2011至2015年或2016年至目前確診的兩個受訪群組中，第II期或以上的患者接受抗HER2靶向治療的比率相約。

► 綜合治療

- 綜合使用多種療法能夠有效治療乳癌。一般而言，治療方法數目與癌症期數成正比。

► 輔助及另類療法

- 受訪群組中共有6,827名（24.5%-41.6%）患者接受了輔助及另類療法。當中有64.1%至67.7%患者採用傳統的中醫中藥治療。

患者現況

► 患者的平均跟進年期為4.2年，中位數則為3.5年。

► 在曾經完成跟進問卷的患者中，1.4%只出現局部區域性復發，1.9%只出現遠端復發，1.4%則同時或先後出現局部區域性及遠端復發。

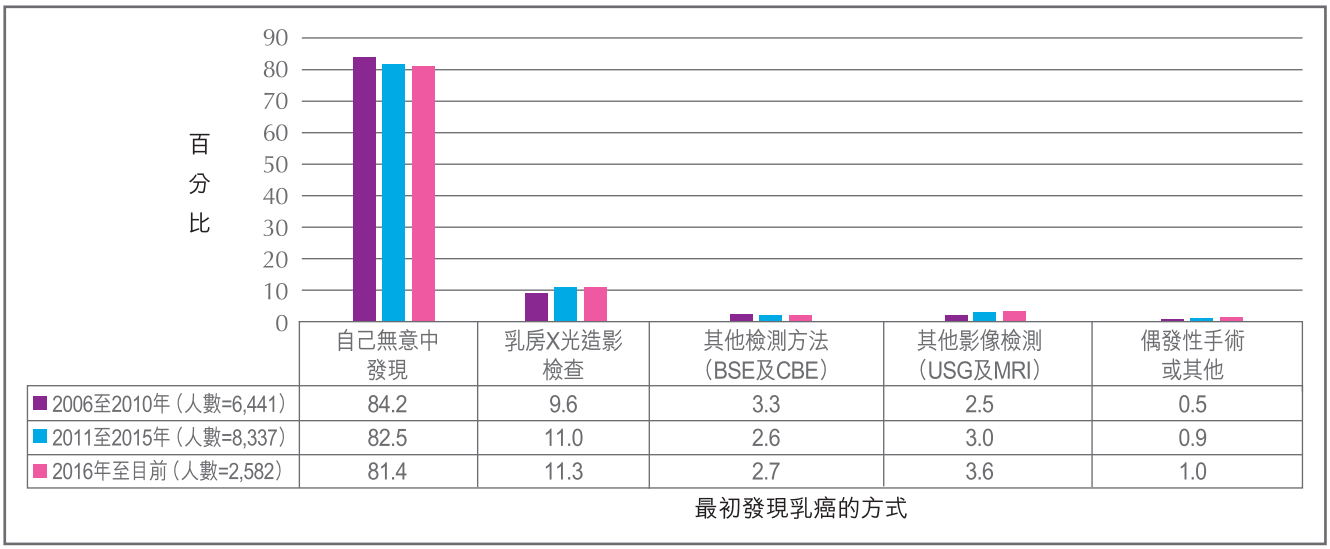
► 最常見的局部區域性復發部份是胸壁（32.8%）及乳房（29.9%）。出現遠端復發時，四類最常受影響的器官是骨骼（57.4%），其次是肺部（48.8%），肝臟（40.8%）和腦部（17.1%）。

II. 臨床表現

2.2 各個受訪群組中，無意中自我發現是主要最初發現乳癌的方式（81.4%-84.2%）（圖2.1）。相對而言，群組中小部分（15.4%-17.6%）患者是通過醫療機構協助的檢查方法發現癌症的，這些方法包括臨床乳房檢查、乳房X光造影檢查和乳房超聲波檢查。美國一項研究，發現有43%的乳癌個案都是經由乳房X光造影檢查發現的，[31]有關比例遠高於三個受訪群組（9.6%-11.3%）。

2.3 若按患者接受的醫療服務種類來分析最初發現乳癌的方式，受訪群組中，使用公營醫療服務（83.3%-85.6%）或混合使用公私營醫療服務（80.8%-86.6%）的患者，相比使用私營醫療服務的（68.0%-72.9%），較多是經由無意中自我檢查發現乳癌。另一方面，使用私營醫療服務的患者則有較多是經由乳房X光造影檢查發現乳癌（14.3%-21.4%）（表2.1）。

圖2.1：受訪群組最初發現乳癌的方式（總人數 = 17,360）



BSE：自我乳房檢查；CBE：臨床乳房檢查；USG：乳房超聲波檢查；MRI：磁力共振掃描

表2.1：按醫療服務種類分析最初發現乳癌的模式（總人數 = 17,360）

	醫療服務種類 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	私營醫療服務			公營醫療服務			混合公私營醫療服務		
自己無意中發現	72.9	72.3	68.0	85.6	83.3	85.3	86.6	84.1	80.8
乳房X光造影檢查	15.7	14.3	21.4	9.8	12.0	8.7	7.1	8.7	11.3
其他檢測方法（BSE及CBE）	4.2	2.7	0.6	2.7	2.3	3.4	3.6	2.9	2.4
其他影像檢驗（USG及MRI）	6.5	8.9	8.6	1.3	1.5	1.5	2.4	3.4	4.7
偶發性手術或其他	0.7	1.7	1.4	0.6	0.9	1.0	0.4	0.8	0.7

按醫療服務種類劃分各個受訪群組人數：

私營醫療服務：938（2006至2010年），839（2011至2015年），359（2016年至目前）

公營醫療服務：3,005（2006至2010年），4,446（2011至2015年），1,358（2016年至目前）

混合公私營醫療服務：2,498（2006至2010年），3,052（2011至2015年），865（2016年至目前）

BSE：自我乳房檢查；CBE：臨床乳房檢查；USG：乳房超聲波檢查；MRI：磁力共振掃描

2.4 研究發現當患者或醫療人員都觀察不到任何乳癌跡象或症狀時，乳房X光造影檢查能有效檢測早期乳癌。[32]三個受訪群組中，經由乳房X光造影檢查發現的入侵性乳癌比例（6.4%-8.3%）遠低於原位乳癌（31.8%-36.6%）（表2.2）。此外，較多0期或I期的患者是經由乳房X光造影檢查發現，遠高於III期或IV期的患者。大部分（91.1%-95.3%）屬於IIB期，III期或IV期患者都是無意中發現（表2.3）。

表2.2：按癌症種類分析最初發現乳癌的模式（總人數 = 17,236）

	癌症種類 2006至2010年（%），2011至2015年（%），2016年至目前（%）					
	入侵性乳癌			原位癌		
自己無意中發現	87.6	86.3	85.3	60.0	53.8	54.2
乳房X光造影檢查	6.4	7.7	8.3	31.8	36.6	32.5
其他檢測方法（BSE及CBE）	3.2	2.4	2.5	3.9	3.3	3.4
其他影像檢驗（USG及MRI）	2.2	2.7	3.0	4.1	5.0	8.4
偶發性手術或其他	0.5	0.9	0.8	0.2	1.3	1.5

按癌症種類劃分各個受訪群組人數：

入侵性乳癌： 5,603（2006至2010年），7,298（2011至2015年），2,238（2016年至目前）

原位癌： 803（2006至2010年），971（2011至2015年），323（2016年至目前）

BSE：自我乳房檢查；CBE：臨床乳房檢查；USG：乳房超聲波檢查；MRI：磁力共振掃描

表2.3：按癌症期數分析最初發現乳癌的模式（總人數 = 16,819）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）																	
	0期			I期			IIA期			IIB期			III期			IV期		
自己無意中發現	59.9	53.8	54.1	79.6	76.8	73.7	89.9	88.7	90.0	93.8	93.6	94.3	93.6	93.9	93.2	92.9	91.1	95.3
乳房X光造影檢查	31.8	36.6	32.5	11.9	14.5	16.6	4.9	5.5	5.1	2.0	2.6	2.3	2.9	2.9	2.2	0.7	3.9	1.6
其他檢測方法（BSE及CBE）	3.9	3.3	3.4	4.1	3.3	2.6	2.9	2.5	2.1	2.4	2.0	2.3	2.4	0.8	3.7	3.5	2.3	1.6
其他影像檢驗（USG及MRI）	4.1	5.1	8.4	4.1	4.2	6.1	1.6	2.5	1.9	1.4	1.3	0.7	0.3	1.4	0.0	1.4	1.2	0.0
偶發性手術或其他	0.2	1.2	1.6	0.4	1.2	1.0	0.6	0.7	1.0	0.5	0.5	0.3	0.8	0.9	0.9	1.4	1.6	1.6

按癌症期數劃分各個受訪群組人數：

0期： 801（2006至2010年），968（2011至2015年），320（2016年至目前）

I期： 2,000（2006至2010年），2,578（2011至2015年），801（2016年至目前）

IIA期： 1,668（2006至2010年），1,971（2011至2015年），629（2016年至目前）

IIB期： 804（2006至2010年），1,063（2011至2015年），299（2016年至目前）

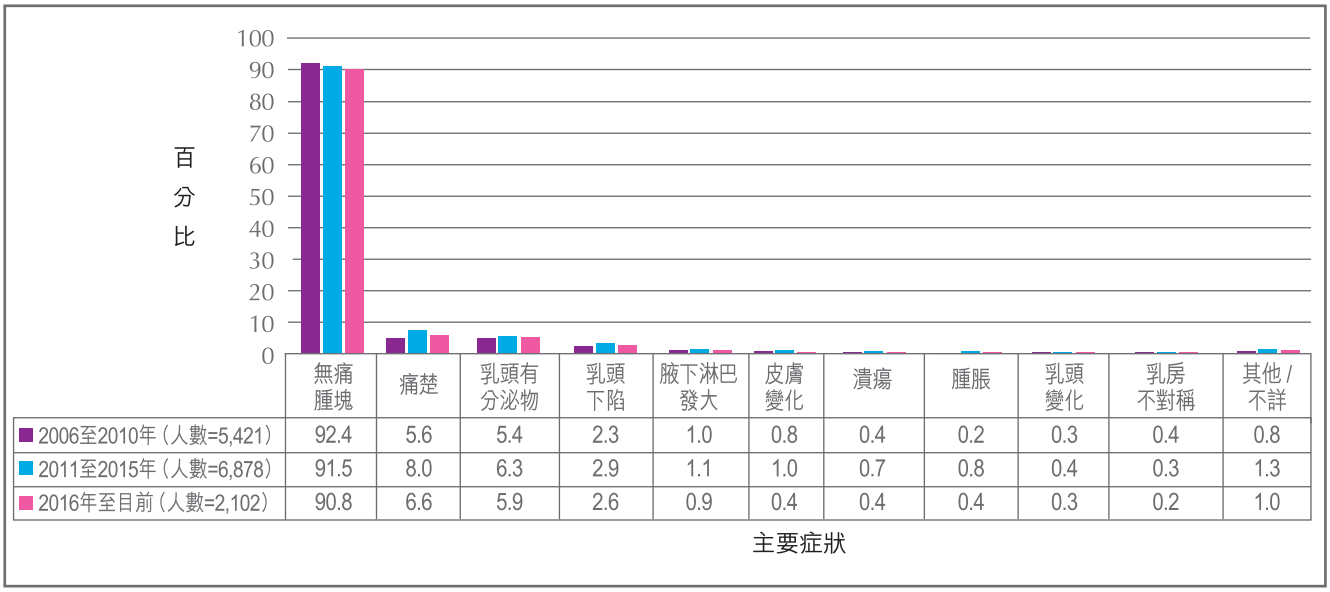
III期： 909（2006至2010年），1,223（2011至2015年），323（2016年至目前）

IV期： 141（2006至2010年），257（2011至2015年），64（2016年至目前）

BSE：自我乳房檢查；CBE：臨床乳房檢查；USG：乳房超聲波檢查；MRI：磁力共振掃描

2.5 大部分（90.8%-92.4%）無意中自我發現癌症的患者都發現她們乳房中出現無痛腫塊。痛楚通常不是乳癌的症狀，在三個受訪群組中只有5.6%至8.0%在發現癌症時感到乳房痛楚。有8.0%至9.6%的患者表示乳頭有變化（例如乳頭有分泌物、乳頭下陷、紅腫、出現鱗片狀或乳頭變厚）（圖2.2）。

圖2.2：患者自己無意中發現乳癌的主要症狀（總人數 = 14,401）



	無痛腫塊	痛楚	乳頭有分泌物	乳頭下陷	腋下淋巴發大	皮膚變化	潰瘍	腫脹	乳頭變化	乳房不對稱	其他/不詳
2006至2010年（人數=5,421）	92.4	5.6	5.4	2.3	1.0	0.8	0.4	0.2	0.3	0.4	0.8
2011至2015年（人數=6,878）	91.5	8.0	6.3	2.9	1.1	1.0	0.7	0.8	0.4	0.3	1.3
2016年至目前（人數=2,102）	90.8	6.6	5.9	2.6	0.9	0.4	0.4	0.4	0.3	0.2	1.0

*只限於自己發現症狀的患者

A. 由出現症狀到首次求醫相隔的時間

2.6 延誤求醫時間越長，出現局部區域性或遠端擴散的可能性越大，更可導致較差的預後情況。[33]各個受訪群組中，自我發現乳癌的患者在發現症狀後，只有約三分之一（32.7%-38.2%）在一個月內首次求醫，超過四分之一（27.9%-31.7%）在三個月或以後才首次求醫（表2.4）。

2.7 三個受訪群組中，有39.9%至43.7%的私營醫療服務使用者於出現症狀後一個月內首次求醫，比例高於公營醫療服務使用者（26.8%-30.5%）（表2.5）。

表2.4： 無意中發現乳癌的患者出現症狀至首次求醫相隔的時間（總人數 = 3,805）

	2006至2010年（人數=1,614）%	2011至2015年（人數=1,646）%	2016年至目前（人數=545）%
少於一個月	38.2	32.7	33.4
1-3個月	30.1	35.5	38.7
4-12個月	19.9	22.2	18.9
超過12個月	11.8	9.5	9.0

表2.5：按醫療服務種類分析無意中發現乳癌的患者出現症狀至首次求醫相隔的時間（總人數 = 3,805）

	醫療服務種類 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	私營醫療服務			公營醫療服務			混合公私營醫療服務		
少於一個月	43.7	39.9	40.7	30.5	26.8	25.9	40.7	41.7	44.1
1-3個月	29.0	32.7	37.3	28.4	35.3	42.4	32.2	36.7	32.8
4-12個月	17.5	19.0	20.3	25.6	25.8	20.7	16.9	16.5	15.3
超過12個月	9.8	8.5	1.7	15.5	12.1	11.0	10.2	5.0	7.9

按醫療服務種類劃分各個受訪群組人數：

私營醫療服務： 428（2006至2010年），153（2011至2015年），59（2016年至目前）

公營醫療服務： 528（2006至2010年），973（2011至2015年），309（2016年至目前）

混合公私營醫療服務： 658（2006至2010年），520（2011至2015年），177（2016年至目前）

2.8 相比那些在出現症狀後一個月內求醫的患者（0.6%-2.5%），在超過12個月後才求醫的患者（12.0%-14.0%）較多被確診為患上第IV期癌症（表2.6）。

表2.6：無意中發現乳癌的患者出現症狀至首次求醫相隔的時間與癌症期數的關係（總人數 = 3,369）

	出現症狀至首次求醫相隔的時間 2006至2010年（%），2011至2015年（%），2016年至目前（%）											
	少於一個月			1-3個月			4-12個月			超過12個月		
I期	38.8	33.7	36.1	33.7	29.1	32.5	30.5	22.6	32.2	20.8	28.9	27.9
IIA期	33.9	33.3	32.3	35.1	30.8	33.5	28.7	33.6	32.2	24.7	21.1	39.5
IIB期	13.5	15.7	17.1	13.5	17.5	18.0	17.4	20.1	16.1	20.1	13.4	9.3
III期	12.0	16.7	12.0	16.3	18.1	13.4	19.9	18.9	13.8	20.8	24.6	9.3
IV期	1.8	0.6	2.5	1.4	4.6	2.6	3.5	4.7	5.7	13.6	12.0	14.0

按出現症狀至首次求醫相隔的時間劃分各個受訪群組人數：

少於一個月： 557（2006至2010年），478（2011至2015年），158（2016年至目前）

1-3個月： 430（2006至2010年），526（2011至2015年），194（2016年至目前）

4-12個月： 282（2006至2010年），318（2011至2015年），87（2016年至目前）

超過12個月： 154（2006至2010年），142（2011至2015年），43（2016年至目前）

III. 癌症特徵

2.9 乳癌可以發生在一邊（單側）或兩邊（雙側）乳房。各個受訪群組中，大多數患者（2006-2010：95.4%；2011-2015：94.9%；2016-目前：95.6%）患有單側乳癌，而小部分（2006-2010：2.3%；2011-2015：2.8%；2016-目前：2.5%）在首次確診時患有同時性雙側乳癌（表2.7）。另有1.9%至2.3%（2006-2010：2.3%；2011-2015：2.3%；2016-目前：1.9%）患者在首次確診時患有單側乳癌，但隨後另一邊乳房相繼出現乳癌。

表2.7：受訪患者人數及乳癌個案數目

	患者人數	個案數目	首次確診至第二次確診相隔的時間，中位數（時間範圍）（年）
2006至2010年			
單側乳癌	**6,387**	**6,387**	——
雙側乳癌（同時性）	**151**	**302**	——
雙側乳癌（非同時性）	**154**	**195**	**5.5 (0.5 — 34.5)**
雙側乳癌（非同時性）首次確診於2006至2010年期間	*41*	*82*	*2.4 (0.6 — 3.8)*
雙側乳癌（非同時性）首次確診於2006年之前	*113*	*113*	*7.7 (0.5 — 34.5)*
2011至2015年			
單側乳癌	**8,066**	**8,066**	——
雙側乳癌（同時性）	**238**	**476**	——
雙側乳癌（非同時性）	**192**	**220**	**7.0 (0.5 — 36.1)**
雙側乳癌（非同時性）首次確診於2011至2015年期間	*28*	*56*	*2.1 (0.5 — 4.3)*
雙側乳癌（非同時性）首次確診於2006至2010年期間	*74*	*74*	*5.0 (0.5 — 8.8)*
雙側乳癌（非同時性）首次確診於2006年之前	*90*	*90*	*11.8 (5.4 — 36.1)*
2016年至目前			
單側乳癌	**2,527**	**2,527**	——
雙側乳癌（同時性）	**67**	**134**	——
雙側乳癌（非同時性）	**49**	**51**	**7.8 (1.2 — 21.1)**
雙側乳癌（非同時性）首次確診於2016年之後	*2*	*4*	*1.3 (1.2 — 1.5)*
雙側乳癌（非同時性）首次確診於2011至2015年期間	*13*	*13*	*4.8 (1.4 — 7.2)*
雙側乳癌（非同時性）首次確診於2006至2010年期間	*22*	*22*	*8.1 (5.5 — 10.8)*
雙側乳癌（非同時性）首次確診於2006年之前	*12*	*12*	*14.1 (11.0 — 21.1)*

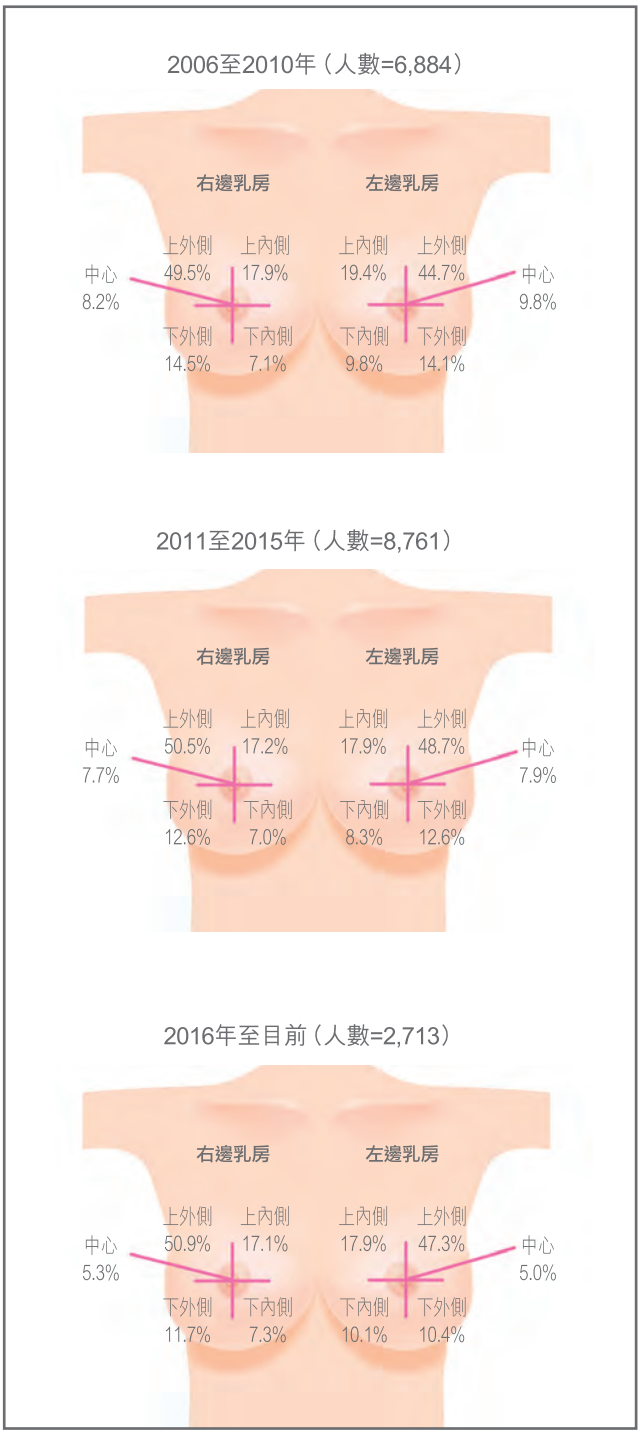
2.10 圖2.3顯示乳癌出現的位置。在各個受訪群組中，大約半數乳癌出現在右或左邊乳房的上外側（分別為44.7%-48.7%及49.5%-50.9%）。

A. 乳癌診斷測試

2.11 乳癌的診斷測試有兩種：影像檢查和活組織切片檢查。影像檢查包括診斷性乳房X光造影，乳房超聲波和磁力共振掃描。診斷性乳房X光造影是診斷乳癌的主要程序，乳房超聲波則用於分辨腫塊（可能是癌症）與充滿液體的囊腫（通常並非癌症）。磁力共振掃描通常用於已經確診乳癌的婦女，檢查癌症在她們乳房的擴散程度。

2.12 三個受訪群組有大約83.6%至88.5%使用乳房X光造影，77.1%至86.8%使用乳房超聲波，只有6.0%至12.9%使用磁力共振掃描來診斷癌症（表2.8）。影像檢查的結果採用「乳房影像報告暨資料分析系統」（BIRADS）來分類。檢查屬於BIRAD 4級或5級的婦女會被懷疑患上癌症，醫護人員會建議她們做進一步的外科檢查，例如進行活組織切片檢查。

表2.3：乳癌的位置（總人數 = 18,358）



備註：乳癌位置包括多中心性腫瘤的數據

表2.8：乳房影像檢查的敏感度及診斷結果（總人數 = 18,358）

	2006至2010年（人數=6,884）%	2011至2015年（人數=8,761）%	2016年至目前（人數=2,713）%
乳房X光造影檢查			
患者使用率	83.6	86.4	88.5
整體敏感度*	79.3	85.8	89.8
BIRADS類別			
確診 / 惡性（BIRADS 5）	28.4	35.4	30.0
懷疑不正常（BIRADS 4）	50.9	50.5	59.8
可能良性（BIRADS 3）	7.4	4.1	3.3
良性（BIRADS 2）	5.1	3.2	3.5
正常（BIRADS 1）	7.9	6.0	2.9
不完整（BIRADS 0）	0.3	0.9	0.5
乳房超聲波檢查			
患者使用率	77.1	81.5	86.8
整體敏感度*	88.4	92.8	94.6
BIRADS類別			
確診 / 惡性（BIRADS 5）	35.5	39.2	32.0
懷疑不正常（BIRADS 4）	52.9	53.6	62.6
可能良性（BIRADS 3）	6.8	4.6	3.6
良性（BIRADS 2）	2.1	1.2	1.4
正常（BIRADS 1）	2.6	1.4	0.5
不完整（BIRADS 0）	0.1	0.1	<0.1
磁力共振掃描			
患者使用率	6.0	11.8	12.9
整體敏感度*	95.4	97.3	98.3
BIRADS類別			
確診 / 惡性（BIRADS 5）	69.8	82.7	82.2
懷疑不正常（BIRADS 4）	25.5	14.6	16.0
可能良性（BIRADS 3）	1.9	1.3	1.1
良性（BIRADS 2）	1.5	0.4	0.3
正常（BIRADS 1）	1.2	1.0	0.3
不完整（BIRADS 0）	0.0	0.1	0.0

BIRADS：乳房影像報告暨資料分析系統

* 敏感度：結果為陽性的個案數目（診斷類別屬BIRADS 4-5）除以接受檢查的個案總數

2.13 在乳房X光造影呈現BIRADS 4或5級的患者當中，58.3%至75.0%患者的檢測顯示有陰影，42.3%至50.4%則出現微鈣化現象（表2.9）。乳房X光造影的乳房密度會影響乳房X光造影的敏感度，密度不均勻的乳房可能掩蔽了細小的硬塊，而密度極高的乳房則會降低乳房X光造影的敏感度。三個受訪群組中超過三分之二（67.1%-72.3%）患者有密度不均勻的異質密度乳房，只有小部分（5.3%-8.6%）患者則有極高密度乳房（圖2.4）。乳房的密度會隨婦女的年齡上升而下降。乳房密度極高的患者比例，由20-29歲的10.5%至28.6%下降到70歲以上的0.5%至4.2%（表2.10）。

表2.9：以乳房X光造影檢查確診的患者檢查結果（總人數 = 13,220）

	2006至2010年（人數 = 4,561）%	2011至2015年（人數 = 6,497）%	2016年至目前（人數 = 2,162）%
陰影	58.3	67.0	75.0
微鈣化點	50.4	50.2	42.3
乳腺結構異常	13.2	15.2	15.4
不對稱密度	10.3	7.4	4.1
其他	5.2	3.5	5.1

圖 2.4：以乳房X光造影檢查確診的患者乳房密度（總人數 = 9,317）

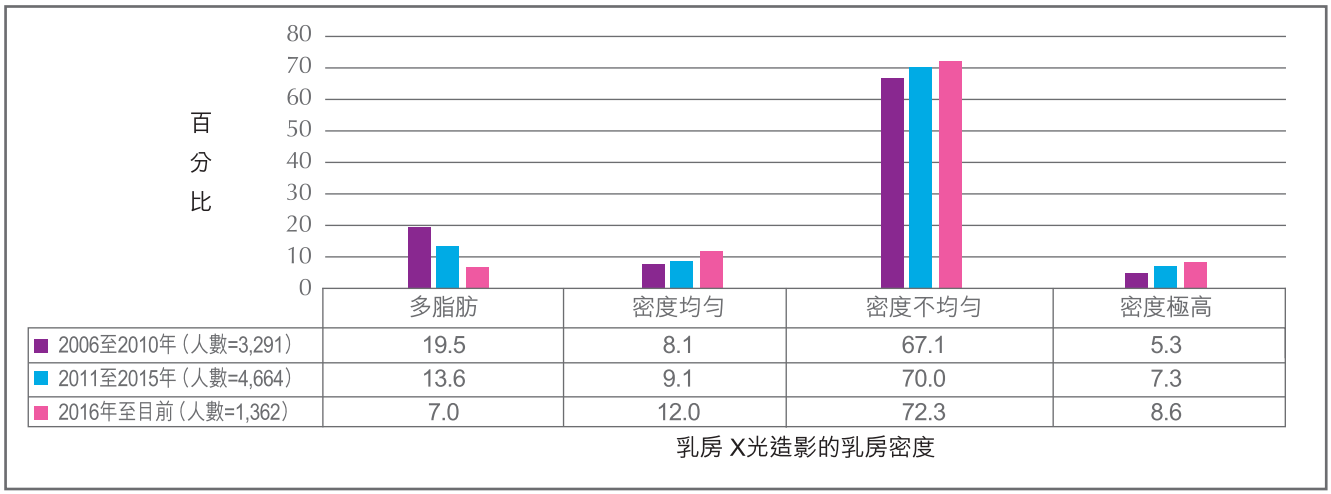


表2.10：按年齡組別分析以乳房X光造影檢查確診的患者乳房密度（總人數 = 9,069）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）																	
	20-29			30-39			40-49			50-59			60-69			70+		
多脂肪	10.5	5.0	0.0	6.8	5.6	1.0	10.7	7.7	3.7	20.6	12.3	5.0	31.7	19.9	10.9	47.0	31.7	18.3
密度均勻	5.3	0.0	14.3	4.3	3.4	5.0	6.4	5.6	8.7	9.0	9.4	10.4	10.5	12.2	16.8	10.0	17.3	20.0
密度不均勻	73.7	75.0	57.1	79.9	76.8	76.2	75.4	76.9	71.7	65.9	71.9	78.6	55.0	63.7	68.4	42.5	49.0	57.5
密度極高	10.5	20.0	28.6	9.0	14.2	17.8	7.5	9.9	15.9	4.5	6.4	6.1	2.8	4.2	3.8	0.5	2.0	4.2

按年齡組別劃分各個受訪群組人數：

20-29：19（2006至2010年），20（2011至2015年），7（2016年至目前）
30-39：278（2006至2010年），323（2011至2015年），101（2016年至目前）
40-49：1,120（2006至2010年），1,332（2011至2015年），321（2016年至目前）
50-59：1,077（2006至2010年），1,588（2011至2015年），444（2016年至目前）
60-69：458（2006至2010年），956（2011至2015年），339（2016年至目前）
70+：219（2006至2010年），347（2011至2015年），120（2016年至目前）

2.14 為診斷乳癌所進行的活組織切片檢查（即抽取乳房細胞或組織樣本作化驗之用）包括幼針穿刺活組織抽取檢查、粗針活組織切片檢查及切除式切片檢查。標準醫療程序都會在手術前進行切片檢查以確定乳房病變是否惡性。幼針穿刺活組織抽取檢查和粗針活組織切片檢查是入侵性較低的取樣方法，故較常使用，相反，移除較多乳房組織的切除式切片檢查則較為少用。三個受訪群組中，大部分（2006-2010：83.6%；2011-2015：87.5%；2016-目前：90.0%）患者曾接受幼針穿刺活組織抽取檢查和/或粗針活組織切片檢查。其中少於三分之一（2006-2010：36.5%；2011-2015：19.0%；2016-目前：10.2%）僅接受幼針穿刺活組織抽取檢查，三分之一至三分之二（2006-2010：43.2%；2011-2015：56.7%；2016-目前：66.5%）僅接受粗針活組織切片檢查，大約五分之一（2006-2010：20.3%；2011-2015：24.3%；2016-目前：23.2%）則曾接受兩種檢查。只有5.6%至13.7%患者接受切除式切片檢查。切除式切片檢查的整體敏感度達100%是三項活組織檢查中最高，其次是粗針活組織切片檢查（98.8%-99.5%）及幼針穿刺活組織抽取檢查（90.1%-91.0%）（表2.11）。

表2.11：乳癌活組織檢查的敏感度及診斷結果（總人數 = 18,358）

	2006至2010年（人數=6,884）%	2011至2015年（人數=8,761）%	2016年至目前（人數=2,713）%
幼針穿刺活組織抽取檢查			
患者使用率	47.1	37.6	29.9
整體敏感度*	90.5	90.1	91.0
等級			
確診 / 惡性（等級V）	60.0	65.2	66.1
懷疑不正常（等級IV）	18.8	13.1	14.3
可能良性（等級III）	11.7	11.7	10.6
良性（等級II）	4.8	3.4	2.8
正常（等級I）	3.3	4.7	5.5
不完整（等級0）	1.5	1.8	0.6
粗針活組織切片檢查			
患者使用率	52.7	70.5	80.4
整體敏感度*	98.8	98.8	99.5
等級			
確診 / 惡性（等級V）	94.6	95.8	96.5
懷疑不正常（等級IV）	2.5	1.2	2.0
可能良性（等級III）	1.7	1.7	1.1
良性（等級II）	0.7	0.9	0.2
正常（等級I）	0.5	0.2	0.2
不完整（等級0）	0.0	0.0	0.0
切除式切片檢查			
患者使用率	13.7	9.0	5.6
整體敏感度*	100.0	100.0	100.0
等級			
確診 / 惡性（等級V）	100.0	100.0	100.0
懷疑不正常（等級IV）	—	—	—
可能良性（等級III）	—	—	—
良性（等級II）	—	—	—
正常（等級I）	—	—	—
不完整（等級0）	—	—	—

* 敏感度：結果為陽性的個案數目（診斷等級屬III至V）除以接受檢查的個案總數

B. 確定乳癌期數的方法

2.15 癌症期數檢定是在確診乳癌後，進行手術前找出癌症擴散程度的程序。臨床淋巴結呈陽性或患有局部晚期乳癌患者常接受癌症期數檢定。僅接受胸部X光掃描會歸納為沒有足夠的癌症期數檢定，因此沒有計算在這部分內。

2.16 三個受訪群組中，36.6%至56.0%患有入侵性乳癌的患者沒有接受癌症期數檢定為治療程序之一（2006-2010：36.6%；2011-2015：53.6%；2016-目前：56.0%）。在接受過期數檢定為治療程序之一的患者中，接受胸部X光及超聲波腹部掃描是2006至2010年確診受訪群組最常用的方法（53.3%），而正電子掃描是2011至2015年確診受訪群組（59.2%）和2016年至目前確診受訪群組（71.4%）最常用的方法（表2.12）。美國國家綜合癌症網絡於2010年發佈的臨床指引不建議初期乳癌患者（包括I期、II期或可動手術的III期乳癌）使用正電子掃描來斷定癌症的擴散程度，[34]這是因為正電子掃描為明顯在初期癌症的患者檢測淋巴結狀況及遠端擴散的敏感度和準確度都較低。不過，在接受過期數檢定為治療程序之一的患者中，卻有12.1%至44.0%的I期和26.8%至69.0%的IIA期患者曾接受正電子掃描來斷定她們的癌症期數（表2.13）。

表2.12：入侵性乳癌患者檢定乳癌期數的方法（總人數 = 7,352）

	2006至2010年（人數=3,139）%	2011至2015年（人數=3,239）%	2016年至目前（人數=974）%
正電子掃描	34.2	59.2	71.4
胸部X光及超聲波腹部掃描	53.3	27.9	16.9
電腦掃描（不同身體部位）*	4.2	7.9	11.0
骨骼掃描	3.6	3.0	2.5
磁力共振掃描（整個身體）	0.7	0.6	1.8
其他（如：骨骼X光掃描）	6.4	9.8	5.4
不詳	11.4	1.2	0.7

*身體部位包括腹部、喉部、盆骨、腦部或整個身體

表2.13:正電子掃描在不同期數患者的使用比例（總人數 = 7,352）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）																	
	I期			IIA期			IIB期			III期			IV期			未能分期		
使用正電子掃描	12.1	25.2	44.0	26.8	47.1	69.0	39.6	70.3	80.9	62.9	82.6	85.8	82.7	90.3	83.3	68.0	79.8	94.4

按癌症期數劃分各個受訪群組人數：

I期：1,029（2006至2010年），786（2011至2015年），234（2016年至目前）

IIA期：832（2006至2010年），735（2011至2015年），242（2016年至目前）

IIB期：467（2006至2010年），498（2011至2015年），141（2016年至目前）

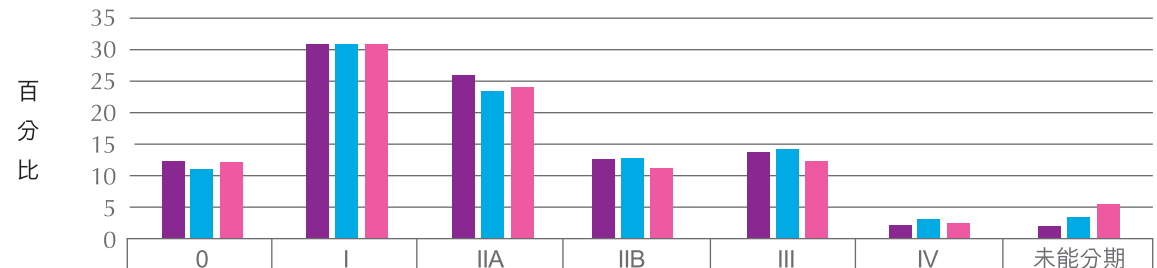
III期：628（2006至2010年），867（2011至2015年），226（2016年至目前）

IV期：133（2006至2010年），259（2011至2015年），60（2016年至目前）

未能分期：50（2006至2010年），94（2011至2015年），71（2016年至目前）

2.17 本報告使用美國癌症聯合委員會（AJCC）有關乳癌的《癌症期數》（2018年第八版）[35]來斷定受訪患者的癌症期數。這個指引共有兩類癌症分期方法：解剖期數及預後期數。解剖期數使用解剖腫瘤的資料，包括腫瘤大小（T）、區域性淋巴結狀況（N）及遠端擴散（M）的資料來斷定癌症期數。預後期數除了使用解剖腫瘤的資料（即TNM分組）外，還會考慮其他因素，包括腫瘤的級別，生物學特徵（第二型人類上皮生長素受體（HER2），雌激素受體，黃體酮受體）及基因測試來斷定癌症期數。儘管由2018年起，該指引推薦使用預後期數用於患者護理及報告美國所有癌症患者，本報告並沒有採用。原因在於本報告的受訪群組大多在2006至2016年間確診，而醫護人員是根據當時使用的解剖期數來決定患者的治療方案。請注意TNM分組在第七及第八版裡只有很少的改變。三個受訪群組中，最常見的確診期數是II期（35.7%-38.5%），其次是III至IV期（14.9%-17.7%），而被診斷為原位乳癌則有11.6%至12.5%（圖2.5）。

圖2.5：確診時的癌症期數（總人數 = 18,358）



	0	I	IIA	IIB	III	IV	未能分期
2006至2010年（人數=6,884）	12.4	31.0	26.0	12.5	14.0	2.2	1.9
2011至2015年（人數=8,761）	11.6	31.0	23.6	12.7	14.6	3.1	3.4
2016年至目前（人數=2,713）	12.5	31.1	24.1	11.6	12.4	2.5	5.7

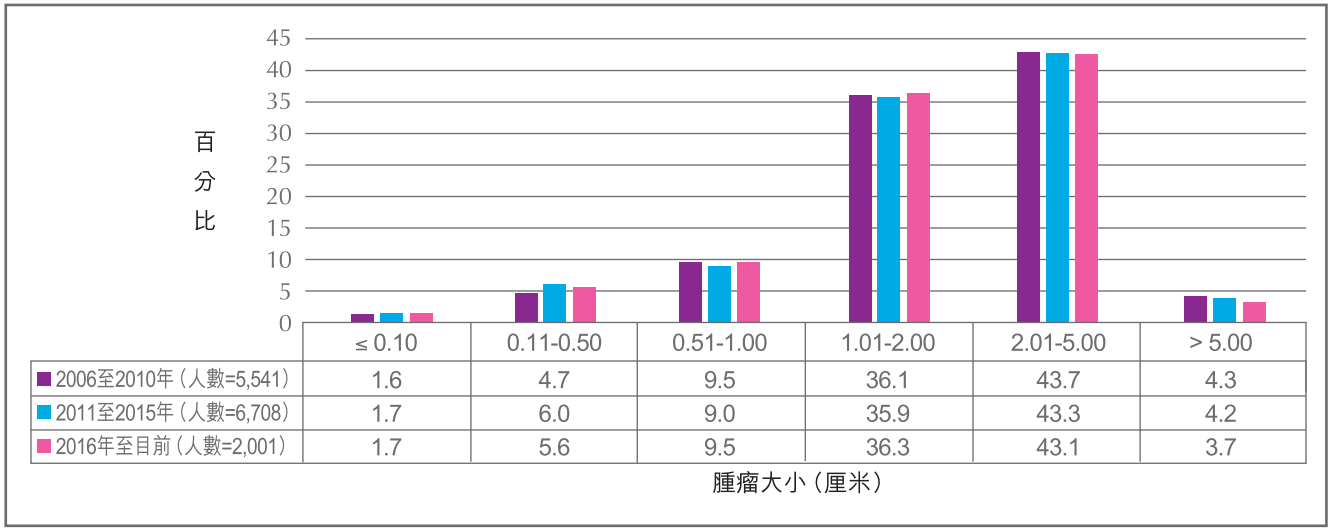
癌症期數

2.18 在被分析的18,358宗乳癌個案中，17,753宗具有可用的病理學數據，用作分析以下癌症特徵。15,368名病人（2006-2010：86.4%；2011-2015：86.8%；2016-目前：86.1%）患有入侵性癌症，2,373名病人（2006-2010：13.5%；2011-2015：13.1%；2016-目前：13.8%）患有原位癌。12宗個案（2006-2010：0.1%；2011-2015：0.1%；2016-目前：<0.1%）是屬於隱匿性原發乳癌。

C. 入侵性乳癌的特徵

2.19 各個受訪群組中，入侵性乳癌的腫瘤平均大小為2.2厘米（範圍：0.01 - 19.1厘米；標準偏差：±1.5厘米）。約16%患者的腫瘤大小屬於1厘米或以下，而屬於1-2厘米和屬於2-5厘米的則分別約有36%和43%（圖2.6）。只有小部分（3.7%-4.3%）患者的腫瘤超過5厘米。經乳房X光造影檢查發現的腫瘤大小遠遠小於無意中自我發現的腫瘤（平均大小：1.3±1.0厘米比2.3±1.5厘米；p值<0.001）。

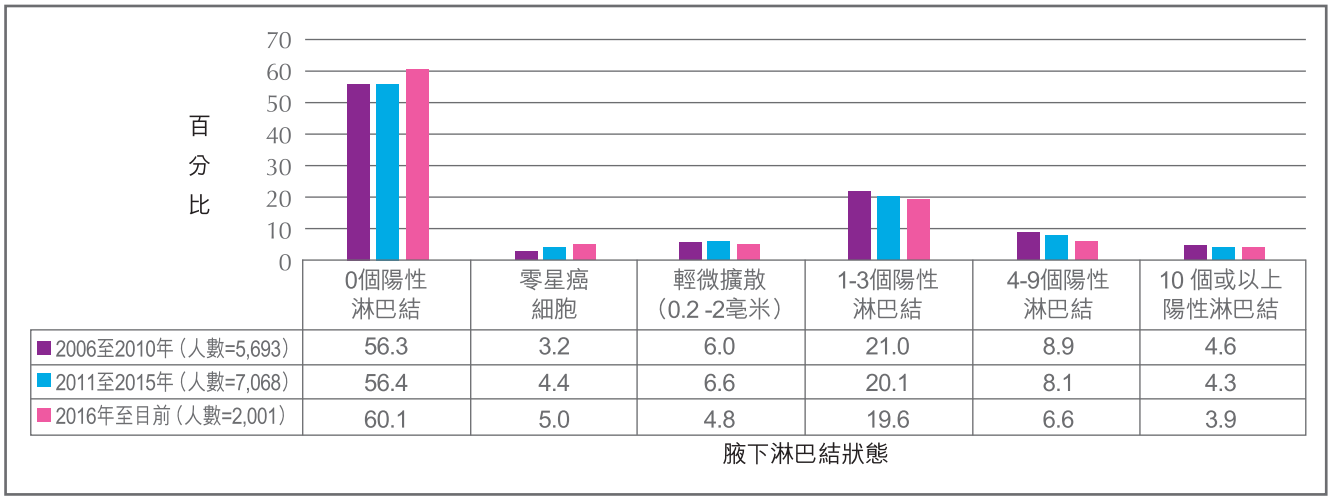
圖2.6：入侵性乳癌的腫瘤大小（厘米）分佈（總人數 = 14,250）



	≤ 0.10	0.11-0.50	0.51-1.00	1.01-2.00	2.01-5.00	> 5.00
2006至2010年（人數=5,541）	1.6	4.7	9.5	36.1	43.7	4.3
2011至2015年（人數=6,708）	1.7	6.0	9.0	35.9	43.3	4.2
2016年至目前（人數=2,001）	1.7	5.6	9.5	36.3	43.1	3.7

2.20 淋巴結有否受癌細胞影響是決定乳癌期數的一個因素。患者受影響的淋巴結越多，癌症期數就越高。在三個受訪群組中罹患入侵性乳癌的患者當中，56.3%至60.1%腋下沒有陽性淋巴結，3.2%至5.0%患者的淋巴結有零星癌細胞，4.8%至6.6%有微轉移（轉移範圍>0.2毫米到≤2毫米），而30.1%至34.5%腋下則有至少一個陽性淋巴結（轉移範圍大於2毫米）（圖2.7）。

圖2.7：入侵性乳癌患者的腋下淋巴結狀態（總人數 = 14,862）

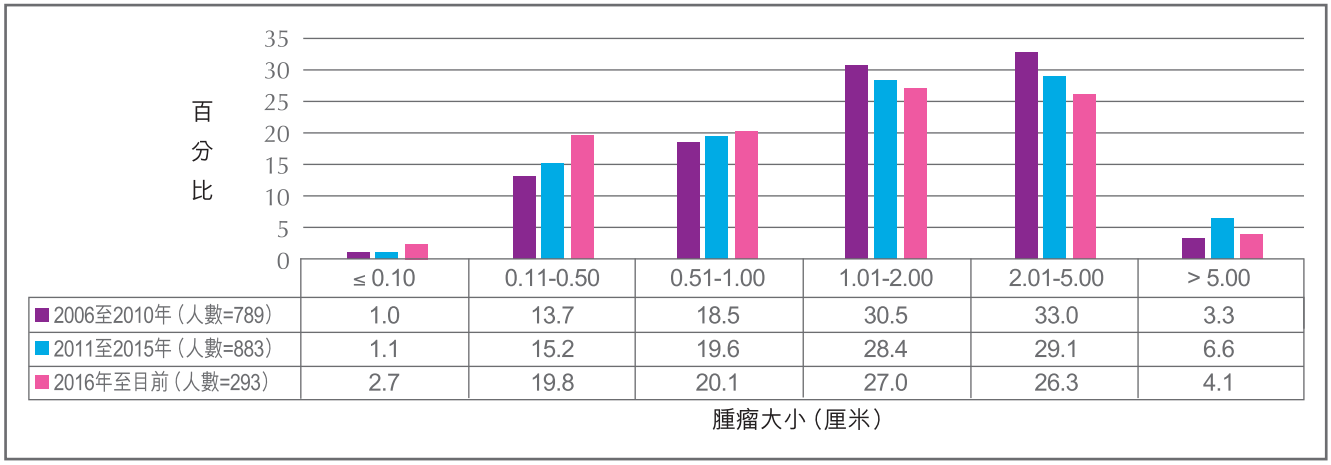


	0個陽性淋巴結	零星癌細胞	輕微擴散（0.2 -2毫米）	1-3個陽性淋巴結	4-9個陽性淋巴結	10 個或以上陽性淋巴結
2006至2010年（人數=5,693）	56.3	3.2	6.0	21.0	8.9	4.6
2011至2015年（人數=7,068）	56.4	4.4	6.6	20.1	8.1	4.3
2016年至目前（人數=2,001）	60.1	5.0	4.8	19.6	6.6	3.9

D. 原位乳癌特徵

2.21 各個受訪群組中，原位乳癌的腫瘤平均大小是2.0厘米（範圍：0.02－25.0厘米；標準偏差：±1.7厘米）。33.2%至42.6%患者的腫瘤屬於1厘米或以下；26.3%至33.0%患者的腫瘤大小在2-5厘米之間（圖2.8）。只有小部分（3.3%-6.6%）患者的腫瘤超過5厘米。在有接受乳房X光造影檢查的原位乳癌患者裡，有大約五分之三（2006-2010：61.7%；2011-2015：62.3%；2016-目前：59.9%）在檢查中顯示有微鈣化點。

圖2.8：原位乳癌的腫瘤大小（厘米）分佈（總人數 = 1,965）



	≤ 0.10	0.11-0.50	0.51-1.00	1.01-2.00	2.01-5.00	> 5.00
2006至2010年（人數=789）	1.0	13.7	18.5	30.5	33.0	3.3
2011至2015年（人數=883）	1.1	15.2	19.6	28.4	29.1	6.6
2016年至目前（人數=293）	2.7	19.8	20.1	27.0	26.3	4.1

IV. 組織學及生物學特徵

2.22 乳癌包含多種不同的病理學亞型，在顯微鏡下有著不同的外觀。乳癌的組織學為患者的預後情況提供了有價值的資料。它與其他數據，包括腫瘤大小、級別、淋巴結狀況、荷爾蒙受體狀況和HER2狀況，可以幫助預測復發的可能性及對治療的反應。

A. 入侵性乳癌

2.23 表2.14和表2.15顯示各個受訪群組中的入侵性乳癌的組織學特性、級別、多灶性及多中心性。最常見的種類是入侵性乳腺管癌（沒指定類別）（86.9% - 87.3%）。約有三分之一（31.4% - 34.0%）入侵性乳癌腫瘤屬於第3級別。

表2.14：入侵性乳癌的組織學類別（總人數 = 15,368）

	2006至2010年（人數=5,787） %	2011至2015年（人數=7,330） %	2016年至目前（人數=2,251） %
入侵性乳腺管癌（沒指定類別）	86.9	87.2	87.3
乳小葉癌	3.6	3.4	4.3
黏液性癌（膠態）	3.7	3.2	2.6
乳突狀癌	0.8	1.1	1.0
管狀癌	0.8	0.6	0.4
髓狀癌	0.6	0.6	0.3
臨界性 / 惡性葉狀莖瘤	0.4	0.5	0.5
乳腺管及乳小葉混合型	0.5	0.3	0.6
微小乳突狀癌	0.4	0.4	0.5
化生癌	0.3	0.4	0.4
神經內分泌癌	0.2	0.2	0.1
大汗腺癌	0.2	0.1	<0.1
腺樣囊性癌	<0.1	0.2	0.1
乳頭柏哲氏病	0.1	0.1	0.0
篩狀癌	0.1	<0.1	0.1
管狀小葉癌	<0.1	0.1	<0.1
炎性癌	<0.1	<0.1	<0.1
鱗狀細胞癌	<0.1	<0.1	0.0
脂性癌	<0.1	<0.1	<0.1
乳腺分泌癌	<0.1	0.0	0.0
腺泡細胞癌	0.0	<0.1	0.0
肉瘤	0.0	<0.1	<0.1
其他（如混合類型）	0.4	1.2	1.2
資料不詳	1.0	0.5	0.4

表2.15：入侵性乳癌的級別、腫瘤的多灶性及多中心性（總人數 = 15,368）

	2006至2010年（人數=5,787）%	2011至2015年（人數=7,330）%	2016年至目前（人數=2,251）%
級別			
第1級	16.6	16.1	17.5
第2級	39.2	41.0	37.9
第3級	34.0	31.4	31.4
資料不詳	10.2	11.5	13.1
淋巴管入侵	**28.9**	**25.2**	**23.1**
腫瘤多灶性	**9.8**	**8.8**	**9.4**
腫瘤病灶數目			
2	53.3	54.3	54.5
3-4	18.3	16.1	16.6
≥5	12.3	7.3	9.5
資料不詳	16.2	22.3	19.4
腫瘤多中心性	**2.7**	**2.7**	**2.3**
涉及乳房範圍			
2	85.2	85.6	90.2
3	7.1	5.1	2.0
4	5.2	1.0	2.0
資料不詳	2.6	8.2	5.9

2.24 表2.16顯示各個受訪群組中入侵性乳癌的生物學特徵。各個受訪群組中，接近全部（2006-2010：97.6%；2011-2015：97.8%；2016-目前：96.7%）入侵性乳癌患者曾經接受雌激素或黃體酮受體的狀況測試，當中超過四分之三（2006-2010：79.3%；2011-2015：78.5%；2016-目前：83.4%）的測試結果呈陽性。癌細胞中的HER2基因有過度表現與某些類型的乳癌有關。免疫組織化學染色法（IHC）呈3分的患者屬於HER2呈陽性，0分或1分則為陰性。IHC呈2分的患者會再接受原位雜合技術（ISH）的測試，ISH呈陽性的，也屬於HER2呈陽性。各個受訪群組中，少於四分之一（2006-2010：24.7%；2011-2015：21.5%；2016-目前：17.5%）的HER2呈陽性。

表2.16：入侵性乳癌的生物學特性（總人數 = 15,368）

	2006至2010年（人數=5,787）%	2011至2015年（人數=7,330）%	2016年至目前（人數=2,251）%
雌體素受體（ER）[患者接受測試比率]	**[97.5]**	**[97.8]**	**[96.7]**
呈陽性	76.3	77.7	82.8
呈陰性	23.7	22.3	17.2
黃體酮受體（PR）[患者接受測試比率]	**[97.3]**	**[97.6]**	**[96.3]**
呈陽性	63.9	65.1	69.3
呈陰性	36.1	34.9	30.7
c-erbB2/HER2 [患者接受測試比率]	**[96.7]**	**[97.0]**	**[94.0]**
呈陽性（IHC 3分）	23.7	18.3	14.6
呈輕微陽性（IHC 2分）ISH測試呈陽性	1.0	3.2	2.9
呈輕微陽性（IHC 2分）ISH測試呈輕微陽性	0.2	1.2	1.8
呈輕微陽性（IHC 2分）ISH測試呈性陰性	10.4	22.0	17.0
呈輕微陽性（IHC 2分）沒有接受ISH測試	14.2	10.6	9.3
呈陰性（IHC 0/1分）	50.4	44.6	54.4
Ki-67指數 [患者接受測試比率]	**[51.2]**	**[54.9]**	**[70.7]**
<14%	42.8	34.9	31.3
≥14%	57.2	65.1	68.7

HER2：第二型人類上皮生長素受體；IHC：免疫組織化學染色法；ISH：原位雜合技術

2.25 乳癌並非單一疾病，我們可以用免疫組織化學染色法去測試在表2.16所列明的生物學指標，而將乳癌分為不同生物學亞型。[36]綜合檢視這些生物學標記而非個別衡量，可以進一步評估患者預後和預測的資料。生物學亞型的定義及以癌症期數分析三個受訪群組的生物學亞型的資料詳見表2.17。

表2.17：按癌症期數分析入侵性腫瘤的生物學亞型（總人數 = 14,497）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	I期			IIA期			IIB期			III期			IV期		
管腔A型*	27.7	25.7	33.3	17.0	16.2	18.4	18.6	12.3	11.0	11.3	10.7	12.8	6.1	8.8	13.2
管腔B型（HER2呈陰性）#	13.2	17.5	32.3	16.9	22.0	35.7	17.9	21.8	38.5	19.8	21.6	29.3	12.1	22.3	36.8
管腔A/B型（HER2呈陰性）†	28.1	29.1	13.5	27.2	26.1	16.7	27.8	30.8	21.3	26.2	28.2	23.0	30.3	20.9	13.2
管腔B型（HER2呈陽性）^	13.5	9.6	8.4	15.3	11.1	12.1	15.7	12.8	8.6	20.1	17.1	14.5	28.8	18.9	15.8
HER2呈陽性 ※	7.7	8.1	5.4	8.8	9.9	5.3	9.5	8.6	6.5	11.7	11.9	8.6	16.7	16.9	10.5
三陰性 §	9.6	9.9	7.1	14.8	14.7	11.8	10.6	13.7	14.1	11.0	10.5	11.8	6.1	12.2	10.5

按癌症期數劃分各個受訪群組人數：

I期： 2,026（2006至2010年），2,587（2011至2015年），784（2016年至目前）

IIA期： 1,710（2006至2010年），1,983（2011至2015年），603（2016年至目前）

IIB期： 823（2006至2010年），1,061（2011至2015年），291（2016年至目前）

III期： 906（2006至2010年），1,170（2011至2015年），301（2016年至目前）

IV期： 66（2006至2010年），148（2011至2015年），38（2016年至目前）

* 管腔A型：ER及 / 或PR+、HER2-及Ki-67指數低（<14%）

\# 管腔B型（HER2呈陰性）：ER及 / 或PR+、HER2-及Ki-67指數高（≥14%）

† 管腔A / B型（HER2呈陰性）：ER及 / 或PR+、HER2-及Ki-67指數不詳

^ 管腔B型（HER2呈陽性）：ER及 / 或PR+、HER2+及任何Ki-67指數

※ HER2呈陽性：ER及PR-、HER2+及任何Ki-67指數

§ 三陰性：ER及PR-、HER2-及任何Ki-67指數

B. 原位乳癌

2.26 表2.18顯示各個受訪群組的原位乳癌的組織學特性、級別、多灶性和多中心性。乳腺管癌是各個受訪群組中最常見（92.6%-93.6%）的原位乳癌類型。

2.27 表2.19列出各個受訪群組中原位乳癌的生物學特性。各個受訪群組中，半數至四分之三（2006-2010：74.5%；2011-2015：70.4%；2016-目前：54.3%）原位乳癌患者曾經接受雌激素或黃體酮受體的狀況測試，當中大部分（2006-2010：82.5%；2011-2015：81.7%；2016-目前：84.2%）的測試結果呈陽性。三個受訪群組中，17.5%至28.9%原位乳癌患者的HER2呈陽性。

表2.18：原位乳癌的組織學類別、級別、腫瘤的多灶性及多中心性（總人數 = 2,373）

	2006至2010年（人數=903）%	2011至2015年（人數=1,109）%	2016年至目前（人數=361）%
組織學類別			
乳腺管癌	93.6	92.6	93.1
混合癌	3.0	2.6	1.1
乳突狀癌	1.3	1.7	1.9
囊內乳頭狀癌	0.8	0.8	0.3
包裹性乳頭狀癌	0.1	0.7	0.8
大汗腺癌	0.1	0.5	0.6
神經內分泌癌	0.1	0.2	0.0
篩狀癌	0.0	0.1	0.3
微小乳突狀癌	0.1	0.0	0.0
資料不詳	0.9	0.8	1.9
壞疽	**39.0**	**30.7**	**24.7**
核級別			
低	24.6	25.0	27.1
中	33.1	31.6	33.2
高	37.8	36.4	31.3
資料不詳	4.6	7.1	8.4
腫瘤多灶性	**12.4**	**11.5**	**9.7**
病灶數目			
2	50.9	39.8	62.9
3	7.1	8.6	8.6
4或以上	4.5	3.9	0.0
資料不詳	37.5	47.7	28.6
腫瘤多中心性	**2.4**	**2.3**	**1.4**
涉及乳房範圍			
2	81.8	84.6	100.0
3	4.5	7.7	0.0
資料不詳	13.6	7.7	0.0

表2.19：原位乳癌的生物學特性（總人數 = 2,373）

	2006至2010年（人數=903）%	2011至2015年（人數=1,109）%	2016年至目前（人數=361）%
雌體素受體（ER）[患者接受測試比率]	**[74.5]**	**[70.3]**	**[54.3]**
呈陽性	80.4	81.4	84.2
呈陰性	19.6	18.6	15.8
黃體酮受體（PR）[患者接受測試比率]	**[73.5]**	**[68.6]**	**[51.5]**
呈陽性	71.2	72.4	78.5
呈陰性	28.8	27.6	21.5
c-erbB2 / HER2 [患者接受測試比率]	**[70.2]**	**[62.0]**	**[46.0]**
呈陽性（IHC 3分）	28.7	24.7	17.5
呈輕微陽性（IHC 2分）ISH測試呈陽性	0.2	0.1	0.0
呈輕微陽性（IHC 2分）ISH測試呈輕微陽性	0.0	0.1	0.0
呈輕微陽性（IHC 2分）ISH測試呈性陰性	1.4	1.3	1.2
呈輕微陽性（IHC 2分）沒有接受ISH測試	28.1	38.1	34.9
呈陰性（IHC 0 / 1分）	41.6	35.6	46.4
Ki-67指數 [患者接受測試比率]	**[44.9]**	**[37.6]**	**[40.7]**
<14%	71.9	60.7	52.4
≥14%	28.1	39.3	47.6

HER2：第二型人類上皮生長素受體；IHC：免疫組織化學染色法；ISH：原位雜合技術

V. 治療方法

2.28 各個受訪群組中，約八分之一（2006 - 2010：14.5%；2011 - 2015：10.0%；2016 - 目前：14.0%）只在私營醫療機構接受治療，約半數（2006 - 2010：46.6%；2011-2015：53.6%；2016-目前：52.4%）只在公營醫療機構接受治療。大約三分之一（2006-2010：38.8%；2011-2015：36.4%；2016 - 目前：33.6%）的患者曾在公營及私營醫療機構接受治療。患有入侵性乳癌的患者通常會接受綜合治療，包括手術治療、化學治療、抗HER2靶向治療、內分泌治療，和放射性治療。然而，患有原位乳癌的患者需用入侵性較低的治療方案，包括手術治療、內分泌治療，和放射性治療。原位乳癌的患者普遍不需要接受化學治療和抗HER2靶向治療。這些治療方法，除手術外，可根據確診時的癌症期數，採用輔助性（手術後進行），前置性（手術前進行）或紓緩性（已有遠端擴散）的治療。

A. 手術治療

2.29 手術可說是治療入侵性及原位乳癌的最關鍵「元素」。隨著近年乳癌治療的發展趨向成熟，乳癌手術的創傷性逐漸降低。現時可供選擇的局部性治療包括乳房保留手術或乳房切除手術。接受乳房保留手術加上隨後的放射性治療的患者，在存活率上與只接受乳房切除手術的患者相近。進行乳房切除手術的婦女可以考慮同時或稍後接受乳房重建手術。

2.30 淋巴結手術通常與乳房手術一起進行以確定疾病的擴散程度。淋巴結手術包括前哨淋巴結切片檢查或腋下淋巴切除手術。臨床淋巴結狀況呈陰性的患者會先進行前哨淋巴結切片檢查，以斷定淋巴結是否受到癌細胞影響。這是為了預防因為大量腋下淋巴結被切除後所引發的問題，如淋巴水腫。

2.31 三個受訪群組當中，約半數（2006 - 2010：53.5%；2011 - 2015：47.0%；2016 - 目前：49.5%）患者在私營醫療機構接受手術，另一半（2006-2010：46.5%；2011-2015：53.0%；2016-目前：50.5%）患者在公營醫療機構接受手術。

2.32 在入侵性乳癌患者中，大部分（97.5%-98.4%）接受了手術治療（表2.20）。當中約三分之二（58.8%-65.7%）接受了乳房切除手術，而其餘（32.5%-38.2%）接受了乳房保留手術。在接受乳房切除手術的患者當中，只有11.3%至12.9%接受即時或稍後乳房重建手術，而最普遍的乳房切除手術是橫向腹直肌肌皮瓣（TRAM瓣）（67.9%-70.0%）。接近所有（94.8%-96.6%）入侵性乳癌患者接受了淋巴結手術。當中23.1%至50.6%患者進行了腋下淋巴切除手術，而35.5%至62.3%患者僅進行了前哨淋巴結切片檢查。

2.33 接近所有（97.2% - 99.5%）原位乳癌患者都接受了手術治療（表2.21）。當中超過半數（51.9%-56.9%）接受了乳房保留手術，約四分之一（19.4%-27.4%）在乳房切除手術後接受了乳房重建手術。有三分之一（32.0%-37.3%）患者沒有接受淋巴結手術。在接受淋巴結手術的患者中，76.7%至96.7%僅接受前哨淋巴結切片檢查，2.3%至19.4%則僅進行了腋下淋巴切除手術而沒有接受前哨淋巴結切片檢查。

表2.20：入侵性乳癌患者的手術類型

	2006至2010年 %	2011至2015年 %	2016年至目前 %
手術類型（總人數＝16,004）	**（人數＝5,988）**	**（人數＝7,667）**	**（人數＝2,349）**
沒做手術	1.4	1.7	1.9
乳房保留手術	32.5	33.0	38.2
乳房切除手術	65.7	64.7	58.8
僅進行淋巴結手術	0.1	0.1	0.4
手術類型不詳	0.1	0.2	0.1
有否進行手術不詳	0.1	0.3	0.6
乳房切除手術的種類（總人數＝10,272）	**（人數＝3,935）**	**（人數＝4,955）**	**（人數＝1,382）**
全乳切除手術	94.0	94.5	93.8
保留皮膚切除手術	5.0	3.6	2.3
保留乳暈切除手術	0.2	0.2	0.0
保留乳頭切除手術	0.5	1.5	3.7
資料不詳	0.3	0.2	0.1
乳房重建手術的種類（總人數＝1,233）	**（人數＝495）**	**（人數＝560）**	**（人數＝178）**
橫向腹直肌皮瓣（TRAM瓣）	67.9	70.0	68.0
植入物	14.1	16.8	21.3
LD瓣	9.1	7.5	5.1
LD瓣及植入物	7.5	3.2	3.4
資料不詳	1.4	2.5	2.2
淋巴結手術的種類（總人數＝15,387）	**（人數＝5,787）**	**（人數＝7,372）**	**（人數＝2,228）**
前哨淋巴結切片	35.5	48.6	62.3
腋下淋巴切除	50.6	33.5	23.1
前哨淋巴結切片後再接受腋下淋巴切除	13.5	16.4	14.1
資料不詳	0.4	1.5	0.5

表2.21：原位乳癌患者的手術類型

	2006至2010年 %	2011至2015年 %	2016年至目前 %
手術類型（總人數＝2,220）	**（人數＝856）**	**（人數＝1,021）**	**（人數＝343）**
沒做手術	0.5	0.0	0.0
乳房保留手術	51.9	52.4	56.9
乳房切除手術	47.6	46.4	39.4
僅進行淋巴結手術	0.0	0.0	0.0
手術類型不詳	0.0	0.4	0.9
有否進行手術不詳	0.0	0.9	2.9
乳房切除手術的種類（總人數＝1,016）	**（人數＝408）**	**（人數＝473）**	**（人數＝135）**
全乳切除手術	88.2	85.6	85.2
保留皮膚切除手術	10.8	9.5	8.1
保留乳暈切除手術	0.0	0.8	0.0
保留乳頭切除手術	0.7	4.0	6.7
資料不詳	0.2	0.0	0.0
乳房重建手術的種類（總人數＝234）	**（人數＝79）**	**（人數＝118）**	**（人數＝37）**
橫向腹直肌皮瓣（TRAM瓣）	67.1	59.3	54.1
植入物	21.5	31.4	35.1
LD瓣	3.8	5.9	8.1
LD瓣及植入物	7.6	2.5	0.0
資料不詳	0.0	0.8	2.7
淋巴結手術的種類（總人數＝1,480）	**（人數＝571）**	**（人數＝694）**	**（人數＝215）**
前哨淋巴結切片	76.7	91.2	96.7
腋下淋巴切除	19.4	5.9	2.3
前哨淋巴結切片後再接受腋下淋巴切除	3.3	1.3	0.9
資料不詳	0.5	1.6	0.0

2.34 接受乳房切除手術的患者比率與年齡成正比，而接受乳房切除及重建手術的比率則與年齡成反比（表2.22）。

2.35 在腫瘤大於1厘米的患者中，接受乳房保留手術的比率與腫瘤大小成反比（表2.23）。

表2.22：按年齡組別分析手術類型（總人數 = 17,412）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）																							
	<20			20-29			30-39			40-49			50-59			60-69			70-79			80+		
乳房保留手術	0.0	0.0	0.0	44.2	55.6	70.0	48.0	46.8	49.7	41.3	44.6	49.9	32.2	36.1	44.6	26.9	25.4	32.8	12.9	18.8	19.2	14.7	10.7	10.5
乳房切除手術	0.0	0.0	0.0	32.7	11.1	15.0	33.4	32.3	29.3	47.1	43.0	34.7	62.4	58.8	48.6	71.3	72.6	66.2	86.8	81.0	80.8	85.3	89.3	89.5
乳房切除+重建手術	0.0	100.0	0.0	23.1	33.3	15.0	18.5	20.8	21.0	11.6	12.4	15.3	5.4	5.0	6.7	1.8	2.1	1.0	0.3	0.2	0.0	0.0	0.0	0.0

按年齡組別劃分每個受訪群組人數：

<20： 0（2006至2010年），1（2011至2015年），0（2016年至目前）
20-29：52（2006至2010年），45（2011至2015年），20（2016年至目前）
30-39：664（2006至2010年），662（2011至2015年），181（2016年至目前）
40-49：2,464（2006至2010年），2,510（2011至2015年），685（2016年至目前）
50-59：2,099（2006至2010年），2,830（2011至2015年），831（2016年至目前）
60-69：850（2006至2010年），1,699（2011至2015年），628（2016年至目前）
70-79：318（2006至2010年），504（2011至2015年），172（2016年至目前）
80+： 75（2006至2010年），84（2011至2015年），38（2016年至目前）

表2.23：按腫瘤大小分析手術類型（總人數 = 16,193）

	腫瘤大小（厘米） 2006至2010年（%），2011至2015年（%），2016年至目前（%）																	
	≤ 0.10			0.11-0.50			0.51-1.00			1.01-2.00			2.01-5.00			>5.00		
乳房保留手術	34.0	37.7	42.9	42.9	46.3	52.7	50.7	48.8	66.1	45.2	47.1	53.2	26.4	26.4	30.4	6.1	8.3	9.5
乳房切除手術	44.0	54.9	50.0	47.0	44.5	37.1	43.5	43.1	27.8	49.2	47.9	41.2	64.3	65.2	61.1	72.6	75.1	65.5
乳房切除+重建手術	22.0	7.4	7.1	10.1	9.2	10.2	5.8	8.1	6.0	5.7	5.0	5.6	9.4	8.4	8.6	21.3	16.6	25.0

按腫瘤大小劃分每個受訪群組人數：

≤0.10厘米： 100（2006至2010年），122（2011至2015年），42（2016年至目前）
0.11-0.50厘米：368（2006至2010年），533（2011至2015年），167（2016年至目前）
0.51-1.00厘米：672（2006至2010年），778（2011至2015年），248（2016年至目前）
1.01-2.00厘米：2,243（2006至2010年），2,657（2011至2015年），803（2016年至目前）
2.01-5.00厘米：2,680（2006至2010年），3,160（2011至2015年），935（2016年至目前）
>5.00厘米： 264（2006至2010年），337（2011至2015年），84（2016年至目前）

表2.24：按癌症期數分析手術類型（總人數 = 17,464）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	0期			I期			II期			III期			IV期		
乳房保留手術	52.1	53.1	59.0	46.9	47.3	56.0	30.6	31.6	34.7	12.8	14.3	14.9	6.9	7.9	19.0
乳房切除手術	38.6	35.5	30.3	46.7	47.0	38.0	61.1	61.5	57.2	76.1	74.9	75.9	81.6	79.2	76.2
乳房切除+重建手術	9.3	11.3	10.7	6.4	5.8	6.0	8.3	7.0	8.1	11.0	10.8	9.1	11.5	12.9	4.8

按癌症期數劃分每個受訪群組人數：

0期： 849（2006至2010年），1,005（2011至2015年），327（2016年至目前）
I期： 2,127（2006至2010年），2,711（2011至2015年），836（2016年至目前）
II期： 2,642（2006至2010年），3,164（2011至2015年），960（2016年至目前）
III期： 960（2006至2010年），1,248（2011至2015年），328（2016年至目前）
IV期： 87（2006至2010年），178（2011至2015年），42（2016年至目前）

2.36 在各個受訪群組中，進行乳房保留手術的患者比率與癌症期數成反比，而乳房切除及重建手術與癌症期數並沒有顯示任何明顯關係（表2.24）。

2.37 三個受訪群組中，與在公營醫療機構接受手術治療（25.6%-31.4%）的相比，在私營醫療機構接受手術治療的患者（44.9%-53.1%）較多接受乳房保留手術（表2.25）。

表2.25：按患者接受治療的醫療服務種類分析手術類型（總人數 = 17,299）

	醫療服務種類 2006至2010年（%），2011至2015年（%），2016年至目前（%）					
	私營醫療機構			公營醫療機構		
乳房保留手術	44.9	45.5	53.1	25.6	28.1	31.4
乳房切除手術	46.0	45.1	36.4	66.3	65.2	62.7
乳房切除+重建手術	9.0	9.3	10.5	8.0	6.7	5.9

按醫療服務種類劃分每個受訪群組人數：

私營醫療機構： 3,493（2006至2010年），3,878（2011至2015年），1,258（2016年至目前）

公營醫療機構： 3,036（2006至2010年），4,360（2011至2015年），1,274（2016年至目前）

2.38 相比臨床淋巴結狀況呈陽性的患者（10.0%-23.1%），臨床淋巴結狀況呈陰性的患者（45.2%-79.9%）較多接受了前哨淋巴結切片檢查。相反，相比臨床淋巴結狀況呈陰性的患者（9.0%-41.5%），臨床淋巴結狀況呈陽性的患者（58.3%-80.5%）則較多沒有先接受前哨淋巴結切片檢查，而直接進行腋下淋巴切除手術。表2.26顯示各個受訪群組中臨床淋巴結狀況呈陽性或陰性的患者接受淋巴結手術的種類。

2.39 接受腋下淋巴切除手術的患者比率與癌症期數成正比。在各個受訪群組中，接受前哨淋巴結切片檢查之後再需要接受腋下淋巴切除手術的患者從I期到II期有所增加；但從III期到IV期則有所減少（表2.27）。這個趨勢可能是因為受訪的III期或IV期患者較多接受腋下淋巴切除手術作為她們第一個淋巴結手術。

表2.26：按臨床淋巴結狀況分析淋巴結手術的種類（總人數 = 16,773）

	臨床淋巴結狀況 2006至2010年（%），2011至2015年（%），2016年至目前（%）					
	呈陰性			呈陽性		
前哨淋巴結切片檢查	45.2	63.7	79.9	10.0	19.5	23.1
前哨淋巴結切片檢查+腋下淋巴切除手術	13.2	15.9	11.2	9.5	13.5	18.6
腋下淋巴切除手術	41.5	20.4	9.0	80.5	67.0	58.3

按臨床淋巴結狀況劃分每個受訪群組人數：

呈陰性： 5,282（2006至2010年），6,044（2011至2015年），1,827（2016年至目前）

呈陽性： 1,068（2006至2010年），1,933（2011至2015年），619（2016年至目前）

表2.27：按癌症期數分析淋巴結手術的種類（總人數 = 14,959）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	I期			IIA期			IIB期			III期			IV期		
前哨淋巴結切片檢查	62.7	82.8	91.7	35.8	53.6	72.3	9.5	15.9	25.3	3.0	5.7	12.2	2.3	9.1	25.6
前哨淋巴結切片檢查+腋下淋巴切除手術	5.1	5.8	2.7	16.8	17.9	15.3	27.9	36.5	39.0	14.2	21.5	20.4	4.6	9.1	10.3
腋下淋巴切除手術	32.1	11.5	5.7	47.5	28.6	12.4	62.6	47.6	35.7	82.8	72.8	67.4	93.1	81.8	64.1

按癌症期數劃分每個受訪群組人數：

I期： 2,087（2006至2010年），2,646（2011至2015年），830（2016年至目前）

IIA期： 1,753（2006至2010年），2,013（2011至2015年），635（2016年至目前）

IIB期： 850（2006至2010年），1,083（2011至2015年），300（2016年至目前）

III期： 939（2006至2010年），1,213（2011至2015年），319（2016年至目前）

IV期： 87（2006至2010年），165（2011至2015年），39（2016年至目前）

2.40 在各個受訪群組中，大約半數（56.4%-60.1%）淋巴結呈陽性的入侵性乳癌患者有2-5厘米的腫瘤，約十分之一（8.0%-9.0%）患者的腫瘤則大於5厘米。相比淋巴結呈陽性的患者（31.1%-34.6%），淋巴結呈陰性的患者（62.2%-64.7%）較多有小於2厘米的腫瘤（表2.28）。

2.41 三個受訪群組中，94.6%至96.9%僅接受前哨淋巴結切片檢查的患者沒有淋巴結呈陽性，而32.8%至51.2%接受了腋下淋巴切除手術的患者及8.5%至20.6%接受前哨淋巴結切片檢查後再接受腋下淋巴切除手術的患者沒有淋巴結呈陽性（表2.29）。

表2.28：按臨床淋巴結狀況分析入侵性乳癌的腫瘤大小（總人數 = 12,652）

	腫瘤大小（厘米） 2006至2010年（%），2011至2015年（%），2016年至目前（%）					
	呈陰性			呈陽性		
≤ 0.10 厘米	2.4	2.3	2.7	0.5	0.3	0.0
0.11-0.50 厘米	6.8	8.5	8.1	1.7	2.1	1.3
0.51-1.00 厘米	13.0	12.7	13.9	4.0	3.8	2.2
1.01-2.00 厘米	40.0	40.9	40.0	28.4	27.3	27.6
2.01-5.00 厘米	35.9	33.8	33.7	56.4	58.5	60.1
> 5.00 厘米	1.9	1.7	1.6	9.0	8.0	8.8

按臨床淋巴結狀況劃分每個受訪群組人數：

呈陰性： 3,065（2006至2010年），3,663（2011至2015年），1,154（2016年至目前）

呈陽性： 1,936（2006至2010年），2,240（2011至2015年），594（2016年至目前）

表2.29：按淋巴結手術種類分析陽性淋巴結數目（總人數 = 14,852）

	淋巴結手術種類 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	前哨淋巴結切片檢查			前哨淋巴結切片檢查+腋下淋巴切除手術			腋下淋巴切除手術		
0粒陽性淋巴結	96.9	96.5	94.6	20.6	14.3	8.5	51.2	40.8	32.8
1-3粒陽性淋巴結	2.7	3.1	4.3	60.9	63.3	70.7	25.9	30.3	35.5
4-9粒陽性淋巴結	0.4	0.4	0.8	14.8	16.6	13.5	14.2	17.9	19.0
10+粒陽性淋巴結	0.0	0.1	0.3	3.7	5.8	7.3	8.7	11.0	12.7

按淋巴結手術種類劃分每個受訪群組人數：

前哨淋巴結切片檢查：2,218（2006至2010年），3,699（2011至2015年），1,374（2016年至目前）

前哨淋巴結切片檢查+腋下淋巴切除手術：2,887（2006至2010年），2,326（2011至2015年），473（2016年至目前）

腋下淋巴切除手術：647（2006至2010年），969（2011至2015年），259（2016年至目前）

B. 放射性治療

2.42 放射性治療（或稱電療）是治療乳癌的其中一種方法，透過游離輻射在細胞基因層面上破壞癌細胞，停止癌細胞繁殖。放射性治療可以在兩種情況下進行：(i) 局部區域性放射性治療，指乳房，胸壁和/或周邊淋巴結接受放射治療；(ii) 紓緩性放射性治療（例如骨骼）用於減輕由癌細胞轉移而引起的症狀，包括疼痛，神經或腫瘤壓迫引致的不適，氣道阻塞，出血和有分泌物。

i. 局部區域性放射性治療

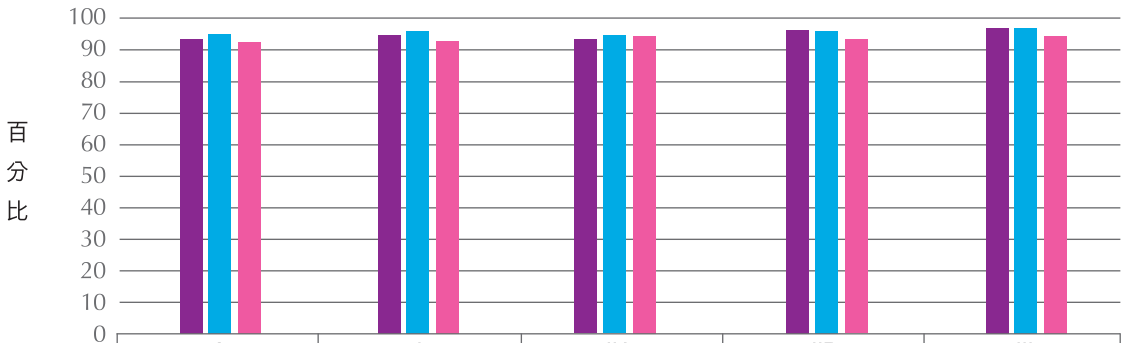
2.43 乳房保留手術隨後接受電療是乳房保留療法的一部分，目的是希望達到與乳房切除手術一樣的預後效果。這個做法適用於所有入侵性乳癌和大部分原位癌的患者。部份接受乳房切除手術的患者，如癌腫瘤體積較大，有多粒淋巴結遭癌細胞入侵，或者於血管或淋巴管道中發現癌細胞者，都需要接受電療。

2.44 各個受訪群組中，三分之二（2006-2010：62.7%；2011-2015：62.6%；2016-目前：64.2%）患者接受局部區域性放射性治療作為治療的一部分，當中接近全部（2006-2010：99.9%；2011-2015：99.7%；2016-目前：99.9%）屬於術後輔助性治療，只有一小撮（2006-2010：<0.1%；2011-2015：0.2%；2016-目前:：0.0%）屬於手術前的前置治療。超過五分之四（2006-2010：86.9%；2011-2015：89.3%；2016-目前：85.7%）患者在公營醫療機構接受電療，其餘（2006-2010：13.1%；2011-2015：10.7%；2016-目前：14.3%）患者則在私營醫療機構接受電療。

2.45 圖2.9及圖2.10分別顯示各個受訪群組中接受了乳房保留手術及乳房切除手術的患者在不同癌症期數接受局部區域性放射性治療的比率。接受乳房保留手術的入侵性乳癌患者隨後接受局部區域性放射性治療的比率很高（超過92%）（圖2.9）。另一方面，入侵性乳癌患者進行乳房切除手術後接受局部放射性治療的比率隨著癌症期數上升而增加（圖2.10）。

2.46 在曾接受乳房保留手術的原位乳癌患者中，大部分（92.2%-95.3%）都會隨後接受局部區域性放射性治療（圖2.9）。然而，接受了乳房切除手術的原位乳癌患者只有小部分（2.8%-3.7%）會接受放射性治療（圖2.10）。

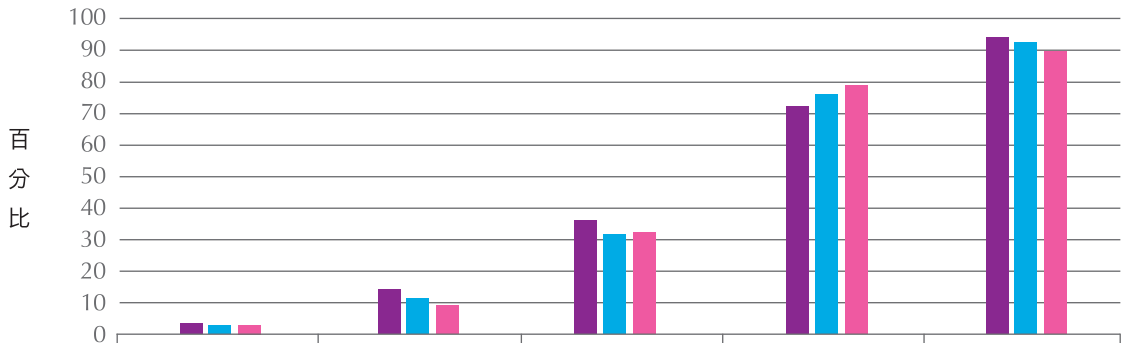
圖2.9： 按癌症期數分析曾接受乳房保留手術患者接受局部區域性放射性治療的比率（總人數 = 6,406）



	0	I	IIA	IIB	III
2006至2010年（人數=2,373）	92.8	94.6	93.7	96.3	97.6
2011至2015年（人數=2,991）	95.3	95.9	94.5	96.0	97.8
2016年至目前（人數=1,042）	92.2	92.9	94.5	93.6	93.9

癌症期數

圖2.10：按癌症期數分析曾接受乳房切除手術患者接受局部區域性放射性治療的比率（總人數 = 10,725）



	0	I	IIA	IIB	III
2006至2010年（人數=4,198）	3.7	14.0	37.7	73.1	94.4
2011至2015年（人數=5,130）	2.8	11.4	31.9	77.3	93.3
2016年至目前（人數=1,397）	3.0	9.3	32.8	78.6	89.9

癌症期數

2.47 局部區域性放射性治療會在局部位置發出游離幅射，例如乳房/胸壁及/或周邊淋巴結。表2.30顯示按患者所接受的手術類型分析接受電療的位置。

表2.30：輔助性局部區域性放射性治療對周邊淋巴結覆蓋程度（總人數 = 7,123）

	2006至2010年（人數=3,084）%	2011至2015年（人數=3,195）%	2016年至目前（人數=844）%
乳房保留手術			
乳房	84.0	82.9	89.9
乳房及周邊淋巴結	16.0	17.1	10.1
乳房切除手術			
胸壁	27.6	23.2	22.8
胸壁及周邊淋巴結	72.4	76.8	77.2

ii. 紓緩性放射性治療

2.48 紓緩性放射性治療用於減輕由癌細胞轉移而引起的症狀，包括疼痛，神經或腫瘤壓迫引致的不適，氣道阻塞，出血和有分泌物。

2.49 在各個受訪群組中，約五分之三（2006-2010：58.7%；2011-2015：57.8%；2016-目前：63.2%）轉移性乳癌患者接受紓緩性放射性治療。其中6.9%至27.3%接受脊柱放射治療（2006-2010：27.3%；2011-2015：6.9%；2016-目前：9.3%），0.6%至14.8%接受骨盆放射治療（2006-2010：14.8%；2011-2015：0.6%；2016-目前：2.3%）。

C. 化學治療

2.50 化學治療（或稱化療）是採用一種或多種細胞毒性藥物來消滅或抑制體內癌細胞增長的全身性治療。藥物以干預乳癌細胞生長和分裂的方式，將其破壞。原位乳癌患者普遍不用接受化療。化療藥物可分為三代。[37]任何化療方案的實際療程數目是可變的，通常因應患者個人因素如骨髓儲備和副作用的嚴重程度而改變。

2.51 各個受訪群組中，約三分之二（2006-2010：70.7%；2011-2015：66.6%；2016-目前：59.2%）入侵性乳癌患者接受了化療。其中77.4%至90.0%（2006-2010：90.0%；2011-2015：81.1%；2016-目前：77.4%）患者接受術後輔助性化療，6.9%至18.8%（2006-2010：6.9%；2011-2015：14.2%；2016-目前：18.8%）接受手術前的前置化療，3.0%至4.7%（2006-2010：3.0%；2011-2015：4.7%；2016-目前：3.8%）接受紓緩性化療。大部分（2006-2010：85.4%；2011-2015：87.0%；2016-目前：86.9%）患者在公營醫療機構接受化療，其餘（2006-2010：14.6%；2011-2015：13.0%；2016-目前：13.1%）則在私營醫療機構接受化療。

2.52 在各個受訪群組中，除了第IV期患者，接受根治性化療的患者比率與癌症期數成正比（表2.31）。大部分（73.5%-86.2%）第IV期患者則接受了紓緩性化療。

2.53 一般而言，不論任何癌症期數，70歲或以上患者接受化療的比率遠低於70歲以下的患者。表2.32顯示各個受訪群組的不同年齡組別和癌症期數的患者接受化療的比率。

表2.31：按癌症期數分析患者接受化療的比率（總人數 = 15,454）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	I期			IIA 期			IIB 期			III 期			IV 期		
接受前置化療	<0.1	0.3	1.2	1.5	4.5	4.0	6.2	13.7	12.5	19.4	32.5	33.3	—	—	—
接受輔助性化療	42.2	36.1	28.7	81.4	72.9	63.8	85.4	75.4	70.4	75.5	60.9	58.2	—	—	—
接受紓緩性化療	—	—	—	—	—	—	—	—	—	—	—	—	84.8	86.2	73.5
沒有接受化療	57.7	63.7	70.1	17.1	22.6	32.2	8.4	11.0	17.0	5.1	6.6	8.5	15.2	13.8	26.5

按癌症期數劃分各個受訪群組人數：

I期： 2,118 (2006至2010年), 2,706 (2011至2015年), 829 (2016年至目前)
IIA期： 1,777 (2006至2010年), 2,051 (2011至2015年), 643 (2016年至目前)
IIB期： 856 (2006至2010年), 1,113 (2011至2015年), 311 (2016年至目前)
III期： 959 (2006至2010年), 1,267 (2011至2015年), 330 (2016年至目前)
IV期： 151 (2006至2010年), 275 (2011至2015年), 68 (2016年至目前)

表2.32：以確診時的年齡及癌症期數分析接受化療的比率（總人數 = 15,041）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	I期			IIA期			IIB期			III期			IV期		
20-29	76.5	54.5	36.4	93.3	80.0	100.0	100.0	100.0	100.0	100.0	100.0	—	100.0	100.0	—
30-39	61.4	57.3	46.8	89.7	91.4	89.1	100.0	98.9	94.4	100.0	99.1	96.4	100.0	91.7	62.5
40-49	49.2	43.8	31.2	93.7	86.2	79.1	97.4	95.7	94.7	99.2	98.0	98.8	96.2	95.1	85.0
50-59	42.6	37.8	38.0	91.9	85.9	77.4	97.1	96.1	92.0	97.6	98.0	95.3	88.9	85.6	88.9
60-69	22.3	28.0	21.1	70.7	71.8	59.7	87.3	92.1	83.3	96.4	93.1	94.4	87.5	82.9	66.7
70+	2.7	2.5	9.0	7.7	11.0	14.3	10.0	17.1	21.2	36.5	40.8	33.3	29.4	42.9	33.3

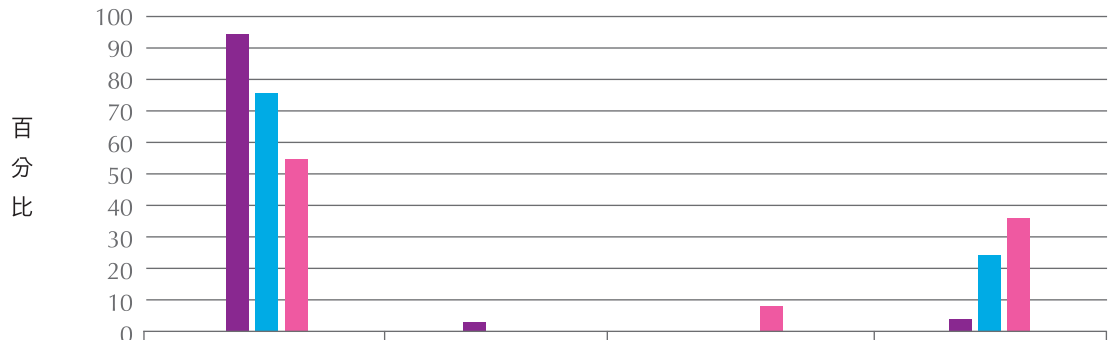
按確診時的年齡及癌症期數劃分各個受訪群組人數：

I & 20-29: 18 (2006至2010年), 11 (2011至2015年), 11 (2016年至目前)
I & 30-39: 220 (2006至2010年), 192 (2011至2015年), 62 (2016年至目前)
I & 40-49: 799 (2006至2010年), 827 (2011至2015年), 221 (2016年至目前)
I & 50-59: 629 (2006至2010年), 875 (2011至2015年), 237 (2016年至目前)
I & 60-69: 247 (2006至2010年), 522 (2011至2015年), 204 (2016年至目前)
I & 70+: 117 (2006至2010年), 199 (2011至2015年), 67 (2016年至目前)
IIA & 20-29: 15 (2006至2010年), 10 (2011至2015年), 2 (2016年至目前)
IIA & 30-39: 194 (2006至2010年), 163 (2011至2015年), 46 (2016年至目前)
IIA & 40-49: 601 (2006至2010年), 549 (2011至2015年), 153 (2016年至目前)
IIA & 50-59: 557 (2006至2010年), 680 (2011至2015年), 208 (2016年至目前)
IIA & 60-69: 232 (2006至2010年), 468 (2011至2015年), 159 (2016年至目前)
IIA & 70+: 130 (2006至2010年), 145 (2011至2015年), 56 (2016年至目前)
IIB & 20-29: 10 (2006至2010年), 6 (2011至2015年), 2 (2016年至目前)
IIB & 30-39: 82 (2006至2010年), 89 (2011至2015年), 18 (2016年至目前)
IIB & 40-49: 305 (2006至2010年), 329 (2011至2015年), 75 (2016年至目前)
IIB & 50-59: 280 (2006至2010年), 357 (2011至2015年), 113 (2016年至目前)
IIB & 60-69: 118 (2006至2010年), 228 (2011至2015年), 66 (2016年至目前)
IIB & 70+: 40 (2006至2010年), 78 (2011至2015年), 33 (2016年至目前)
III & 20-29: 6 (2006至2010年), 6 (2011至2015年), 0 (2016年至目前)
III & 30-39: 73 (2006至2010年), 117 (2011至2015年), 28 (2016年至目前)
III & 40-49: 374 (2006至2010年), 352 (2011至2015年), 80 (2016年至目前)
III & 50-59: 295 (2006至2010年), 445 (2011至2015年), 106 (2016年至目前)
III & 60-69: 138 (2006至2010年), 247 (2011至2015年), 89 (2016年至目前)
III & 70+: 52 (2006至2010年), 76 (2011至2015年), 21 (2016年至目前)
IV & 20-29: 1 (2006至2010年), 3 (2011至2015年), 0 (2016年至目前)
IV & 30-39: 6 (2006至2010年), 24 (2011至2015年), 8 (2016年至目前)
IV & 40-49: 53 (2006至2010年), 81 (2011至2015年), 20 (2016年至目前)
IV & 50-59: 54 (2006至2010年), 104 (2011至2015年), 18 (2016年至目前)
IV & 60-69: 16 (2006至2010年), 41 (2011至2015年), 15 (2016年至目前)
IV & 70+: 17 (2006至2010年), 14 (2011至2015年), 6 (2016年至目前)

i. 手術前的前置化療

2.54 在各個受訪群組曾接受化療的患者中，6.9%至18.8%（2006-2010：6.9%；2011-2015：14.2%；2016-目前：18.8%）接受了手術前的前置化療。前置化療的使用比率隨着癌症期數上升而增加（表2.31）。圖2.11，圖2.12及圖2.13顯示了各個受訪群組中三代化療藥物在前置化療的使用比率。針對HER2的化療藥物方案的使用比率可見於圖2.14。各個受訪群組中不同癌症生物學亞型患者所用的化療藥物種類可見於圖2.15。

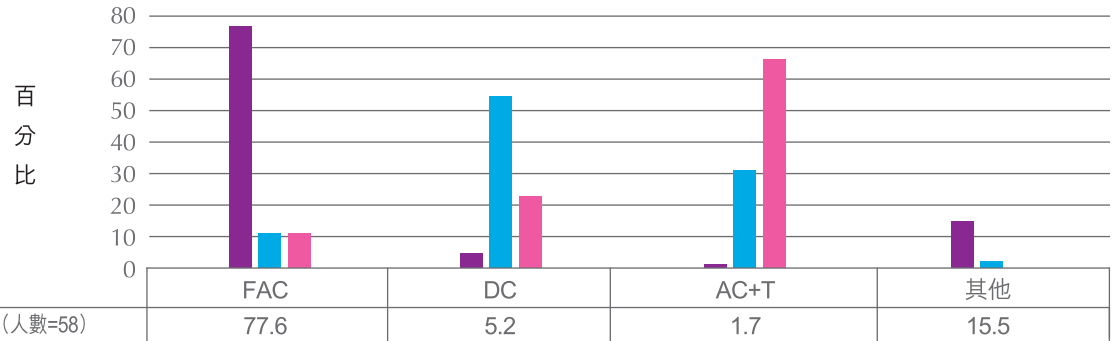
圖2.11：第一代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 166）



	AC	CMF	EC	其他
2006至2010年（人數=80）	93.8	2.5	0.0	3.8
2011至2015年（人數=75）	76.0	0.0	0.0	24.0
2016年至目前（人數=11）	54.5	0.0	9.1	36.4

第一代化療藥物

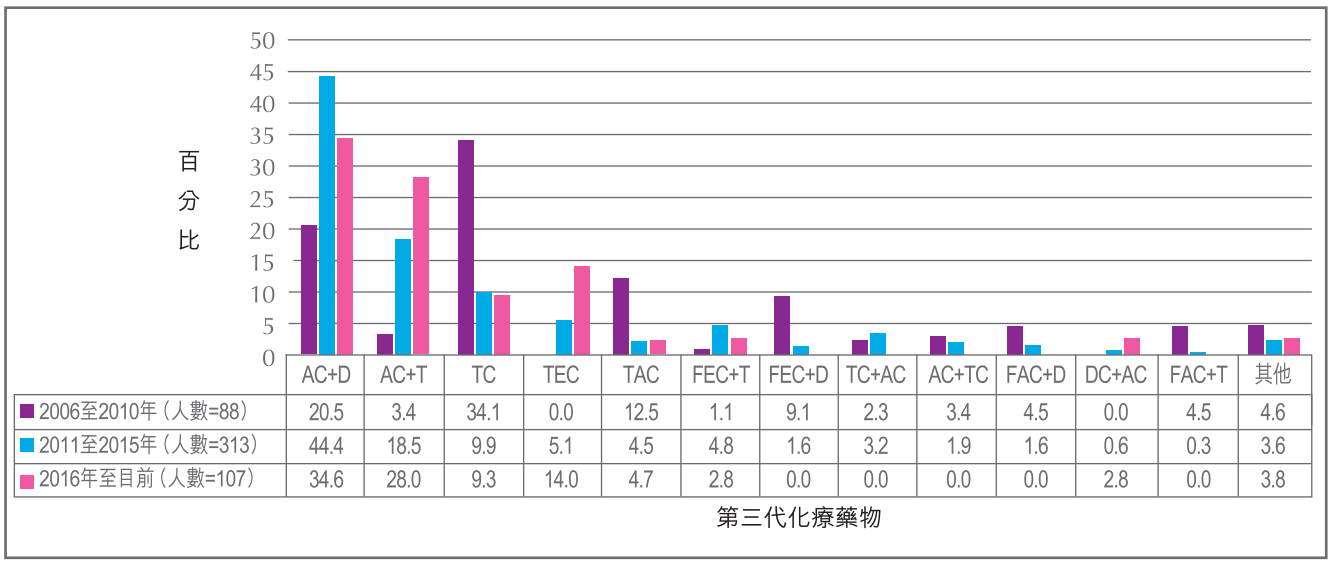
圖2.12：第二代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 112）



	FAC	DC	AC+T	其他
2006至2010年（人數=58）	77.6	5.2	1.7	15.5
2011至2015年（人數=45）	11.1	55.6	31.1	2.2
2016年至目前（人數=9）	11.1	22.2	66.7	0.0

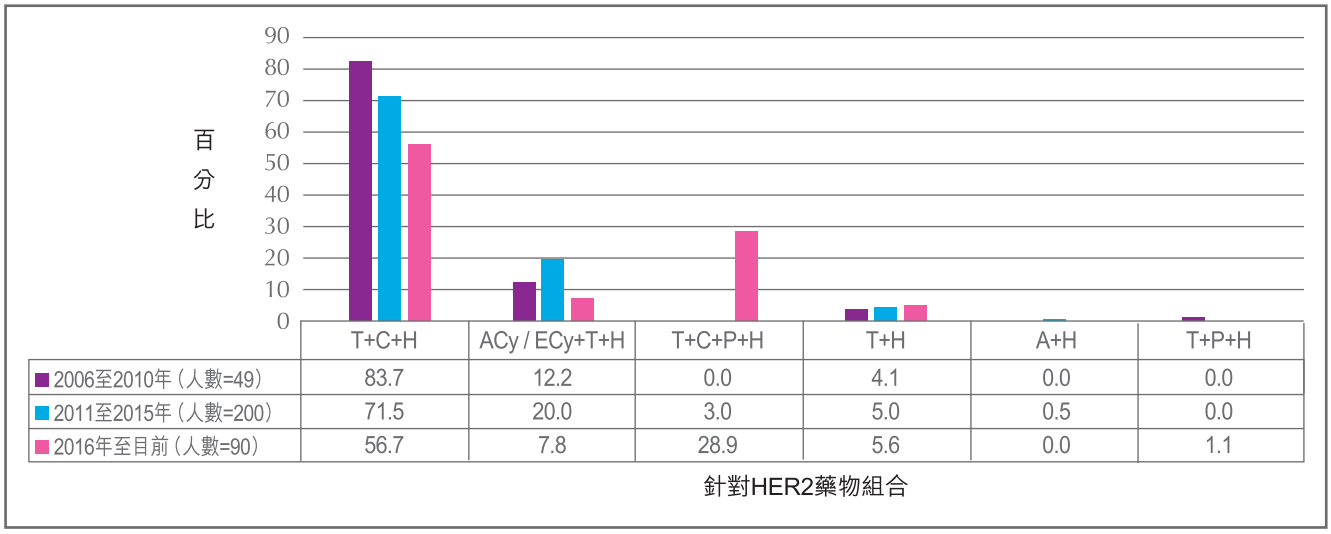
第二代化療藥物

圖2.13：第三代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 508）



	AC+D	AC+T	TC	TEC	TAC	FEC+T	FEC+D	TC+AC	AC+TC	FAC+D	DC+AC	FAC+T	其他
2006至2010年（人數=88）	20.5	3.4	34.1	0.0	12.5	1.1	9.1	2.3	3.4	4.5	0.0	4.5	4.6
2011至2015年（人數=313）	44.4	18.5	9.9	5.1	4.5	4.8	1.6	3.2	1.9	1.6	0.6	0.3	3.6
2016年至目前（人數=107）	34.6	28.0	9.3	14.0	4.7	2.8	0.0	0.0	0.0	0.0	2.8	0.0	3.8

圖2.14：在前置化療針對HER2的藥物組合使用比率（總人數 = 339）



	T+C+H	ACy / ECy+T+H	T+C+P+H	T+H	A+H	T+P+H
2006至2010年（人數=49）	83.7	12.2	0.0	4.1	0.0	0.0
2011至2015年（人數=200）	71.5	20.0	3.0	5.0	0.5	0.0
2016年至目前（人數=90）	56.7	7.8	28.9	5.6	0.0	1.1

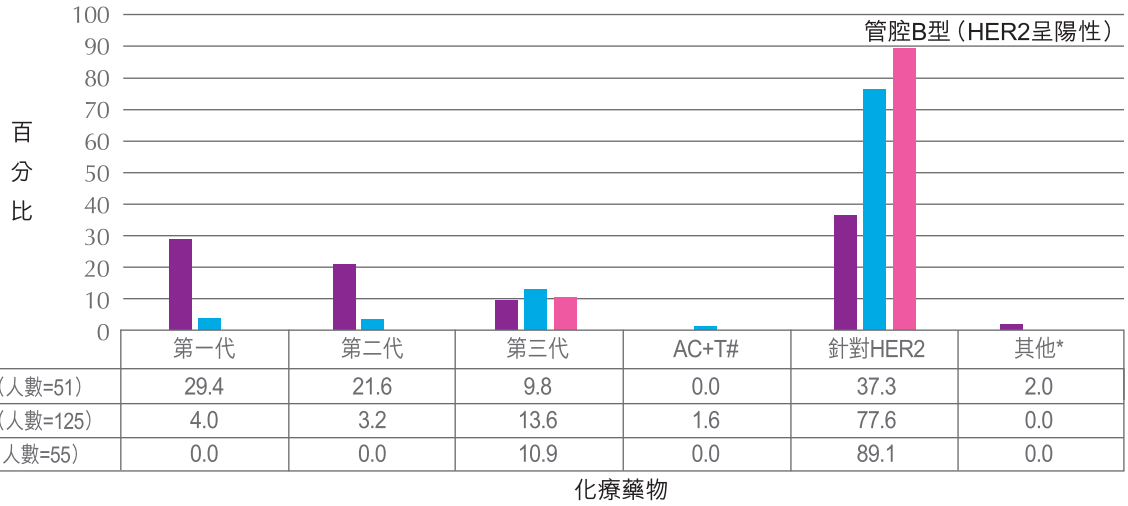
A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

圖2.15：按乳癌生物學亞型分析患者在手術前的前置化療使用的藥物種類（總人數 = 1,025）

#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

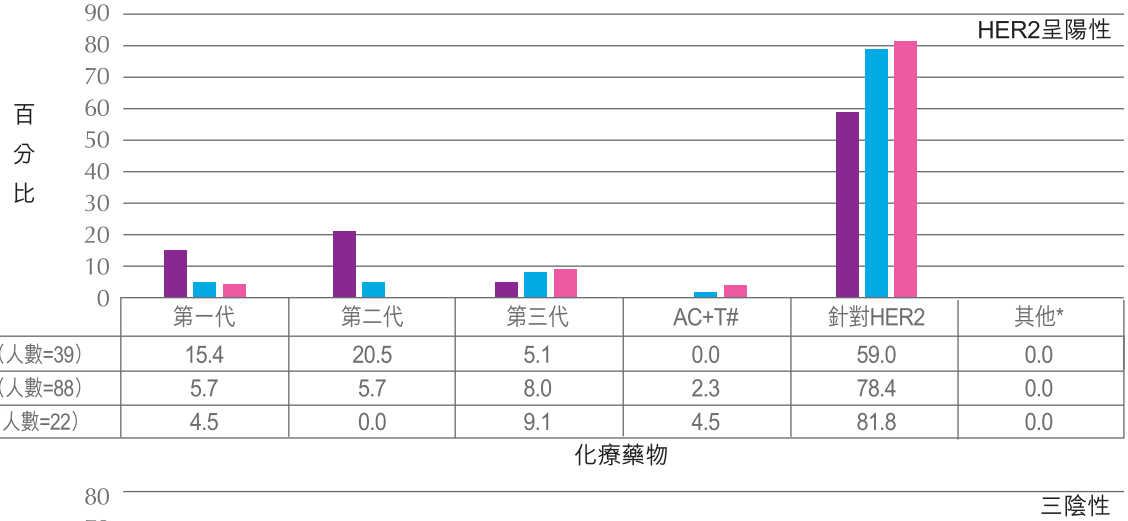
* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

圖2.15：按乳癌生物學亞型分析患者在手術前的前置化療使用的藥物種類（總人數 = 1,025）（續）



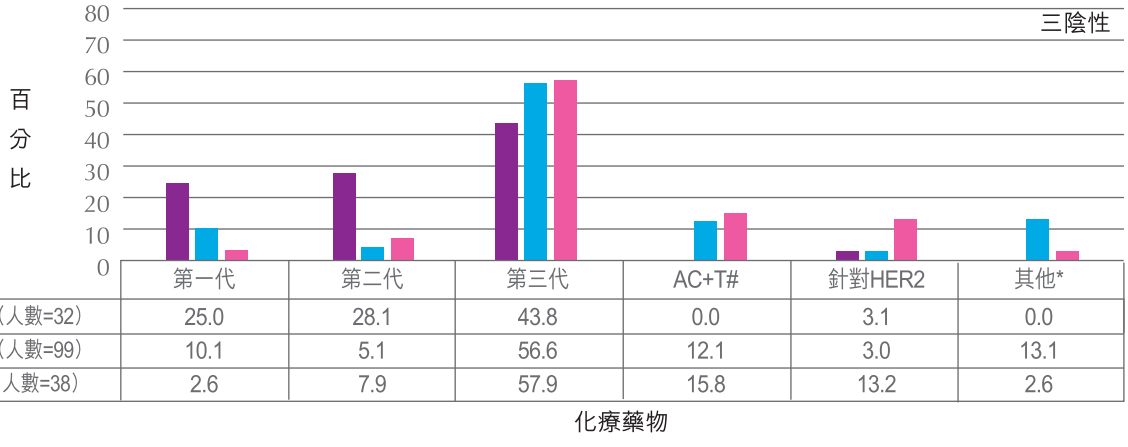
	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=51）	29.4	21.6	9.8	0.0	37.3	2.0
2011至2015年（人數=125）	4.0	3.2	13.6	1.6	77.6	0.0
2016年至目前（人數=55）	0.0	0.0	10.9	0.0	89.1	0.0

化療藥物



	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=39）	15.4	20.5	5.1	0.0	59.0	0.0
2011至2015年（人數=88）	5.7	5.7	8.0	2.3	78.4	0.0
2016年至目前（人數=22）	4.5	0.0	9.1	4.5	81.8	0.0

化療藥物



	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=32）	25.0	28.1	43.8	0.0	3.1	0.0
2011至2015年（人數=99）	10.1	5.1	56.6	12.1	3.0	13.1
2016年至目前（人數=38）	2.6	7.9	57.9	15.8	13.2	2.6

化療藥物

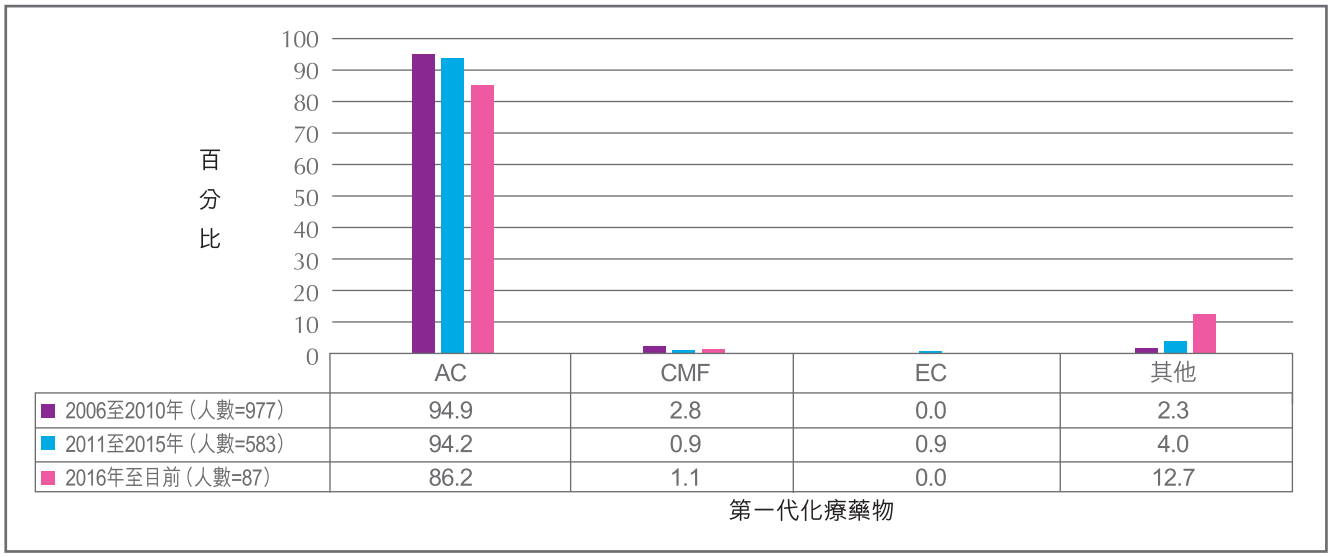
#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

ii. 術後輔助性化療

2.55 在各個受訪群組曾接受化療的患者中，大部分（2006-2010：90.0%；2011-2015：81.1%；2016-目前：77.4%）接受了術後輔助性（第I至III期患者）化療。圖2.16，圖2.17及圖2.18顯示了各個受訪群組中三代化療藥物在術後輔助性化療的使用比率。針對HER2的化療藥物方案的使用比率可見於圖2.19。圖2.20及圖2.21分別顯示在各個受訪群組中不同癌症生物學亞型及癌症期數患者所採用的化療藥物種類。

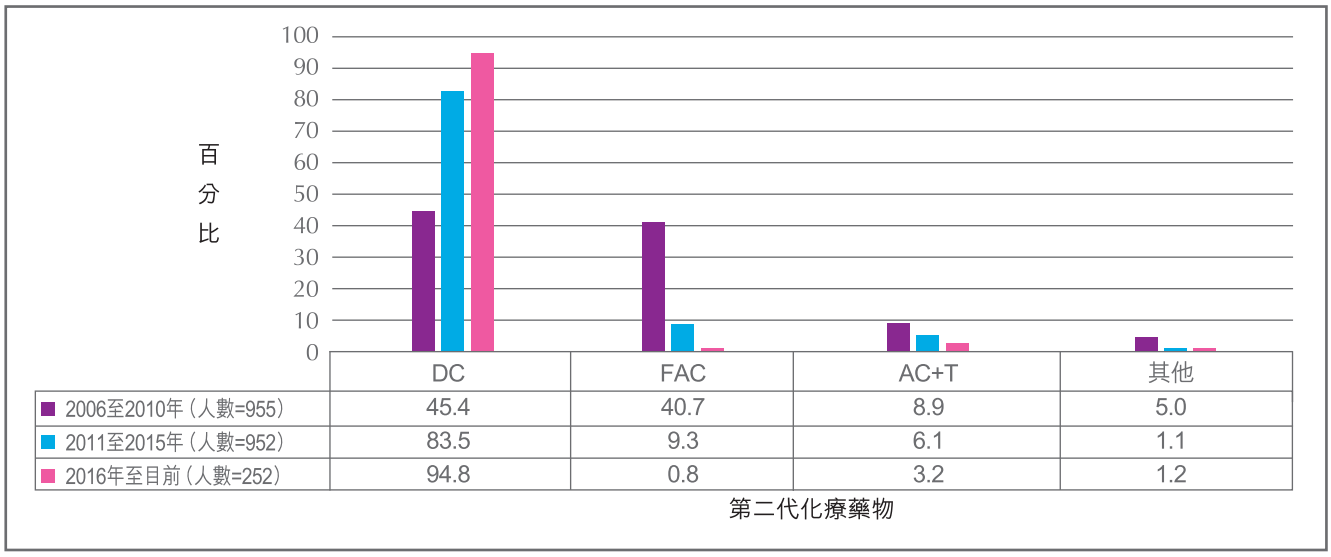
圖2.16：第一代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 1,647）



	AC	CMF	EC	其他
2006至2010年（人數=977）	94.9	2.8	0.0	2.3
2011至2015年（人數=583）	94.2	0.9	0.9	4.0
2016年至目前（人數=87）	86.2	1.1	0.0	12.7

第一代化療藥物

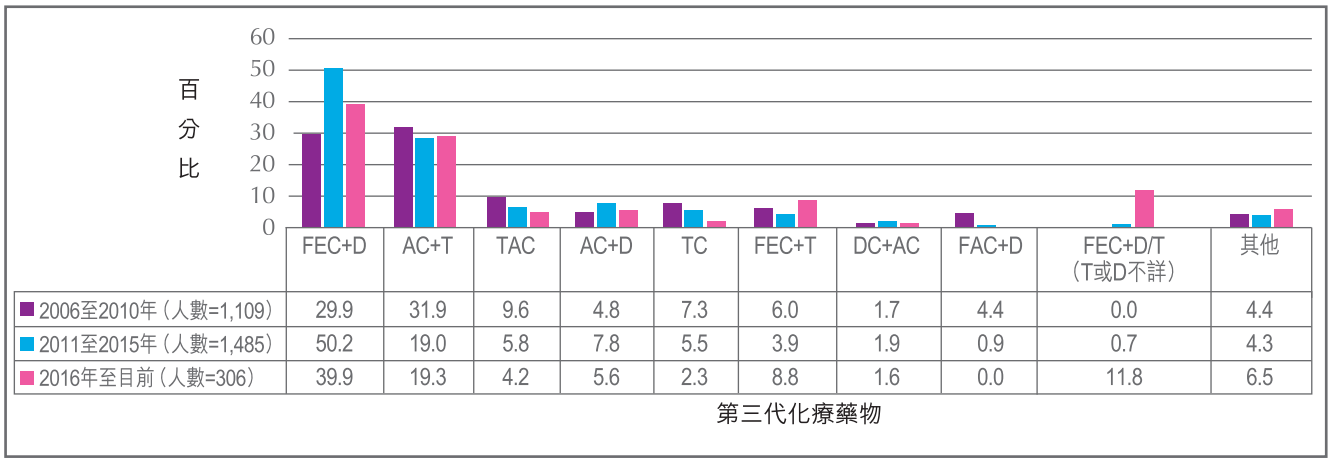
圖2.17：第二代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 2,159）



	DC	FAC	AC+T	其他
2006至2010年（人數=955）	45.4	40.7	8.9	5.0
2011至2015年（人數=952）	83.5	9.3	6.1	1.1
2016年至目前（人數=252）	94.8	0.8	3.2	1.2

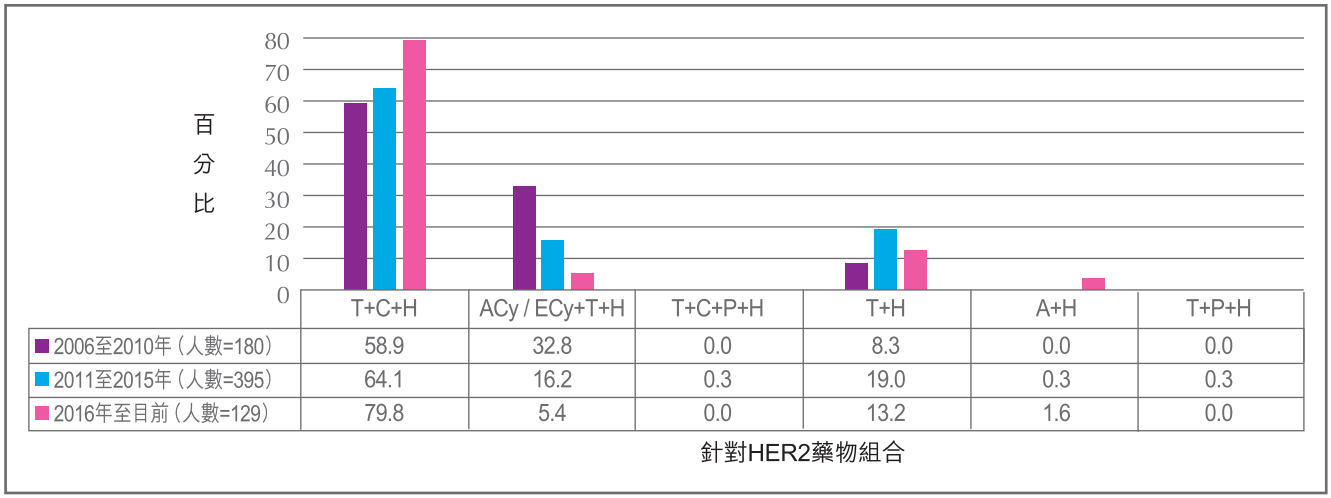
第二代化療藥物

圖2.18：第三代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 2,900）



	FEC+D	AC+T	TAC	AC+D	TC	FEC+T	DC+AC	FAC+D	FEC+D/T（T或D不詳）	其他
2006至2010年（人數=1,109）	29.9	31.9	9.6	4.8	7.3	6.0	1.7	4.4	0.0	4.4
2011至2015年（人數=1,485）	50.2	19.0	5.8	7.8	5.5	3.9	1.9	0.9	0.7	4.3
2016年至目前（人數=306）	39.9	19.3	4.2	5.6	2.3	8.8	1.6	0.0	11.8	6.5

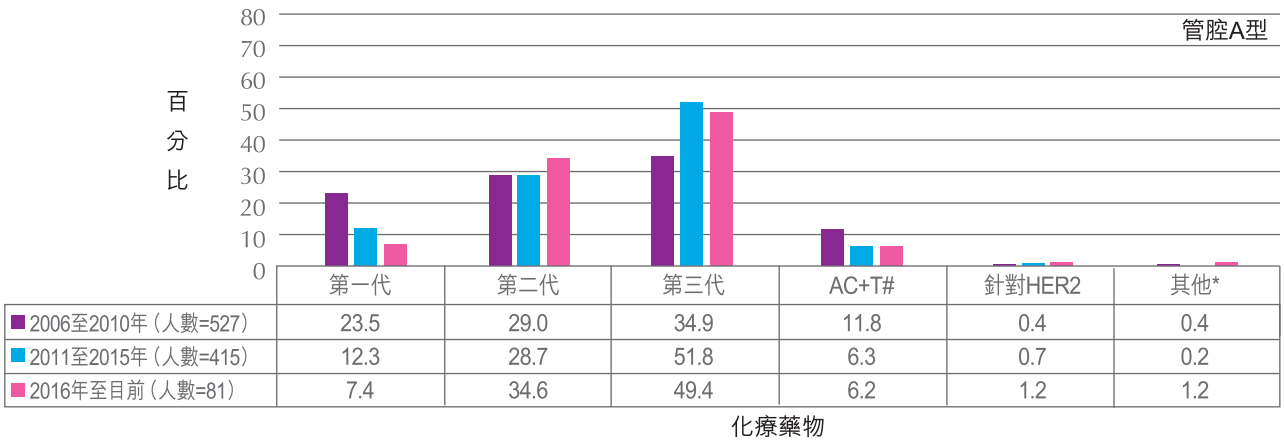
圖2.19：在術後輔助性化療針對HER2的藥物組合使用比率（總人數 = 704）



	T+C+H	ACy / ECy+T+H	T+C+P+H	T+H	A+H	T+P+H
2006至2010年（人數=180）	58.9	32.8	0.0	8.3	0.0	0.0
2011至2015年（人數=395）	64.1	16.2	0.3	19.0	0.3	0.3
2016年至目前（人數=129）	79.8	5.4	0.0	13.2	1.6	0.0

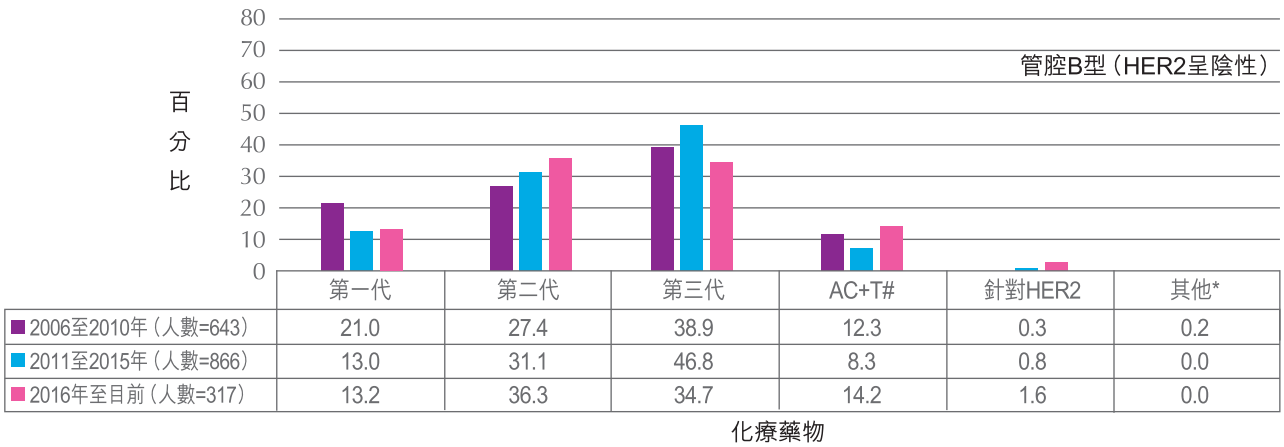
A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

圖2.20：按乳癌生物學亞型分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,722）



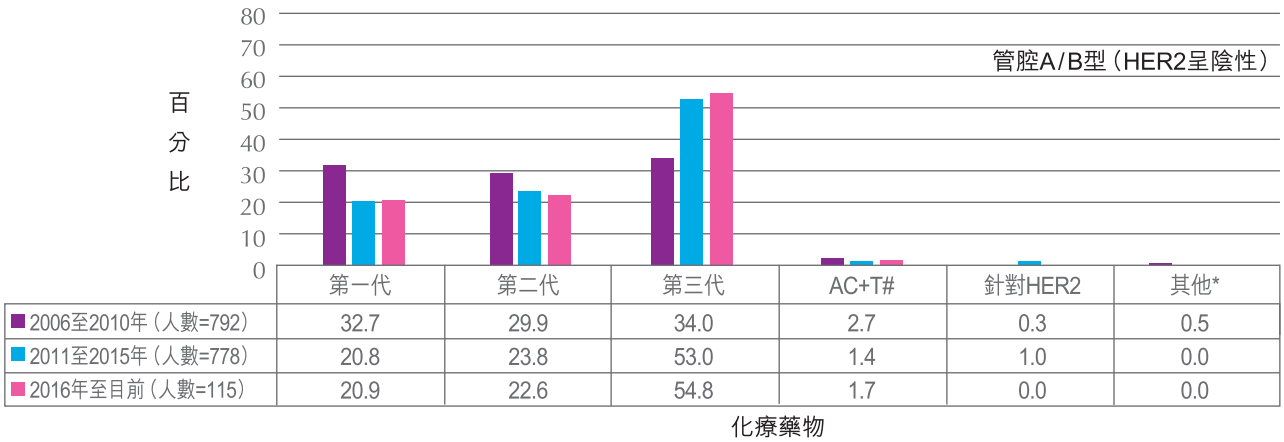
	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=527）	23.5	29.0	34.9	11.8	0.4	0.4
2011至2015年（人數=415）	12.3	28.7	51.8	6.3	0.7	0.2
2016年至目前（人數=81）	7.4	34.6	49.4	6.2	1.2	1.2

化療藥物



	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=643）	21.0	27.4	38.9	12.3	0.3	0.2
2011至2015年（人數=866）	13.0	31.1	46.8	8.3	0.8	0.0
2016年至目前（人數=317）	13.2	36.3	34.7	14.2	1.6	0.0

化療藥物



	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=792）	32.7	29.9	34.0	2.7	0.3	0.5
2011至2015年（人數=778）	20.8	23.8	53.0	1.4	1.0	0.0
2016年至目前（人數=115）	20.9	22.6	54.8	1.7	0.0	0.0

化療藥物

#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

圖2.20：按乳癌生物學亞型分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,722）（續）

管腔B型（HER2呈陽性）

	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=587）	31.7	18.6	27.4	3.9	18.2	0.2
2011至2015年（人數=513）	19.9	19.9	17.5	1.8	40.9	0.0
2016年至目前（人數=123）	4.1	20.3	10.6	0.0	65.0	0.0

HER2呈陽性

	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=339）	26.0	26.5	25.1	3.8	18.6	0.0
2011至2015年（人數=407）	20.1	22.6	17.2	1.5	38.1	0.5
2016年至目前（人數=63）	3.2	23.8	14.3	0.0	58.7	0.0

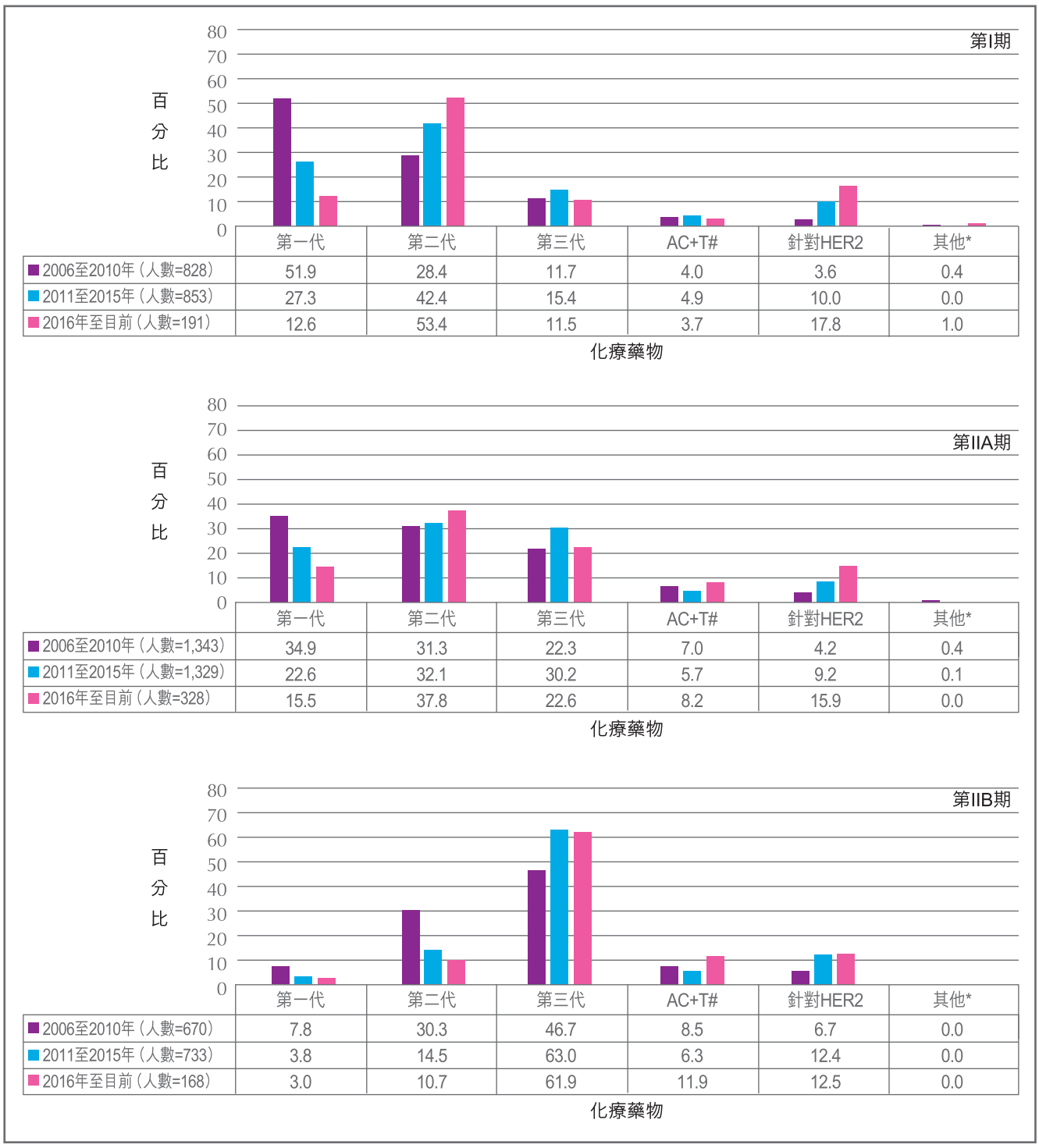
三陰性

	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=494）	31.8	31.0	26.5	10.3	0.0	0.4
2011至2015年（人數=551）	11.4	29.6	44.6	13.8	0.5	0.0
2016年至目前（人數=111）	2.7	26.1	53.2	16.2	0.9	0.9

#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

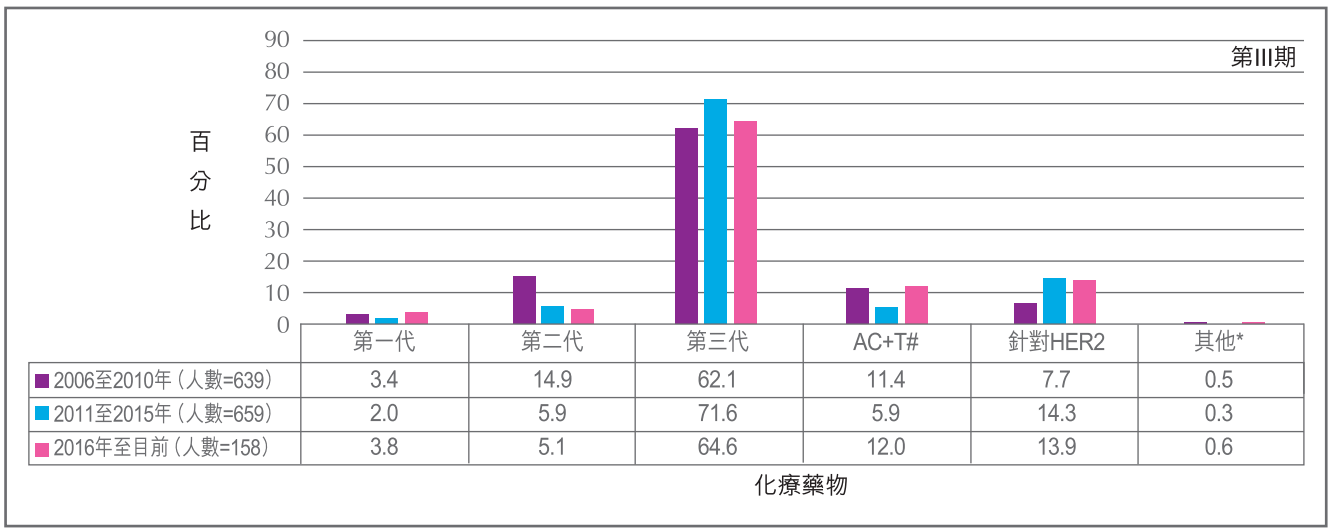
圖2.21：按癌症期數分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,899）



#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

圖2.21：按癌症期數分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,899）（續）



	第一代	第二代	第三代	AC+T#	針對HER2	其他*
2006至2010年（人數=639）	3.4	14.9	62.1	11.4	7.7	0.5
2011至2015年（人數=659）	2.0	5.9	71.6	5.9	14.3	0.3
2016年至目前（人數=158）	3.8	5.1	64.6	12.0	13.9	0.6

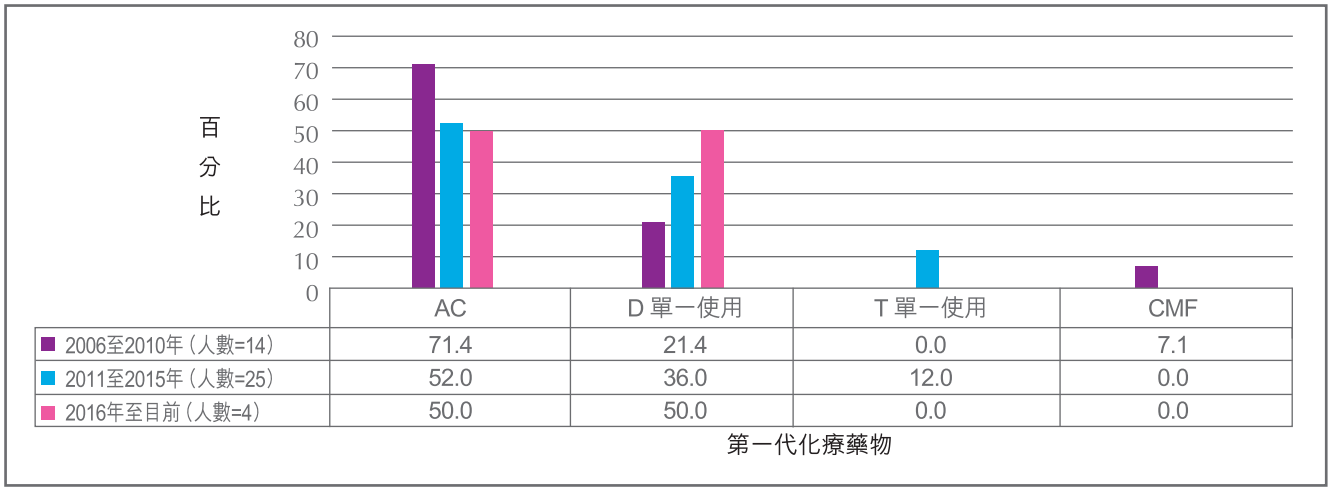
#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

iii. 紓緩性化療

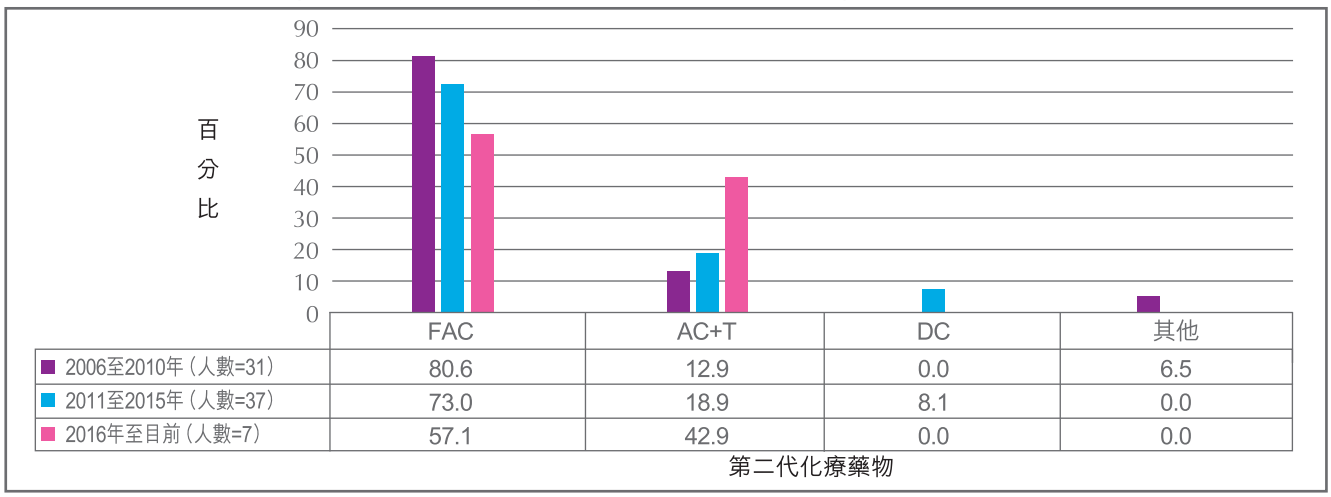
2.56 在各個受訪群組曾接受化療的患者中，3.0%至4.7%（2006-2010：3.0%；2011-2015：4.7%；2016-目前：3.8%）接受了紓緩性（第IV期患者）化療。圖2.22，圖2.23及圖2.24顯示了各個受訪群組中三代化療藥物在紓緩性化療的使用比率。針對HER2的化療藥物方案的使用比率可見於圖2.25。各個受訪群組中不同癌症生物學亞型患者所採用的化療藥物種類可見於圖2.26。

圖2.22：第一代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 43）



	AC	D 單一使用	T 單一使用	CMF
2006至2010年（人數=14）	71.4	21.4	0.0	7.1
2011至2015年（人數=25）	52.0	36.0	12.0	0.0
2016年至目前（人數=4）	50.0	50.0	0.0	0.0

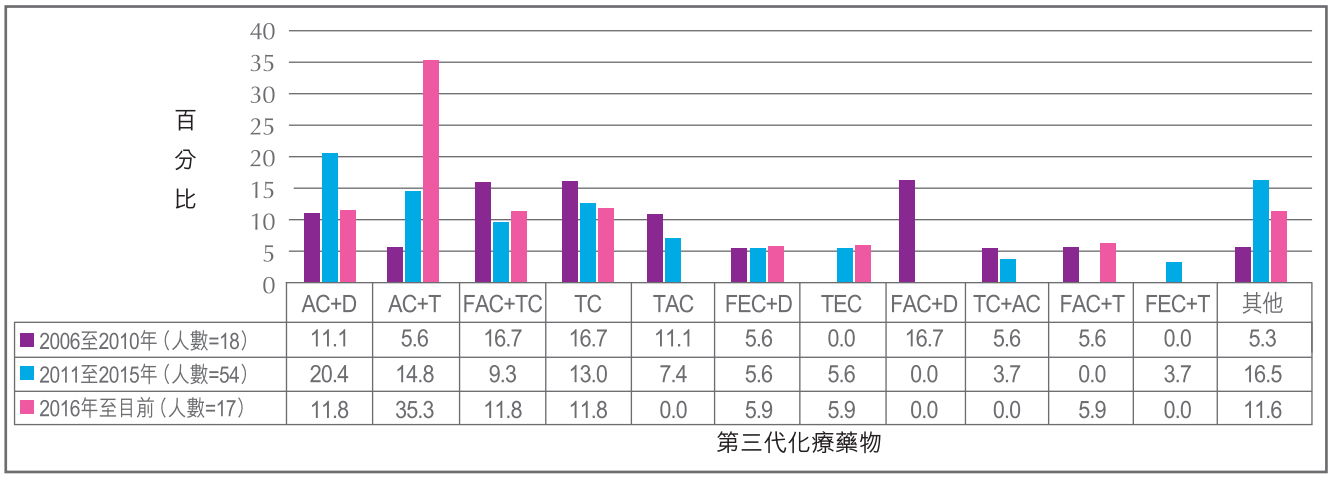
圖2.23：第二代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 75）



	FAC	AC+T	DC	其他
2006至2010年（人數=31）	80.6	12.9	0.0	6.5
2011至2015年（人數=37）	73.0	18.9	8.1	0.0
2016年至目前（人數=7）	57.1	42.9	0.0	0.0

第二代化療藥物

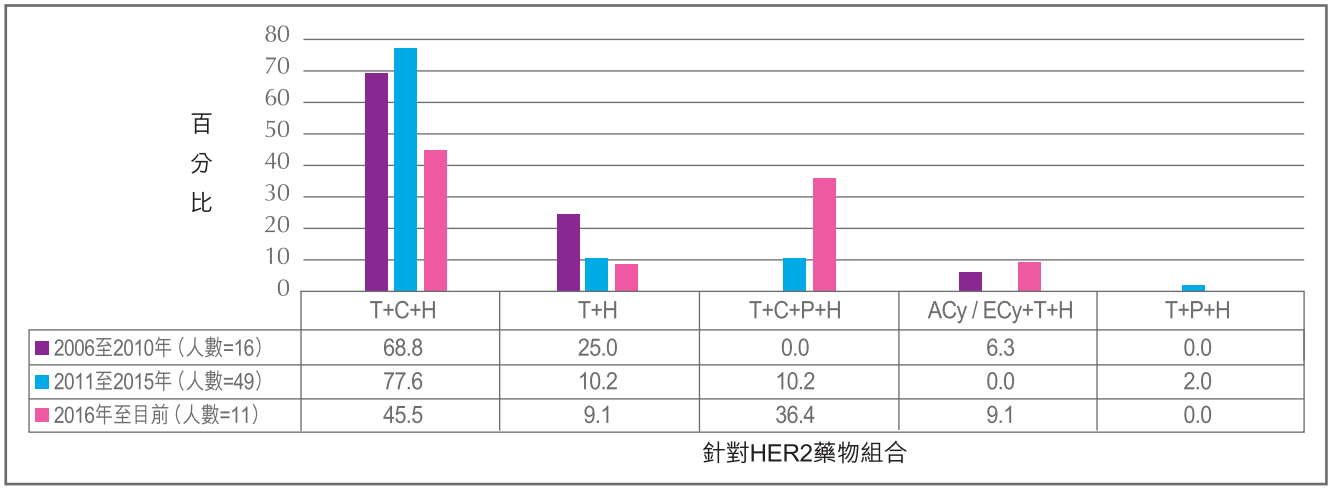
圖2.24：第三代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 89）



	AC+D	AC+T	FAC+TC	TC	TAC	FEC+D	TEC	FAC+D	TC+AC	FAC+T	FEC+T	其他
2006至2010年（人數=18）	11.1	5.6	16.7	16.7	11.1	5.6	0.0	16.7	5.6	5.6	0.0	5.3
2011至2015年（人數=54）	20.4	14.8	9.3	13.0	7.4	5.6	5.6	0.0	3.7	0.0	3.7	16.5
2016年至目前（人數=17）	11.8	35.3	11.8	11.8	0.0	5.9	5.9	0.0	0.0	5.9	0.0	11.6

第三代化療藥物

圖2.25：在紓緩性化療針對HER2的藥物組合使用比率（總人數 = 76）



	T+C+H	T+H	T+C+P+H	ACy / ECy+T+H	T+P+H
2006至2010年（人數=16）	68.8	25.0	0.0	6.3	0.0
2011至2015年（人數=49）	77.6	10.2	10.2	0.0	2.0
2016年至目前（人數=11）	45.5	9.1	36.4	9.1	0.0

針對HER2藥物組合

A: Anthracycline; C: Carboplatin; T: Taxane; H: Trastuzumab; Cy: Cyclophosphamide; P: Pertuzumab

圖2.26：按乳癌生物學亞型分析患者在紓緩性化療使用的藥物種類（總人數 = 190）

#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

圖2.26：按乳癌生物學亞型分析患者在紓緩性化療使用的藥物種類（總人數 = 190）（續）

#AC+T：因完成療程的時間不確定而無法斷定為第二或第三代化療藥物

* 其他包括任何使用了Capecitabine, Gemcitabine, 或Vinorelbine的藥物方案

D. 內分泌治療

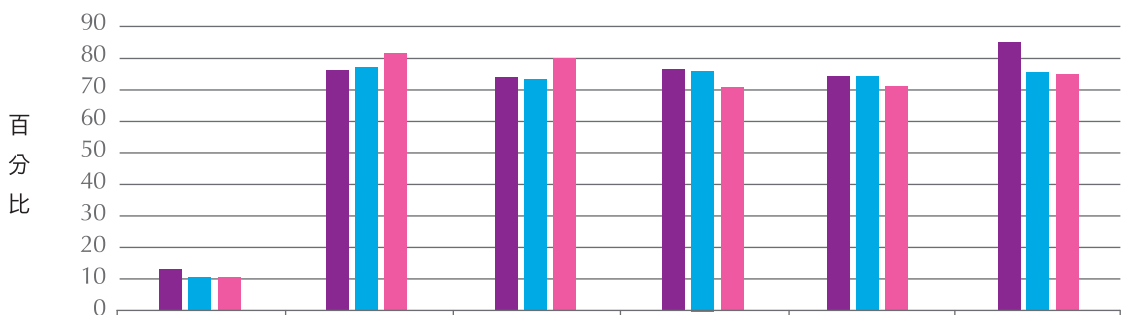
2.57 內分泌治療對於醫治和預防荷爾蒙受體呈陽性的入侵性乳癌或原位乳癌，都擔當著重要角色。乳癌源起自不正常的乳房細胞，這些細胞通常對荷爾蒙敏感，例如雌激素和黃體酮。內分泌治療會在癌細胞的荷爾蒙受體中施加作用。

2.58 各個受訪群組中，約三分之二（2006 - 2010：67.6%；2011 - 2015：67.9%；2016-目前：69.1%）患者曾接受內分泌治療，當中超過96%（2006 - 2010：97.3%；2011-2015：96.4%；2016 - 目前：96.9%）屬於術後輔助性治療，手術前的前置治療（2006-2010：0.2%；2011-2015：0.6%；2016 - 目前：1.0%）及紓緩性治療（2006 - 2010：2.5%；2011-2015：3.1%；2016 - 目前：2.1%）只佔少數。約九成（2006 - 2010：88.8%；2011 - 2015：92.6%；2016 - 目前：88.0%）患者在公營醫療機構接受內分泌治療，其餘（2006 - 2010：11.2%；2011-2015：7.4%；2016 - 目前：12.0%）則在私營醫療機構接受內分泌治療。

2.59 在入侵性乳癌患者中，曾接受內分泌治療的比率很高（74.0% - 85.0%）（圖2.27）。在原位乳癌患者中，則只有約十分之一（10.3% - 12.8%）接受了內分泌治療。

2.60 兩類藥物經常用於降低女性荷爾蒙的水平：抗雌激素和芳香環轉化酶抑制劑。抗雌激素藥物針對性地干擾乳癌細胞上的雌激素受體，從而延緩乳癌腫瘤生長。最常見的抗雌激素是三苯氧胺，適用於收經前後的婦女。芳香環轉化酶抑制劑有助減低身體中雌激素的水平。芳香環轉化酶抑制劑，包括Anastrozole、Letrozole及Exemestane則只適用於已停經婦女使用。表2.33顯示各個受訪群組中三個年齡組別使用三苯氧胺和芳香環轉化酶抑制劑的情況。

圖2.27：按癌症期數分析患者接受內分泌治療的比率（總人數 = 17,774）



	0	I	IIA	IIB	III	IV
2006至2010年（人數=6,756）	12.8	75.4	74.3	77.6	75.4	85.0
2011至2015年（人數=8,460）	10.4	77.9	74.0	77.2	75.0	76.0
2016年至目前（人數=2,558）	10.3	81.8	80.1	75.3	71.5	75.0

癌症期數

表2.33：按年齡組別分析患者接受內分泌治療的藥物（總人數 = 11,295）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	<45			45-55			≥55		
三苯氧胺	94.1	97.5	95.8	75.0	87.3	78.7	42.2	52.7	34.7
由三苯氧胺轉用芳香環轉化酶抑制劑	4.8	1.2	1.0	14.8	4.2	1.2	22.6	8.4	4.1
芳香環轉化酶抑制劑	1.0	1.3	3.2	10.2	8.6	20.1	35.3	38.9	61.1

按年齡組別劃分各個受訪群組人數：

<45： 1,094（2006至2010年），1,074（2011至2015年），310（2016年至目前）

45-55： 1,776（2006至2010年），1,903（2011至2015年），492（2016年至目前）

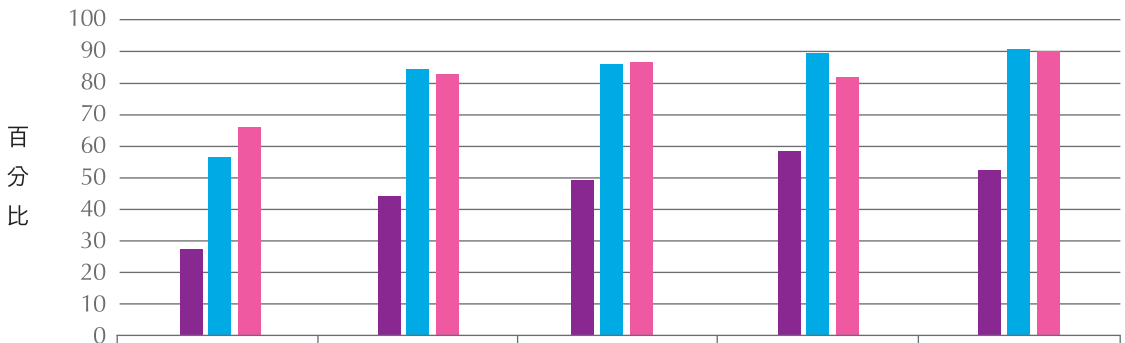
≥55： 1,449（2006至2010年），2,425（2011至2015年），772（2016年至目前）

E. 抗HER2靶向治療

2.61 靶向治療是利用藥物選擇性地攻擊腫瘤細胞，阻截細胞傳遞不正常生長所需的訊息。抗HER2靶向治療用於治療HER2呈陽性的乳癌患者。

2.62 受訪群組中HER2呈陽性的乳癌患者，有43.1%至79.5%（2006-2010：43.1%；2011-2015：78.1%；2016-目前：79.5%）接受了靶向治療，當中88.4%至94.5%（2006-2010：94.5%；2011-2015：93.1%；2016-目前：88.4%）屬於術後輔助性治療，3.4%至10.5%（2006-2010：3.4%；2011-2015：4.3%；2016-目前：10.5%）屬於手術前的前置治療，1.0%至2.6%（2006-2010：2.1%；2011-2015：2.6%；2016-目前：1.0%）屬於紓緩性治療。大部分（2006-2010：87.0%；2011-2015：90.3%；2016-目前：89.1%）患者在公營醫療機構接受靶向治療，其餘（2006-2010：13.0%；2011-2015：9.7%；2016-目前：10.9%）在私營醫療機構接受靶向治療。各個受訪群組中，相比其他癌症期數患者，第I期乳癌患者較少使用此治療（圖2.28）。2016年至目前確診受訪群組中第II期或以上的乳癌患者使用靶向治療的比率與2011至2015年確診受訪群組的比率相約。

圖2.28：按癌症期數分析HER2呈陽性患者接受抗HER2靶向治療的比率（總人數 = 3,215）



	I	IIA	IIB	III	IV
2006至2010年（人數=1,377）	28.2	44.1	49.5	58.4	53.3
2011至2015年（人數=1,499）	57.5	85.2	86.4	89.4	90.6
2016年至目前（人數=339）	66.1	83.0	87.0	82.4	90.0

癌症期數

F. 綜合治療

2.63 綜合使用多種療法（包括手術、化療、放射性治療、荷爾蒙治療及抗HER2靶向治療）能夠有效治療乳癌。各個受訪群組的綜合治療模式詳列於表2.34。一般而言，治療方法數目與癌症期數成正比。三個受訪群組中大部分（92.7%-94.6%）第0期乳癌患者接受了不多於兩種療法，而多於四分之三第IIA期（78.5%-81.5%），第IIB期（88.4%-93.7%）和第III期（94.3%-97.3%）乳癌患者接受了三種或以上療法。

G. 輔助及另類療法

2.64 除了本章前述的各種乳癌標準療法外，患者也可能選擇接受不同種類的輔助及另類療法，例如傳統的中醫中藥、健康食品/補充劑等等。三個受訪群組中共有6,827位（2006-2010：41.6%；2011-2015：37.6%；2016-目前：24.5%）患者接受了輔助及另類療法。當中超過95%（2006-2010：95.6%；2011-2015：95.5%；2016-目前：96.7%）是屬於術後輔助性治療，手術前的前置治療（2006-2010：3.7%；2011-2015：3.2%；2016-目前：0.9%）及紓緩性治療（2006-2010：0.7%；2011-2015：1.3%；2016-目前：2.4%）只佔少數。大約三分之二（64.1%-67.7%）患者採用傳統的中醫中藥治療（圖2.29）。

表2.34：按癌症期數分析治療方法數目（總人數 = 17,379）

	癌症期數 2006至2010年（%），2011至2015年（%），2016年至目前（%）																	
	0期			I期			IIA期			IIB期			III期			IV期		
0	0.4	0.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.2	0.0	0.0	0.8	0.0
1	41.9	42.9	39.7	6.2	6.7	4.7	1.9	1.9	3.1	0.7	1.1	1.7	0.4	0.6	1.6	6.8	8.0	17.2
2	52.3	50.6	52.4	32.0	32.9	32.1	16.6	19.2	18.4	6.6	5.2	9.6	2.3	2.4	4.1	19.6	13.6	14.1
3	5.5	5.8	7.0	42.5	41.1	45.2	38.4	35.6	35.9	28.9	27.1	24.5	18.7	17.7	18.3	35.1	31.2	21.9
4	0.0	0.1	0.3	17.8	15.4	14.3	39.3	37.4	35.7	56.9	54.7	54.6	67.3	62.5	62.8	33.1	34.8	32.8
5	0.0	0.1	0.0	1.6	3.9	3.7	3.8	5.8	6.9	6.9	11.9	9.3	11.3	16.6	13.2	5.4	11.6	14.1

按癌症期數劃分各個受訪群組人數：

0期： 842（2006至2010年），1,007（2011至2015年），330（2016年至目前）

I期： 2,089（2006至2010年），2,679（2011至2015年），810（2016年至目前）

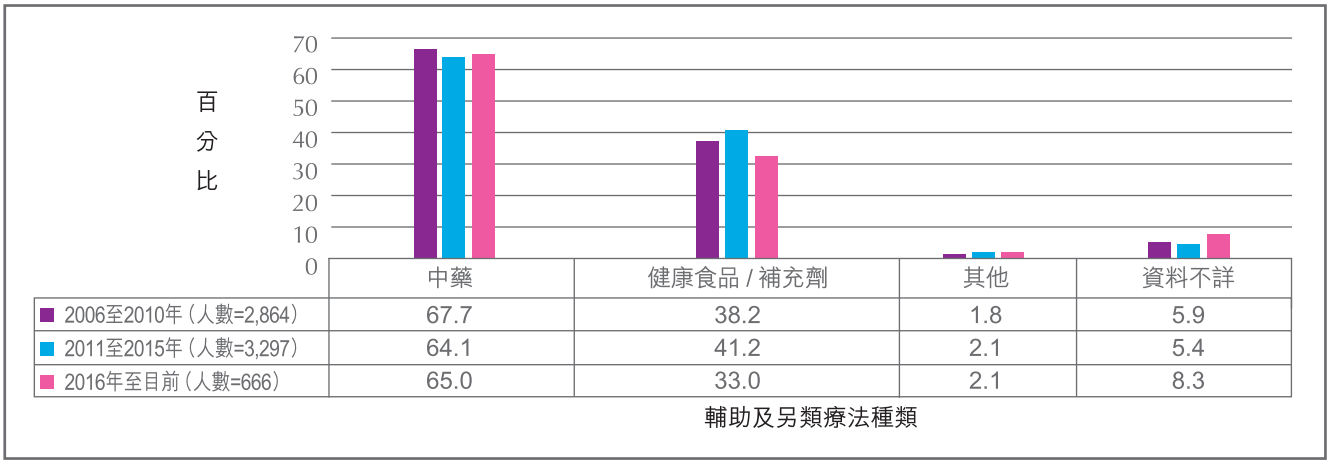
IIA期： 1,764（2006至2010年），2,021（2011至2015年），619（2016年至目前）

IIB期： 844（2006至2010年），1,096（2011至2015年），302（2016年至目前）

III期： 950（2006至2010年），1,247（2011至2015年），317（2016年至目前）

IV期： 148（2006至2010年），250（2011至2015年），64（2016年至目前）

圖2.29：輔助及另類療法的種類（總人數 = 6,827）



其他包括：太極、氣功、自然療法、針灸及艾灸、按摩或瑜伽

VI. 患者現況

2.65 患者完成療程後，乳癌資料庫每年都會跟進她們的狀況，以了解治療的效能。到目前為止，三個受訪群組共有16,603名乳癌患者完成了至少一次跟進訪問，當中有約五分之二（43.8%）在過去兩年內曾經提供跟進數據。大約三分之一（36.8%）患者的跟進年期達五年或以上（表2.35）。平均跟進年期為4.2年，中位數則為3.5年。

2.66 曾提供跟進數據的患者中有1.4%僅出現局部區域性復發，1.9%僅出現遠端復發，和1.4%同時或先後出現局部區域性及遠端復發。復發時間的平均值及中位數詳列於表2.35。

2.67 表2.63顯示按手術類型和確診時的癌症期數分析入侵性乳癌患者出現局部區域性復發的情況。在第I和II期患者中，接受乳房保留手術後沒有接受放射性治療而出現局部區域性復發的比率，比那些接受乳房保留手術後接受放射性治療的較高（表2.36）。患者接受乳房切除手術而出現局部區域性復發的比率，較那些接受乳房保留手術後沒有接受放射性治療的低。最常見的局部區域復發部位是胸壁（32.8%）及乳房（29.9%）（表2.37）。

表2.35：跟進訪問的結果（總人數 = 16,603）

	人數	%
跟進時間		
<1年	2,295	13.8
1-2年	2,972	17.9
2-5年	5,220	31.4
5-10年	5,574	33.6
10年或以上	5,36	3.2
平均跟進時間		4.2年
跟進時間中位數		3.5年
局部區域性復發		
局部區域性復發人數	237	1.4
平均復發時間		3.3年
復發時間中位數		2.6年
遠端復發		
遠端復發人數	313	1.9
平均復發時間		3.4年
復發時間中位數		2.7年
局部區域性及遠端復發		
局部區域性及遠端復發人數	238	1.4
平均復發時間		3.3年
復發時間中位數		2.6年
死亡率*		
死於乳癌的人數	196	1.2
死於其他原因的人數	100	0.6
死亡原因不詳的人數	69	0.4

* 只包括了在2019年2月以前從可追溯病歷紀錄的患者資料

表2.36：按手術類型及確診時的癌症期數分析局部區域性復發的情況

	癌症期數，人數（佔接受手術的患者群組百分比）				
	I期	IIA期	IIB期	III期	總數
乳房保留手術後接受放射治療	26/2,583（1.0）	45/1,525（3.0）	9/518（1.7）	13/339（3.8）	93/4,965（1.9）
乳房保留手術後沒有接受放射治療	6/107（5.6）	5/67（7.5）	1/16（6.3）	0/7（0.0）	12/197（6.1）
乳房切除手術	48/2,915（1.6）	69/2,918（2.4）	49/1,734（2.8）	112/2,187（5.1）	278/9,754（2.9）

表2.37：患者出現局部區域性復發的位置（總人數 = 475）

	人數	%
胸壁	156	32.8
乳房	142	29.9
腋下淋巴結	149	31.4
鎖骨上窩	93	19.6
內部乳腺	34	7.2
鎖骨下窩	4	0.8
其他	35	7.4

備註： 局部區域性復發可能同時在多個位置出現，因此受訪群組的復發位置總百分比可以超過100。

2.68 受訪群組中，551名（3.3%）患者曾出現遠端復發。最常受遠端擴散影響的四類器官是骨骼（57.4%），其次是肺部（48.8%），肝臟（40.8%）和腦部（17.1%）（表2.38）。表2.39顯示不同癌症生物學亞型患者在四個最常受影響的器官出現遠端擴散的情況。

表2.38：遠端擴散影響的器官（總人數 = 551）

	人數	%
骨骼	316	57.4
肺部	269	48.8
肝臟	225	40.8
腦部	94	17.1
縱隔腔淋巴結	92	16.7
頸淋巴結	43	7.8
遠端淋巴結	42	7.6
胸腔	27	4.9
腎上腺	12	2.2
腹膜	11	2.0
對側淋巴結	5	0.9
卵巢	5	0.9
脾臟	4	0.7
甲狀腺	2	0.4
胰腺	1	0.2
腎臟	1	0.2
子宮	1	0.2
資料不詳	34	6.2

備註： 遠端復發可能同時在多個位置出現，因此受訪群組的復發位置總百分比可以超過100。

表2.39：按乳癌生物學亞型分析四個最常受遠端擴散影響的器官

	骨骼（人數=316）	肺部（人數=269）	肝臟（人數=225）	腦部（人數=94）
遠端擴散時間（年），中位數（範圍）	**3.4（0.3-11.2）**	**3.4（0.2-11.2）**	**3.1（0.2-9.8）**	**3.3（0.2-10.0）**
生物學亞型				
管腔A型 *	31（11.1）	16（6.9）	22（10.8）	8（9.4）
管腔B型（HER2呈陰性）#	63（22.6）	42（18.2）	46（22.7）	13（15.3）
管腔A/B型（HER2呈陰性）†	89（31.9）	66（28.6）	62（30.5）	14（16.5）
管腔B型（HER2呈陽性）^	48（17.2）	39（16.9）	32（15.8）	16（18.8）
HER2呈陽性 ※	20（7.2）	22（9.5）	19（9.4）	15（17.6）
三陰性 §	28（10.0）	46（19.9）	22（10.8）	19（22.4）
資料不詳	37	38	22	9

* 管腔A型：ER及/或PR+、HER2-及Ki-67指數低（<14%）
\# 管腔B型（HER2呈陰性）：ER及/或PR+、HER2-及Ki-67指數高（≧14%）
† 管腔A/B型（HER2呈陰性）：ER及/或PR+、HER2-及Ki-67指數不詳
^ 管腔B型（HER2呈陽性）：ER及/或PR+、HER2+及任何Ki-67指數
※ HER2呈陽性：ER及PR-、HER2+及任何Ki-67指數
§ 三陰性：ER及PR-、HER2-及任何Ki-67指數

2.69 受訪群組中，入侵性乳癌患者僅出現局部區域性復發的比率與癌症期數無關。然而，僅出現遠端復發的比率從第I期的0.9%上升至第III期的5.8%。第III期乳癌患者僅出現遠端復發的比率（5.8%）和同時出現局部區域性及遠端復發的比率（3.8%）都比其他低期數的患者高（表2.40）。

2.70 受訪群組中有196名（1.2%）患者死於乳癌，其中約五分之三（59.1%）確診時已為第III或IV期癌症。存活時間由0.6年至11.2年。這些患者的生物學亞型資料詳見於表2.41。

表2.40：按癌症期數分析入侵性乳癌患者的復發情況（總人數 = 13,734）

	癌症期數，人數（%）				
	I期（人數=5,157）	**IIA期（人數=4,137）**	**IIB期（人數=2,100）**	**III期（人數=2,340）**	**總數（人數=13,734）**
局部區域性復發	57（1.1）	61（1.5）	18（0.9）	38（1.6）	174（1.3）
遠端復發	45（0.9）	60（1.5）	54（2.6）	136（5.8）	295（2.1）
局部區域性及遠端復發	23（0.4）	58（1.4）	41（2.0）	90（3.8）	212（1.5）

表2.41：乳癌死亡個案的特性（總人數 = 196）

	確診時的癌症期數						
	0期	I期	IIA期	IIB期	III期	IV期	未能分期
死亡人數（佔死亡個案%）	4（2.0）	18（9.2）	28（14.3）	18（9.2）	82（41.8）	34（17.3）	12（6.1）
存活時間範圍（年）	4.5－7.3	1.6－9.6	1.6－10.3	2.1－11.2	0.6－11.2	0.6－7.4	1.1－6.2
從初診斷擴散至死亡相距時間（年），平均數（範圍）	1.0（0.5-1.5）	2.1（0.7-4.6）	1.2（0.1-5.9）	1.7（0.1-6.2）	1.4（0.0-6.2）	3.3（0.6-7.4）	1.5（0.3-3.2）
生物學亞型							
管腔A型*	0	2	2	2	5	0	0
管腔B型（HER2 呈陰性）#	0	4	4	2	10	2	1
管腔A/B型（HER2 呈陰性）†	2	2	9	8	25	12	2
管腔B型（HER2 呈陽性）^	2	2	2	1	14	7	4
HER2 呈陽性※	0	3	4	0	11	6	0
三陰性§	0	5	6	4	12	4	0
資料不詳	0	0	1	1	5	3	5

* 管腔A型：ER及 / 或PR+、HER2-及Ki-67指數低（<14%）
\# 管腔B型（HER2呈陰性）：ER及 / 或PR+、HER2-及Ki-67指數高（≧14%）
† 管腔A / B型（HER2呈陰性）：ER及 / 或PR+、HER2-及Ki-67指數不詳
^ 管腔B型（HER2呈陽性）：ER及 / 或PR+、HER2+及任何Ki-67指數
※ HER2呈陽性：ER及PR-、HER2+及任何Ki-67指數
§ 三陰性：ER及PR-、HER2-及任何Ki-67指數

第三章
乳癌及其診治對患者身心的影響

第三章　乳癌及其診治對患者身心的影響

I. 簡介

3.1　確診乳癌可以對婦女造成極大的震撼，在治療及康復期間，婦女經常因為身體，情緒和社交上的改變而感到情緒波動。本章收集及分析群組中16,222名患者因為乳癌帶來對心理及身體造成影響及其治療的資料。患者接受調查的平均時間是首次確診後的2.0年。

主要分析結果

本報告書根據患者的確診年份，將患者分成三個受訪群組（2006至2010年確診受訪群組、2011至2015年確診受訪群組及2016年至目前確診受訪群組）作數據分析。

治療後的身體不適

- 受訪群組中，有三分之二至四分之三（65.5%-76.6%）在手術後沒有或很少感到身體不適，大約十分之一（8.4%-10.3%）則感到嚴重不適。傷口痛楚（16.3%-22.3%）是手術後最常見的不適。
- 受訪群組中，三分之二至四分之三（65.4%-74.1%）接受放射性治療的患者沒有或很少感到不適。皮膚乾燥（11.5%-16.5%）和皮膚灼傷（5.1%-10.5%）是接受放射性治療後最常見的不適。
- 受訪群組中，五分之二至半數（40.1%-54.1%）接受化學治療的患者因為各種副作用而感到嚴重身體不適。嘔吐（10.0%-26.6%）和食慾不振（10.3%-19.9%）是化療後最常見的身體不適。
- 受訪群組中，約有五分之四（79.3%-83.9%）接受內分泌治療的患者沒有或很少感到身體不適。潮熱（11.2%-15.0%）是接受內分泌治療後最常見的不適。
- 大部分（80.1%-87.0%）接受抗第二型人類上皮生長素受體靶向治療的患者沒有或很少感到身體不適。疲倦（3.3%-5.3%）是接受此治療最常出現的不適。
- 接近所有（96.4%-98.9%）接受輔助及另類療法的患者都沒有或很少感到身體不適。

確診及治療後的心理影響及調節

- 在得悉確診時，45.5%至53.0%患者平靜接受或以正面的態度對抗。相反，20.0%至25.3%拒絕接受。
- 在完成所需治療後，24.1%至32.7%患者表示癌症是一個惡耗，使患者感到好意外。
- 五分之二至半數（40.8%-52.8%）患者表示人生觀有正面的影響，三分之一至五分之二（32.4%-44.8%）則表示對自我形象有正面轉變。
- 約四分之三（74.4%-82.3%）患者表示確診乳癌後生活模式有變化。最常見的生活模式轉變是飲食習慣的改變（69.7%-74.8%），其次是多做運動（57.9%-62.5%）。此外，約有十分之一（11.0%-12.0%）患者辭掉工作。
- 受訪群組中，兩個最常見的處理負面情緒方法為直接向人傾訴（49.3%-55.7%）和把注意力移離負面情緒（25.3%-33.2%）。
- 約四分之一（22.8%-28.2%）患者從不擔心復發，不過，略多於半數（52.5%-58.8%）表示經常或有時擔心復發。從不擔心復發的患者隨著年齡增加而增加，經常擔心復發的患者隨著年齡增加而減少。

II. 治療後的身體不適

A. 手術後的身體不適

3.2 三個受訪群組中，大約三分之二至四分之三（65.5%-76.6%）患者在手術後沒有或很少感到不適，少部分（8.4%-10.3%）感到嚴重不適（圖3.1）。按手術類型分析，身體感到嚴重不適的比率以接受過乳房切除及重建手術的患者為最高（11.8%-15.8%）（表3.1）。此外，手術後最常見的不適情況是感到傷口痛楚（16.3%-22.3%），三個受訪群組結果均一致（表3.2）。

圖3.1：手術後身體不適的程度（總人數 = 16,153）

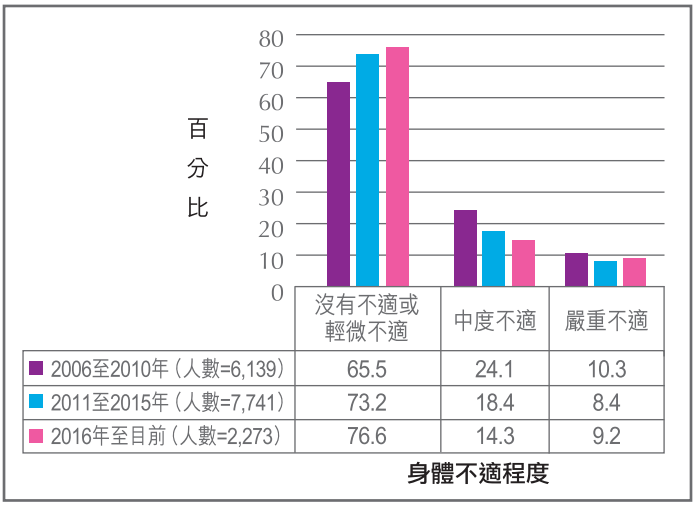


表3.1：按手術類型分析身體不適的程度（總人數 = 16,066）

	手術類型 2006至2010年（%），2011至2015年（%），2016年至目前（%）								
	乳房保留手術			乳房切除手術			乳房切除 + 重建手術		
沒有不適或輕微不適	68.2	76.8	80.1	66.5	73.1	77.7	47.5	57.7	52.4
中度不適	24.7	17.9	13.2	22.0	17.1	11.9	36.7	30.4	34.1
嚴重不適	7.2	5.3	6.7	11.4	9.9	10.5	15.8	11.8	13.5

按手術類型劃分各個受訪群組人數：

乳房保留手術： 2,154（2006至2010年），2,711（2011至2015年），907（2016年至目前）

乳房切除手術： 3,465（2006至2010年），4,387（2011至2015年），1,161（2016年至目前）

乳房切除 + 重建手術： 499（2006至2010年），597（2011至2015年），185（2016年至目前）

表3.2：手術後五種最常見的身體不適（總人數 = 16,153）

	2006至2010年（人數=6,139） %	2011至2015年（人數=7,741） %	2016年至目前（人數=2,273） %
傷口痛楚	16.3	16.8	22.3
傷口問題	4.2	9.4	15.4
手臂活動困難	5.2	5.8	1.5
麻痺	2.8	3.9	2.5
手臂淋巴水腫	2.9	2.6	1.0

B. 放射性治療後的身體不適

3.3 三個受訪群組中，三分之二至四分之三（65.4%-74.1%）接受放射性治療的患者沒有或很少感到身體不適（圖3.2）。無論曾否進行區域性淋巴結放射治療，相比接受乳房放射治療的患者，接受胸壁放射治療的患者較多表示有嚴重身體不適（表3.3）。而皮膚乾燥（11.5%-16.5%）和皮膚灼傷（5.1%-10.5%）是接受電療後最常見的不適現象（表3.4）。

圖3.2：放射性治療後身體不適的程度（總人數 = 9,664）

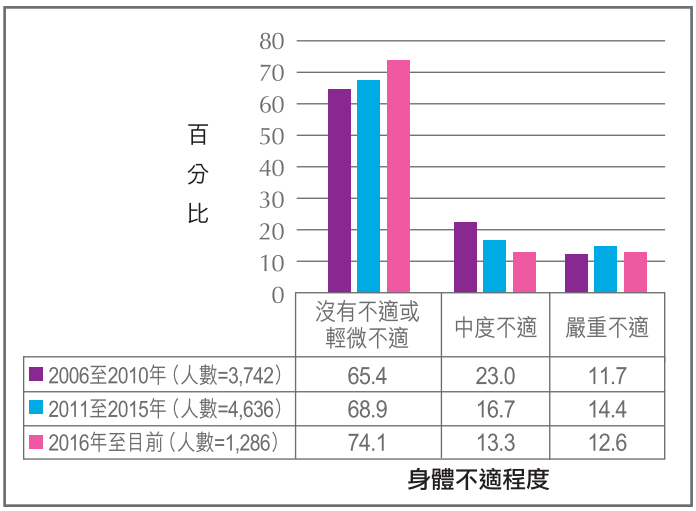


表3.3：按接受放射性治療部位分析身體不適的程度（總人數 = 6,431）

	接受放射性治療部位 2006至2010年（%），2011至2015年（%），2016年至目前（%）											
	乳房			乳房+周邊淋巴結			胸壁			胸壁 + 周邊淋巴結		
沒有不適或輕微不適	69.7	69.9	71.4	70.9	72.0	80.5	61.3	66.3	73.0	64.7	66.3	74.4
中度不適	22.5	16.3	13.1	20.4	16.7	7.3	24.8	17.3	10.8	20.1	15.3	9.1
嚴重不適	7.8	13.8	15.6	8.7	11.3	12.2	13.9	16.4	16.2	15.2	18.3	16.5

按接受放射性治療部位劃分各個受訪群組人數：

乳房： 1,185（2006至2010年），1,243（2011至2015年），360（2016年至目前）

乳房 + 周邊淋巴結： 230（2006至2010年），257（2011至2015年），41（2016年至目前）

胸壁： 375（2006至2010年），329（2011至2015年），74（2016年至目前）

胸壁 + 周邊淋巴結： 993（2006至2010年），1,090（2011至2015年），254（2016年至目前）

表3.4：放射性治療後五種最常見的身體不適（總人數 = 9,664）

	2006至2010年（人數=3,742） %	2011至2015年（人數=4,636） %	2016年至目前（人數=1,286） %
皮膚乾燥	11.5	16.5	14.3
皮膚灼傷	10.5	8.9	5.1
痛楚	5.7	6.6	7.1
疲倦	1.3	0.9	1.1
皮膚潰瘍	3.3	2.3	0.7

C. 化療後的身體不適

3.4 三個受訪群組中，五分之二至約半數（40.1%-54.1%）接受化學治療的患者因為化療的副作用而感到嚴重不適（圖3.3）。當中嘔吐（10.0%-26.6%）和食慾不振（10.3%-19.9%）是化療後最常見的身體不適情況（表3.5）。

圖3.3：化療後身體不適的程度（總人數 = 9,575）

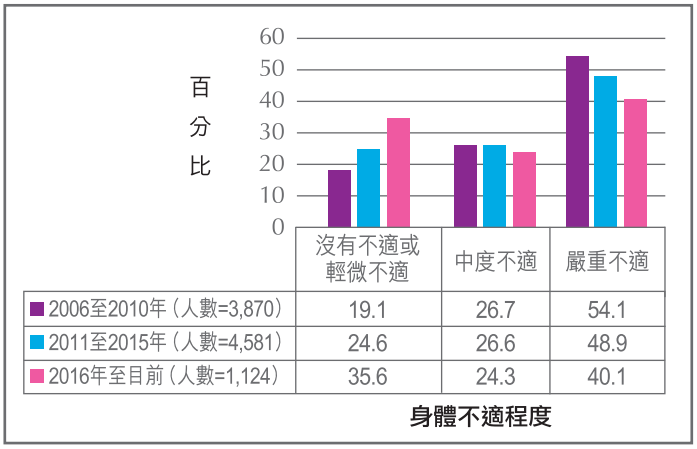


表3.5：化療後五種最常見的身體不適（總人數 = 9,575）

	2006至2010年（人數=3,870）%	2011至2015年（人數=4,581）%	2016年至目前（人數=1,124）%
嘔吐	26.6	10.0	10.1
食慾不振	19.9	10.3	14.9
脱髮	17.3	6.4	6.0
身體虛弱	10.7	9.7	15.2
痛楚（包括骨痛）	8.0	7.2	1.2

D. 內分泌治療後的身體不適

3.5 三個受訪群組中，約五分之四（79.3%-83.9%）接受內分泌治療的患者沒有或很少感到身體不適（圖3.4）。潮熱（11.2%-15.0%）是接受內分泌治療後最常見的不適（表3.6）。

圖3.4：內分泌治療後身體不適的程度（總人數 = 10,426）

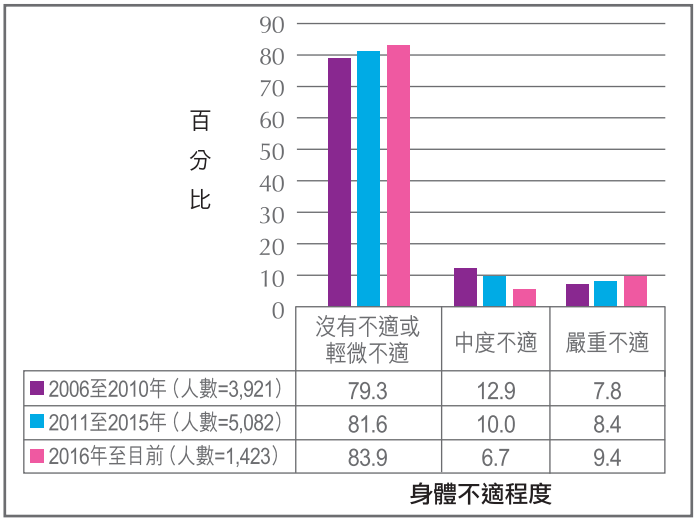


表3.6：內分泌治療後五種最常見的身體不適（總人數 = 10,426）

	2006至2010年（人數=3,921）%	2011至2015年（人數=5,082）%	2016年至目前（人數=1,423）%
潮熱	11.2	14.7	15.0
骨痛	6.6	7.1	9.3
疲倦	4.0	4.8	7.2
月經失調	4.1	4.1	3.4
情緒不穩	1.7	2.1	1.1

E. 抗HER2靶向治療後的身體不適

3.6 三個受訪群組中，大部分（80.1%-87.0%）接受抗HER2靶向治療的患者沒有或很少感到身體不適（圖3.5）。疲倦（3.3%-5.3%）是接受此治療最常出現的不適現象（表3.7）。

圖3.5： 抗HER2 靶向治療後身體不適的程度（總人數 = 2,048）

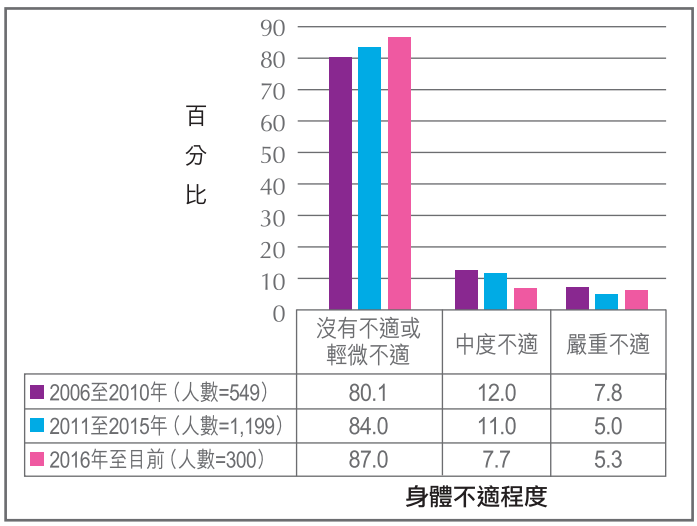


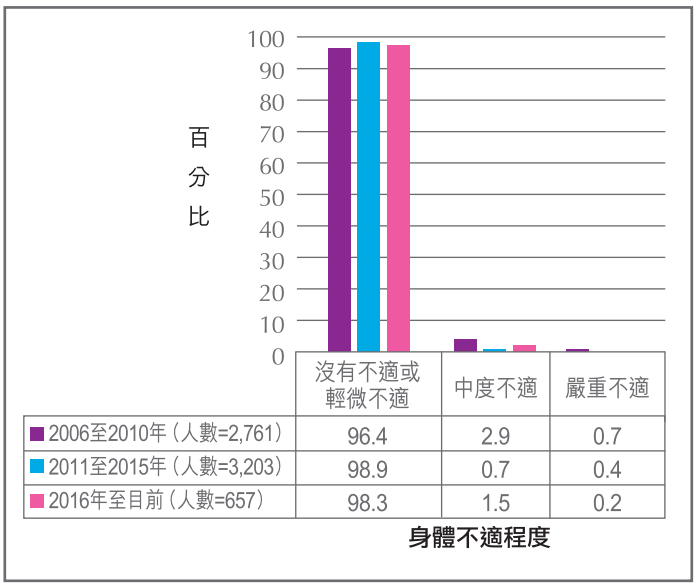
表3.7：抗HER2靶向治療後五種最常見的身體不適（總人數 = 2,048）

	2006至2010年（人數=549）%	2011至2015年（人數=1,199）%	2016年至目前（人數=300）%
疲倦	3.8	5.3	3.3
痛楚	2.2	2.0	4.3
麻痺	1.5	1.3	1.7
影響其他器官	1.8	0.9	0.3
暈眩	1.1	1.3	0.3

F. 輔助及另類療法後的身體不適

3.7 三個受訪群組中，接近所有（96.4%-98.9%）接受輔助及另類療法的患者都沒有或很少感到身體不適（圖3.6）。

圖3.6：輔助及另類療法後身體不適的程度（總人數 = 6,621）



	沒有不適或輕微不適	中度不適	嚴重不適
2006至2010年（人數=2,761）	96.4	2.9	0.7
2011至2015年（人數=3,203）	98.9	0.7	0.4
2016年至目前（人數=657）	98.3	1.5	0.2

III. 確診及治療後的心理影響及調節

A. 確診及治療後的心理和生活影響

3.8 根據三個受訪群組的數據在得悉確診乳癌時，45.5%至53.0%患者平靜接受或以正面的態度對抗。相反，20.0%至25.3%患者拒絕接受（表3.8）。在完成所需治療後，24.1%至32.7%患者表示癌症是一個惡耗，使患者感到好意外。40.8%至52.8%患者表示人生觀有正面的影響，32.4%至44.8%則表示對自我形象有正面轉變（表3.8）。

表3.8：乳癌為患者帶來的心理影響

	2006至2010年 %	2011至2015年 %	2016年至目前 %
得悉確診乳癌時的感受（總人數=15,776）	**（人數＝5,988）**	**（人數＝7,529）**	**（人數＝2,259）**
接受並以正面態度對抗	23.2	19.5	24.5
平靜接受	22.3	26.9	28.5
接受但情緒低落	32.0	27.5	20.3
拒絕接受（「不可能是事實！」）	20.0	24.7	25.3
憤怒地接受（「一定是搞錯了！」）	2.4	1.4	1.4
接受乳癌治療後的感受（總人數=11,306）	**（人數＝4,759）**	**（人數＝5,168）**	**（人數＝1,379）**
癌症是一個惡耗，使患者感到好意外	31.8	32.7	24.1
人生不公平	54.1	56.3	63.8
癌症改變了人生觀	6.7	5.4	5.9
癌症帶走了患者重要的東西	7.4	5.6	6.1
人生觀的轉變（總人數=15,869）	**（人數＝6,024）**	**（人數＝7,536）**	**（人數＝2,309）**
正面	51.4	52.8	40.8
負面	6.5	7.2	8.9
沒有改變	42.1	40.0	50.3
自我形象的轉變（總人數=15,862）	**（人數＝6,035）**	**（人數＝7,518）**	**（人數＝2,309）**
正面	38.9	44.8	32.4
負面	8.9	9.3	10.7
沒有改變	52.2	45.8	57.0

3.9 三個受訪群組中，患者對人生觀的正面轉變隨著年齡增長而下降。患者表示沒有改變人生觀的比率隨著年齡增長而上升（表3.9）。

3.10 三個受訪群組中，患者對自我形象的正面轉變隨著年齡增長而下降（表3.10）。

表3.9：按年齡組別分析人生觀的轉變（總人數 = 15,684）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	<40			40-49			50-59			60-69			70+		
正面	65.1	65.8	60.1	56.5	60.2	49.8	49.4	51.7	43.9	39.9	42.8	26.8	29.2	41.3	23.1
負面	3.9	5.7	7.1	6.4	6.6	7.8	6.9	7.7	8.6	7.8	8.4	10.0	6.3	6.1	11.1
沒有改變	31.0	28.4	32.8	37.1	33.1	42.4	43.7	40.6	47.5	52.3	48.8	63.1	64.6	52.5	65.8

按年齡組別劃分各個受訪群組人數：

<40: 642（2006至2010年），644（2011至2015年），183（2016年至目前）

40-49: 2,280（2006至2010年），2,236（2011至2015年），602（2016年至目前）

50-59: 1,948（2006至2010年），2,535（2011至2015年），733（2016年至目前）

60-69: 770（2006至2010年），1,508（2011至2015年），548（2016年至目前）

70+: 319（2006至2010年），537（2011至2015年），199（2016年至目前）

表3.10：按年齡組別分析自我形象的轉變（總人數 = 15,682）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	<40			40-49			50-59			60-69			70+		
正面	44.4	49.5	37.6	41.5	49.8	40.0	39.4	44.9	33.8	32.5	38.4	24.4	25.0	38.4	22.3
負面	9.0	13.2	10.2	9.7	9.2	11.2	8.6	9.4	9.4	8.2	8.6	10.4	5.6	7.3	13.7
沒有改變	46.6	37.4	52.2	48.8	41.0	48.8	52.0	45.7	56.8	59.4	52.9	65.3	69.4	54.3	64.0

按年齡組別劃分各個受訪群組人數：

<40: 646（2006至2010年），645（2011至2015年），186（2016年至目前）

40-49: 2,289（2006至2010年），2,231（2011至2015年），598（2016年至目前）

50-59: 1,949（2006至2010年），2,527（2011至2015年），734（2016年至目前）

60-69: 770（2006至2010年），1,506（2011至2015年），550（2016年至目前）

70+: 320（2006至2010年），534（2011至2015年），197（2016年至目前）

B. 心理和生活調節及對應策略

3.11 三個受訪群組一共有16,222名患者，其中多於四分之三（2006-2010：80.6%；2011-2015：82.3%；2016-目前：74.4%）的患者表示確診乳癌後生活模式有變化。最常見的生活模式轉變是飲食習慣的改變（69.7%-74.8%），其次是多做運動（57.9%-62.5%）。此外，略多於十分之一（11.0%-12.0%）患者辭掉工作（表3.11）。

3.12 三個受訪群組中，在處理負面情緒方面，最常見的兩種方法是患者直接向人傾訴（49.3%-55.7%）及把注意力移離負面情緒（25.3%-33.2%）（表3.11）。

表3.11：為存活而作出的心理和生活調節及應對策略

	2006至2010年 %	2011至2015年 %	2016年至目前 %
改變生活習慣（總人數=13,048）	**（人數＝4,945）**	**（人數＝6,363）**	**（人數＝1,740）**
改變飲食習慣	73.0	74.8	69.7
多做運動	60.3	62.5	57.9
服用健康補充劑	25.4	19.2	17.9
減少工作量	20.4	18.1	17.4
辭掉工作	12.0	11.0	12.0
處理負面情緒的方法（總人數=15,968）	**（人數＝5,989）**	**（人數＝7,651）**	**（人數＝2,328）**
直接向人傾訴	55.3	55.7	49.3
分散注意	33.2	32.7	25.3
忽視負面情緒	11.7	10.2	11.8
感到情緒低落	8.1	6.2	5.6
其他	7.2	12.7	14.7
憂慮復發程度（總人數=15,902）	**（人數＝6,037）**	**（人數＝7,574）**	**（人數＝2,291）**
從不	22.8	28.2	22.8
甚少	18.4	19.3	21.3
有時	47.5	42.4	43.0
經常	11.3	10.1	12.8

C. 擔心復發的程度

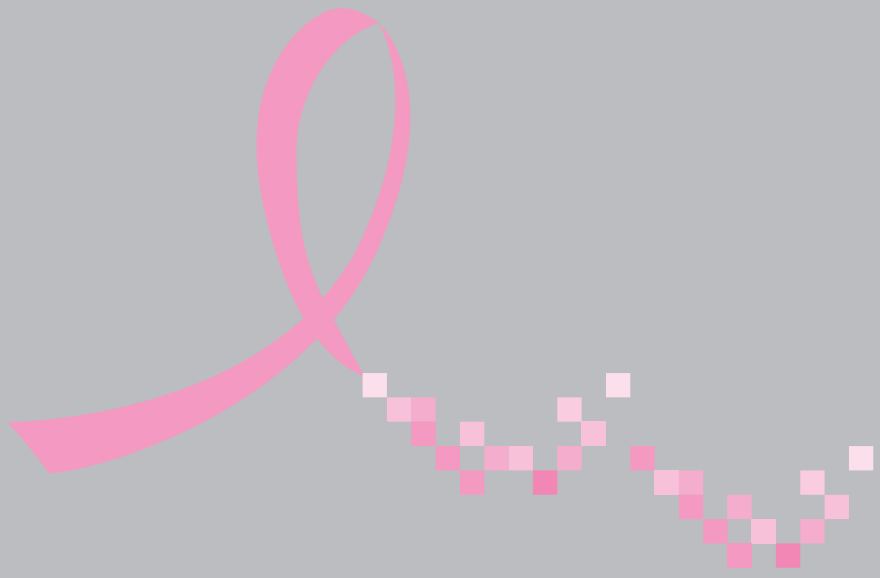
3.13 三個受訪群組中，約有四分之一（22.8%-28.2%）患者從不擔心復發，不過，半數至五分之三（52.5%-58.8%）患者表示經常或有時擔心復發（表3.11）。擔心復發的程度與患者的年齡相關，從不擔心復發的患者隨著年齡增加而增加，經常擔心復發的患者隨著年齡的增加而減少（表3.12）。

表3.12：按年齡組別分析患者憂慮復發的程度（總人數 = 15,713）

	年齡組別（歲） 2006至2010年（%），2011至2015年（%），2016年至目前（%）														
	<40			40-49			50-59			60-69			70+		
從不	14.7	13.3	8.1	15.4	19.0	12.1	22.5	27.3	20.7	38.8	39.9	34.8	57.8	58.1	45.9
甚少	19.7	15.8	20.0	19.0	19.3	21.2	17.9	20.9	22.4	17.0	19.3	22.1	17.1	15.6	17.3
有時	53.9	54.8	53.5	52.9	49.6	51.3	48.3	42.1	44.9	34.9	33.5	32.9	20.6	22.2	25.4
經常	11.8	16.1	18.4	12.7	12.0	15.4	11.4	9.8	12.0	9.3	7.3	10.2	4.4	4.1	11.4

按年齡組別劃分各個受訪群組人數：

<40: 646（2006至2010年），646（2011至2015年），185（2016年至目前）
40-49: 2,303（2006至2010年），2,271（2011至2015年），604（2016年至目前）
50-59: 1,937（2006至2010年），2,541（2011至2015年），735（2016年至目前）
60-69: 771（2006至2010年），1,504（2011至2015年），538（2016年至目前）
70+: 315（2006至2010年），532（2011至2015年），185（2016年至目前）



APPENDICES
附錄

Glossary

Adjuvant chemotherapy

A postoperative treatment for eradicating residual microscopic cancer cells that could lead to recurrence when these are not yet detectable clinically.

Axillary dissection

A surgical procedure to remove the lymph nodes in the armpit (axillary nodes) hidden under the pectoral major and minor muscles. It is normally performed when there is evidence of cancerous cells in lymph nodes by palpation or imaging, or upon sentinel lymph node biopsy.

Bilateral breast cancer

Cancer occurring in both breasts at the same time or within six months of each other (synchronous), or at different times at least six months apart (metachronous).

Biological subtype

Breast cancer is not considered to be a single disease. It can be further classified into several biological subtypes. These subtypes are determined by immunohistochemical staining of several biological markers (estrogen receptor (ER), progesterone receptor (PR), human epidermal growth factor receptor 2 (HER2), and Ki-67 index). By assessing these biological markers in the primary tumour together rather than individually, further prognostic and predictive information can be obtained. The biological subtypes of breast cancers include luminal A (ER+ and/or PR+, HER2-, and low Ki-67 index), luminal B (HER2-negative) (ER+ and/or PR+, HER2-, and high Ki-67 index), luminal B (HER2-positive) (ER+ and/or PR+, HER2+, and any Ki-67 index), HER2-positive (ER-, PR-, HER2+, and any Ki-67 index) and triple negative (ER-, PR-, HER2-, and any Ki-67 index).[36]

Breast-conserving surgery

The surgical removal of a cancerous breast lump with a rim of non-cancerous tissue around the lump, without removing the entire breast. The surgery can be lumpectomy, wide local excision, partial mastectomy or segmentectomy.

Breast reconstruction surgery

A surgical treatment that rebuilds the breast contour after mastectomy. A breast implant of the woman's own tissue provides the contour. If desired, the nipple and areola may also be preserved or recreated. Reconstruction is usually done at the time of mastectomy, but it can be done any time later.

Breast surgery

A local therapy to remove the breast tumour.

Cancer Staging

Appendix II refers.

Cancer specific death

A death with the underlying cause indicated as cancer. People with cancer who die of other causes are not counted in the death statistics of this report.

Chemotherapy

A treatment that uses one or more cytotoxic drugs to destroy cancer cells. Chemotherapy is often used in addition to surgery or radiation to treat cancer when metastasis (spread) is proven or suspected, when the cancer has come back (recurred), or when there is a strong likelihood that the cancer could recur.

Distant recurrence

Cancer that occurs in organs or tissues distant from the original site or regional lymph nodes, such as lungs, liver, bone marrow, or brain.

Endocrine therapy

A treatment with hormonal drugs that interfere with hormone production or hormone action, or surgical removal of hormone-producing glands to kill cancer cells or cause programmed cell death (apoptosis).

Estrogen receptor positive

The status of cancer cells with receptor proteins that bind the hormone estrogen. Cancer cells that are estrogen receptor positive need estrogen to grow, and may stop growing or die when treated with substances that block their binding with estrogen.

Human epidermal growth factor receptor 2 (HER2) positive

In HER2 positive breast cancer, the cancer cells have an abnormally large number of HER2 genes per cell. When this happens, excessive HER2 protein appears on the surface of these cancer cells. This is called HER2 protein over-expression. Excessive HER2 protein is considered to cause cancer cells to grow and divide more quickly. This is why HER2 positive breast cancer is considered aggressive.

In situ breast cancer

This term refers to early stage breast cancer, when it is confined to the layer of cells where it began. In breast cancer, in situ means that the cancer cells remain confined to ducts (ductal carcinoma in situ). They have not grown into deeper tissues in the breast or spread to other organs in the body, and are sometimes referred to as pre-invasive breast cancers.

Invasive breast cancer

Cancer that has already grown beyond the outer lining of myoepithelial cells or basement membrane where it started, for example breast ducts or lobules (as opposed to carcinoma in situ). Most breast cancers are invasive carcinomas.

Ki-67 proliferation index

Ki-67 protein is a cellular marker for proliferation. It is present at low levels in quiescent cells but increases in proliferating cells. Ki-67 proliferation index, which refers to the percent of tumour cells staining positive as measured by immunohistochemical (IHC) staining, is a specific nuclear marker for cell proliferation. High levels of Ki-67 indicate an aggressive tumour. At present, an index higher than 14% is regarded as high Ki-67 proliferation index.

Latissimus dorsi flap (LD flap)

A method of breast reconstruction that rotates the fan-shaped flat muscle of the back to the chest area.

Locoregional recurrence

Locoregional recurrence occurs when cancer returns after treatment, and occurs at the same site as the original cancer or in the lymph nodes near the site of origin.

Mastectomy

The surgical removal of the entire breast. It is usually used for treating serious breast disease, such as breast cancer.

Metastasis

It is a term used for describing a disease that has recurred at another location in the body.

Mortality

The incidence of death in a population.

Multicentricity

Breast cancer occurring in multiple quadrants of a breast.

Multifocality

Multifocality in breast cancer is defined as the presence of two or more tumour foci (five mm or more apart) within a single quadrant of the breast.

Necrosis

A term used for describing the death of cellular tissue. Necrosis within a cancerous tumour may indicate that the tumour is growing so rapidly that blood vessels are not able to multiply fast enough to nourish some of the cancer cells. Necrosis usually indicates that the tumour is very aggressive and can spread quickly.

Neoadjuvant chemotherapy

In neoadjuvant chemotherapy (preoperative treatment), initial chemotherapy is administered to shrink the primary tumour, thereby rendering local therapy (surgery or radiotherapy) less destructive or more effective.

Progesterone receptor positive

The hormone progesterone will bind to protein in cells. Cancer cells that are progesterone receptor positive need progesterone to grow and will usually stop growing when endocrine therapy drugs block progesterone from binding.

Proliferative lesions with atypia and precancerous breast lesion

Proliferative lesions with atypia include atypical ductal hyperplasia and atypical lobular hyperplasia. In these conditions, there is an overgrowth of cells in the ducts or lobules of the breast tissue, with some of the cells no longer appearing normal. These conditions increase the risk of breast cancer. Lobular carcinoma in situ (LCIS) is considered a precancerous lesion and a risk factor for developing invasive breast cancer in the future, but is not classified as breast cancer.

Radiotherapy

The use of radiation to destroy cancer cells. This type of treatment may be used to reduce the size of a cancer before surgery, or to destroy any remaining cancer cells after surgery.

Risk factors

Risk factors are associated with an increased probability of a specified outcome, for example, the occurrence of a disease. Risk factors are not necessarily the cause of a disease.

Sentinel node biopsy

A surgical procedure to remove the first few nodes receiving lymphatic drainage from the breast tumour in clinically node-negative cancers. This is to determine if breast cancer has spread to the armpit (axillary) lymph node basin.

Survival time

The time from initial diagnosis until the occurrence of death.

Targeted therapy

A type of medication that blocks the growth of cancer cells by interfering with specific targeted molecules needed for carcinogenesis and tumour growth.

Time to recurrence

The time from initial diagnosis until the occurrence of recurrence.

Transverse rectus abdominus muscle flap (TRAM flap)

A method of breast reconstruction in which tissues from the lower abdominal wall receiving its blood supply from the rectus abdominus muscle are used. The tissues from this area are moved up to the chest to create a breast mound and an implant is usually not required. Moving muscles and tissues from the lower abdomen to the chest results in flattening of the lower abdomen.

Triple negative breast cancer

This term is used to describe breast cancers (usually invasive ductal carcinomas) in which the cells lack estrogen receptors and progesterone receptors, and do not have an excess of HER2 protein on their surfaces.

詞彙

輔助化療
輔助化療是指手術後的化療，其作用是清除體內殘餘的微細癌細胞，以免這些微細癌細胞在體內而引致復發。

腋下淋巴結切除手術
若在觸診、影像檢查或前哨淋巴切除檢查中驗出淋巴結有癌細胞時，醫生會為病人進行這項外科手術，以切除隱藏在胸部肌肉內的腋下淋巴結。

雙側的乳癌
乳癌同時或相隔六個月內在左右兩邊乳房出現（同時性腫瘤），或相隔六個月以上在兩邊乳房先後出現（非同時性腫瘤）。

生物學亞型
乳癌並不被視為單一疾病。它可以被進一步分類為多個生物學亞型。這些亞型經過多個生物標記的免疫組織化學染色法來斷定，這些標記包括雌激素受體（ER），黃體酮受體（PR），第二型人類上皮生長素受體（HER2）和Ki-67指數。通過在原發腫瘤結合這些生物學標記，而非獨立評核，可以進一步得出病人預後及預測復發資料。乳癌可分為5個生物學亞型包括管腔A型（ER+及/或PR+、HER2-及低Ki-67指數），管腔B型（HER2呈陰性）（ER+及/或PR+、HER2-及高Ki-67指數），管腔B型（HER2呈陽性）（ER+及/或PR+、HER2+及任何Ki-67指數），HER2呈陽性（ER-、PR-、HER2+及任何Ki-67指數），以及三陰性（ER-、PR-、HER2-及任何Ki-67指數）。[36]

乳房保留手術
乳房保留手術可分為將乳房腫瘤切除、病發位置局部切除、部分乳房切除或環節切除。這手術的目的是切除乳癌腫瘤及腫瘤周邊的非癌細胞組織，而不用切除整個乳房。

乳房重建手術
重建乳房的外科手術通常在患者接受乳房切除手術的同時或隨後進行。醫生將患者本身的身體組織植入乳房位置，以重建乳房的輪廓。如有需要，醫生可為患者保留或再造乳頭及乳暈。

乳房手術
移除乳癌腫瘤的外科手術，是基本的乳癌治療方法。

癌症分類
請見附錄II。

癌症引發的死亡個案
由癌症造成的死亡個案。死於乳癌以外原因的個案，並不納入本報告的死亡個案統計中。

化療
利用藥物消滅癌細胞的治療方法。當癌症出現擴散或懷疑擴散、復發或很可能出現復發時，醫生通常採用化療，與手術或電療配合進行治療。

遠端復發
癌症越過腋下淋巴結，在距離原發位置的器官或組織（例如肺、肝、骨髓或腦部）出現時為之遠端復發。

內分泌治療
利用荷爾蒙藥物或外科手術切除荷爾蒙腺體，以抑制荷爾蒙產生及發揮作用的治療方法。原理是殺死依靠荷爾蒙生長的癌細胞或干擾癌細胞生長，令癌細胞自然死亡。

雌激素受體呈陽性
雌激素受體呈陽性是指癌細胞上的受體蛋白與雌激素荷爾蒙結合的狀態。雌激素受體呈陽性的癌細胞，需要雌激素才可成長，假如其接受雌激素的路徑受到外來物質阻截，癌細胞就會停止生長甚至死亡。

第二型人類上皮生長素受體（HER2）呈陽性

在HER2呈陽性的乳癌中，當每個癌細胞所含的HER2基因數量超乎正常水平，癌細胞表層的HER2蛋白便會過多，即HER2蛋白過度表現。過多的HER2蛋白會加速癌細胞的生長及分裂，因此HER2呈陽性乳癌是惡性較大的乳癌。

原位乳癌

原位乳癌指早期的乳癌，癌症維持在原發位置的細胞表層內生長。原位乳腺管癌是指癌細胞只維持在乳腺管生長，而沒有入侵乳房裡更深層的組織或擴散至身體其他器官，故此亦稱為前入侵性乳癌。

入侵性乳癌

腫瘤的生長超出原發位置的肌上皮細胞表層或基底膜，例如在乳腺管或乳小葉出現。大多數乳癌都是入侵性癌症。相反原位癌則指維持在原發位置的癌症。

Ki-67 生長指數

Ki-67 蛋白是細胞生長的標記，在正常的細胞內處於低水平，但在生長速度快的細胞中則有所增加。Ki-67生長指數是指利用免疫組織化學染色（IHC）方法，來量度腫瘤細胞染色呈陽性的百分比，是細胞擴散的特定細胞核標記。Ki-67指數高顯示腫瘤具較大侵略性。目前，指數高於14%被界定為Ki-67生長指數高。

背闊肌肌皮瓣（LD瓣）

乳房重建方法之一，將背部的扇狀肌肉翻起，移至胸部以再造乳房。

局部區域復發

治療後癌細胞再次出現在原先癌症的位置或其附近的淋巴結。

乳房切除手術

將整個乳房切除的外科手術，通常用於乳癌及其他嚴重乳房疾病。

擴散

當乳癌在身體內其他器官出現時，代表擴散。

死亡率 / 死亡個案

特定組群中死亡個案的比率。

腫瘤多中心性

把乳房分為四個四分一部分（四象限），而乳癌在多個象限內出現，便為之腫瘤多中心性。

腫瘤多灶性

乳癌的腫瘤多灶性是指乳房一個象限內出現兩個或以上（相隔五毫米或以上）腫瘤病灶。

壞疽

指死去的細胞組織。若腫瘤中有壞疽，即顯示腫瘤生長速度極高，甚至超越血管生成的速度，導致癌細胞在缺乏血管輸送養分下壞死。壞疽通常顯示腫瘤的入侵性強，擴散速度極高。

前置化學治療

前置化學治療是指手術前的化療，作用是縮小腫瘤，讓其後針對腫瘤進行的手術或電療更有效及減少對患者身體的傷害。

黃體酮受體呈陽性

黃體酮受體呈陽性的癌細胞需要黃體酮與蛋白（受體）結合才可生長，故阻止受體與黃體酮結合的荷爾蒙治療藥物可以抑制腫瘤生長。

非典型增生性病變及癌症前乳房病變

非典型增生性病變包括非典導管或小葉增生，即有細胞在乳房組織內的導管或小葉過度生長，而當中某些細胞不再屬於正常。非典型增生性病變會增加患上乳癌的風險。癌症前乳房病變包括乳小葉原位癌，它被視為尚未成癌的病症，有可能演變成入侵性乳癌，但不被視為乳癌。

放射性治療

又稱電療，是利用放射線消滅癌細胞的治療方法。這種治療法適用於手術前以縮小腫瘤體積，或在手術後消滅殘餘的癌細胞。

風險因素 / 高危因素

當一個人受某項因素影響的風險愈高時，其出現相應的已知結果（如患上乳癌）的機會率就愈高。但風險因素不一定等於病因。

前哨淋巴結切片

此手術應用於臨床證實淋巴沒受到波及的乳癌個案，方法是切除腋下最接近乳房腫瘤前排的幾粒淋巴結。切出來的前哨淋巴結有助判斷乳癌有沒有擴散至腋下淋巴的流域。

存活期

由初次確診至因病死亡相隔的時間。

靶向治療

利用藥物以抑制癌病變及癌腫瘤生長所需的分子，以阻礙癌細胞生長。

復發時間

由初次確診至出現復發相隔的時間。

移植橫腹直肌皮瓣手術（TRAM瓣）

乳房重建的方式之一。將從腹直肌吸收血液的下腹部肌肉推到胸部，以製造出隆起的乳房形態，此手術通常不涉及移植，而下腹在肌肉及組織被抽走後，也會變平。

三陰性乳癌

通常用作形容入侵性腺管癌。癌細胞缺乏雌激素受體、黃體酮受體，表面亦沒有第二型人類上皮生長素（HER2）蛋白過度表現的乳癌。

AJCC Cancer Staging System (8th edition)
美國癌症聯合委員會（AJCC）第8版的乳癌分期

The American Joint Committee on Cancer (AJCC) Breast Cancer Staging System (8th edition 2018)[35] is used for determining cancer staging in the patient cohort. There are two stage groups according to this system: anatomic stage and prognostic stage groups. The anatomic stage group assigns a cancer stage based on the anatomic information on the tumour (T), regional nodes (N), and distant metastases (M) categories. The prognostic stage group, in conjunction with the aforementioned anatomic information (i.e. TNM categories), also takes into account other factors, including the tumour grade, biomarkers [human epidermal growth factor receptor 2 (HER2), estrogen receptor (ER), progesterone receptor (PR)] expression and genomic assays, in assigning a stage. Although prognostic stage group was recommended for patient care and was used for reporting of all cancer patients in the United States starting from 2018, it was not used in this report. The reason for this was that patients in the cohort were mostly diagnosed in 2006 to 2016 and the treatment offered to patients in the cohort was based on the prevailing anatomic stage group. It is noted that there is only minimal difference in the TNM anatomic staging between the 7th and 8th edition.

本報告使用美國癌症聯合委員會（AJCC）有關乳癌的《癌症期數》（2018年第八版）[35] 來斷定受訪患者的癌症期數。這個指引共有兩類癌症分期方法：解剖期數及預後期數。解剖期數使用解剖腫瘤的資料，包括腫瘤大小（T）、區域性淋巴結狀況（N）及遠端擴散（M）的資料來斷定癌症期數。預後期數除了使用解剖腫瘤的資料（即TNM分組）外，還會考慮其他因素，包括腫瘤的級別，生物學特徵（第二型人類上皮生長素受體，雌激素受體，黃體酮受體）及基因測試來斷定癌症期數。儘管由2018年起，該指引推薦使用預後期數用於患者護理及報告美國所有癌症患者，本報告並沒有採用。原因在於本報告的受訪群組大多在2006-2016年間確診，而醫護人員是根據當時常使用的解剖期數來決定患者的治療方案。請注意TNM分組在第七及第八版裡只有很少的改變。

Anatomic stage group 解剖學分期

Stage 階段	Tumour 腫瘤	Node 淋巴結	Metastasis 腫瘤轉移
0	Tis	N0	M0
IA	T1*	N0	M0
IB	T0	N1mi	M0
	T1*	N1mi	M0
IIA	T0	N1**	M0
	T1*	N1**	M0
	T2	N0	M0
IIB	T2	N1	M0
	T3	N0	M0
IIIA	T0	N2	M0
	T1*	N2	M0
	T2	N2	M0
	T3	N1	M0
	T3	N2	M0
IIIB	T4	N0	M0
	T4	N1	M0
	T4	N2	M0
IIIC	Any 任何 T	N3	M0
IV	Any 任何 T	Any 任何 N	M1

T0: no tumour; Tis: carcinoma in situ; T1: tumour size ≤ 20mm;
T2: 20mm < tumour size ≤ 50mm; T3: tumour size>50mm;
T4: any size with direct extension to the chest wall and/or to the skin (ulceration or skin nodules)

N0: no positive nodes; N1mi: >0.2-2.0 mm or more than 200 cells; N1: 1-3 positive axillary nodes; N2: 4-9 positive axillary nodes or positive internal mammary nodes; N3: ≥ 10 positive axillary nodes, or positive axillary and internal mammary nodes, or positive supraclavicular or infraclavicular nodes

M0: no metastasis; M1: evidence of metastasis

* T1 includes T1mi

** T0 and T1 tumour with nodal micrometastases only are excluded from Stage IIA and are classified as Stage IB.

T0： 沒有腫瘤；Tis：原位癌組織；T1：腫瘤大小≤20毫米；
T2： 20毫米＜腫瘤大小≤50毫米；T3：腫瘤大小>50毫米；
T4： 任何大小，直接擴展至胸壁及 / 或皮膚（潰瘍或皮膚結節）

N0： 沒有陽性結；N1mi：>0.2-2.0毫米或多於200個細胞；
N1： 1至3個陽性腋下淋巴結；

N2：4至9個陽性腋下淋巴結，或陽性內部乳腺淋巴結；

N3： ≧10個陽性腋下淋巴結，或陽性腋下及內部乳腺淋巴結，或陽性鎖骨上窩或鎖骨下窩淋巴結

M0：沒有腫瘤轉移；M1：有腫瘤轉移證據

*T1涵蓋T1mi

** T0及T1腫瘤若只有微小淋巴結腫瘤轉移，會被排除於IIA期數外而歸納在IB期數內。

Clinical prognostic group 臨床預測分期

When TNM is 腫瘤	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Clinical Prognostic Stage Group is 分期
Tis N0 M0	Any 任何	Any 任何	Any 任何	Any 任何	0
T1*N0 M0 T0 N1mi M0 T1* N1mi M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IB
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IB
			Negative 陰性	Positive 陽性	IB
				Negative 陰性	IB
T0 N1** M0 T1* N1** M0 T2 N0 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIB

When TNM is 腫瘤	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Clinical Prognostic Stage Group is 分期
T0 N1** M0 T1* N1** M0 T2 N0 M0	G3	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
T2 N1*** M0 T3 N0 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIIB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIB
T0 N2 M0 T1* N2 M0 T2 N2 M0 T3 N1*** M0 T3 N2 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIB

Clinical prognostic group 臨床預測分期

When TNM is 腫瘤	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Clinical Prognostic Stage Group is 分期
T0 N2 M0 T1* N2 M0 T2 N2 M0 T3 N1*** M0 T3 N2 M0	G2	Positive 陽性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IIB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIC
T4 N0 M0 T4 N1*** M0 T4 N2 M0 Any T N3 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIC
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIC

When TNM is 腫瘤	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Clinical Prognostic Stage Group is 分期
T4 N0 M0 T4 N1*** M0 T4 N2 M0 Any T N3 M0	G3	Positive 陽性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIC
			Negative 陰性	Positive 陽性	IIIC
				Negative 陰性	IIIC
Any T Any N M1 任何 T 任何 N M1	Any 任何	Any 任何	Any 任何	Any 任何	IV

* T1 Includes T1mi.

* T1 涵蓋 T1mi。

** N1 does not include N1mi. T1 N1mi M0 and T0 N1mi M0 cancers are included for prognostic staging with T1 N0 M0 cancers of the same prognostic factor status.

** N1並不涵蓋 N1mi。T1 N1mi M0 及T0 N1mi M0會被視作T1 N0 M0 處理。

*** N1 includes N1mi. T2, T3, and T4 cancers and N1mi are included for prognostic staging with T2 N1,T3 N1 and T4 N1, respectively.

*** N1 涵蓋 N1mi。T2、T3及T4腫瘤若同時 N1mi 會分別被視作 T2 N1, T3 N1 和 T4 N1處理。

Pathological prognostic group 病理學預測分期

When TNM is TNM 分期	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Pathological Prognostic Stage Group is 分期
Tis N0 M0	Any 任何	Any 任何	Any 任何	Any 任何	0
T1*N0 M0 T0 N1mi M0 T1* N1mi M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IA
			Negative 陰性	Positive 陽性	IA
				Negative 陰性	IB
T0 N1** M0 T1* N1** M0 T2 N0 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IB
			Negative 陰性	Positive 陽性	IB
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IB
			Negative 陰性	Positive 陽性	IB
				Negative 陰性	IIA
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IB
			Negative 陰性	Positive 陽性	IB
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA

When TNM is TNM 分期	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Pathological Prognostic Stage Group is 分期
T0 N1** M0 T1* N1** M0 T2 N0 M0	G3	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIA
			Negative 陰性	Positive 陽性	IIA
				Negative 陰性	IIA
T2 N1*** M0 T3 N0 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIB
			Negative 陰性	Positive 陽性	IIB
				Negative 陰性	IIIA
T0 N2 M0 T1* N2 M0 T2 N2 M0 T3 N1*** M0 T3 N2 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA

Pathological prognostic group 病理學預測分期

When TNM is TNM 分期	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Pathological Prognostic Stage Group is 分期
T0 N2 M0 T1* N2 M0 T2 N2 M0 T3 N1*** M0 T3 N2 M0	G2	Positive 陽性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIB
	G3	Positive 陽性	Positive 陽性	Positive 陽性	IIA
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIA
		Negative 陰性	Positive 陽性	Positive 陽性	IIB
				Negative 陰性	IIIA
			Negative 陰性	Positive 陽性	IIIA
				Negative 陰性	IIIC
T4 N0 M0 T4 N1*** M0 T4 N2 M0 Any T N3 M0	G1	Positive 陽性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
	G2	Positive 陽性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIA
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIC

When TNM is TNM 分期	And Grade is 細胞等級	And HER2 Status is 第二型人類上皮生長素受體	And ER Status is 雌激素受體	And PR Status is 黃體酮受體	Then the Pathological Prognostic Stage Group is 分期
T4 N0 M0 T4 N1*** M0 T4 N2 M0 Any T N3 M0	G3	Positive 陽性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIB
			Negative 陰性	Positive 陽性	IIIB
				Negative 陰性	IIIB
		Negative 陰性	Positive 陽性	Positive 陽性	IIIB
				Negative 陰性	IIIC
			Negative 陰性	Positive 陽性	IIIC
				Negative 陰性	IIIC
Any T Any N M1 任何 T 任何 N M1	Any 任何	Any 任何	Any 任何	Any 任何	IV

* T1 Includes T1mi.

* T1 涵蓋 T1mi。

** N1 does not include N1mi. T1 N1mi M0 and T0 N1mi M0 cancers are included for prognostic staging with T1 N0 M0 cancers of the same prognostic factor status.

** N1並不涵蓋 N1mi。T1 N1mi M0 及T0 N1mi M0會被視作T1 N0 M0 處理。

*** N1 includes N1mi. T2, T3, and T4 cancers and N1mi are included for prognostic staging with T2 N1,T3 N1 and T4 N1, respectively.

*** N1 涵蓋 N1mi。T2、T3及T4腫瘤若同時 N1mi 會分別被視作 T2 N1, T3 N1 和 T4 N1處理。

LIST OF TABLES

		Page
Table I	Number of patients whose data were used for analyses in different chapters of Report No. 11	14
Table 1.1	Lifetime risk of breast cancer of Hong Kong women (averaged data from 2010 to 2015)	23
Table 1.2	Body mass index at diagnosis (N=18,663)	30
Table 1.3	Family history of breast cancer at diagnosis (N=18,663)	31
Table 1.4	Personal history of other cancer at diagnosis (N=18,663)	31
Table 1.5	Origins of malignant tumours reported by patients (N=327)	32
Table 1.6	History of breast condition / disease at diagnosis (N=18,663)	33
Table 1.7	Early menarche, late menopause and reproductive history at diagnosis	34
Table 1.8	Number of live births reported by patient cohorts (N=14,106)	34
Table 1.9	Use of hormonal contraceptives at diagnosis (N=18,663)	35
Table 1.10	Use of hormone replacement therapy (in post-menopausal patients) at diagnosis (N=9,843)	36
Table 1.11	Ten most common risk factors for breast cancer in patient cohorts (N=18,663)	36
Table 1.12	Breast screening habits by age group (N=18,450)	38
Table 1.13	Breast screening habits by education level (N=18,507)	39
Table 1.14	Breast screening habits by monthly household income (HK$) (N=10,459)	40
Table 1.15	Breast screening habits by district of residence (N=17,852)	41
Table 2.1	Method of first breast cancer detection by type of medical service users (N=17,360)	47
Table 2.2	Method of first breast cancer detection by type of cancer (N=17,236)	48
Table 2.3	Method of first breast cancer detection by cancer stage (N=16,819)	48
Table 2.4	Time interval between onset of symptoms and first medical consultation for patients who self-detected* their cancer (N=3,805)	49
Table 2.5	Time interval between onset of symptoms and first medical consultation for patients who self-detected* their cancer by type of medical service users (N=3,805)	50
Table 2.6	Cancer stage at diagnosis among self-detected* patients by time interval between onset of symptoms and first medical consultation (N=3,369)	50
Table 2.7	Number of patients and breast cancer cases in the three patient cohorts	51
Table 2.8	Sensitivity and diagnostic results of breast imaging tests (N=18,358)	53
Table 2.9	Mammographic findings of patients diagnosed through mammography (N=13,220)	54
Table 2.10	Mammographic density of breasts of patients diagnosed through mammogram by age group (N=9,069)	55
Table 2.11	Sensitivity and diagnostic results of breast tissue biopsies (N=18,358)	56
Table 2.12	Method of cancer staging among invasive breast cancer patients (N=7,352)	57
Table 2.13	Use of PET scan as a form of staging method among patients by cancer stage (N=7,352)	57
Table 2.14	Histological type of invasive breast cancer (N=15,368)	61
Table 2.15	Grading, multifocality and multicentricity of invasive breast cancer (N=15,368)	62
Table 2.16	Biological characteristics of invasive breast cancer (N=15,368)	63
Table 2.17	Biological subtypes of invasive tumours by cancer stage (N=14,497)	64

		Page
Table 2.18	Histological type, grading, multifocality and mutlicentricity of in situ breast cancer (N=2,373)	65
Table 2.19	Biological characteristics of in situ breast cancer (N=2,373)	66
Table 2.20	Type of surgery for patients with invasive cancer	68
Table 2.21	Type of surgery for patients with in situ cancer	69
Table 2.22	Type of surgery by age group (N=17,412)	70
Table 2.23	Type of surgery by tumour size (N=16,193)	70
Table 2.24	Type of surgery by cancer stage (N=17,464)	70
Table 2.25	Type of surgery by type of medical service users (N=17,299)	71
Table 2.26	Type of nodal surgery by clinical nodal status (N=16,773)	71
Table 2.27	Type of nodal surgery for invasive cancer by cancer stage (N=14,959)	72
Table 2.28	Distribution of tumour size in invasive cancer with negative or positive nodal status (N=12,652)	72
Table 2.29	Number of positive nodes by types of nodal surgery (N=14,852)	73
Table 2.30	Coverage of regional lymph nodes by adjuvant locoregional radiotherapy (N=7,123)	75
Table 2.31	Chemotherapy treatment by cancer stage (N=15,454)	76
Table 2.32	Use of chemotherapy by age group and cancer stage at diagnosis (N=15,041)	76
Table 2.33	Forms of endocrine therapy by age group (N=11,295)	91
Table 2.34	Number of treatment modalities by cancer stage (N=17,379)	93
Table 2.35	Follow-up of 16,603 patients	94
Table 2.36	Locoregional recurrence by type of surgery received and cancer stage at diagnosis	95
Table 2.37	Sites involved in locoregional recurrence (N=475)	95
Table 2.38	Organs involved in distant recurrence (N=551)	95
Table 2.39	Time for organ specific metastasis and distribution of the biological subtypes of patients	96
Table 2.40	Locoregional and distant recurrence among invasive breast cancer patients by cancer stage (N=13,734)	96
Table 2.41	Characteristics of breast cancer-specific deaths (N=196)	97
Table 3.1	Level of physical discomfort by type of surgery (N=16,066)	101
Table 3.2	Five most common forms of discomfort after surgery (N=16,153)	102
Table 3.3	Level of physical discomfort after radiotherapy by irradiated regions (N=6,431)	102
Table 3.4	Five most common forms of discomfort after radiotherapy (N=9,664)	103
Table 3.5	Five most common forms of discomfort after chemotherapy (N=9,575)	103
Table 3.6	Five most common forms of discomfort after endocrine therapy (N=10,426)	104
Table 3.7	Five most common forms of discomfort after anti-HER2 targeted therapy (N=2,048)	105
Table 3.8	Psychosocial impact of breast cancer	106
Table 3.9	Change in outlook on life by age group (N=15,684)	107
Table 3.10	Change in self-image by age group (N=15,682)	107
Table 3.11	Psychosocial adjustments and coping strategies for survivorship	108
Table 3.12	Level of worry about recurrence by age group (N=15,713)	108

LIST OF FIGURES

		Page
Figure I	Distribution of year of diagnosis of HKBCR participants	10
Figure II	Sources of patient consent in HKBCR reports	14
Figure 1.1	Distribution of age at diagnosis (N=18,663)	23
Figure 1.2	Occupation of patient cohorts (N=18,663)	24
Figure 1.3	Education level of patient cohorts (N=18,663)	25
Figure 1.4	Monthly household income (HK$) of patient cohorts (N=10,459)	25
Figure 1.5	District of residence of patient cohorts (N=18,663)	26
Figure 1.6	Bra size of patient cohorts (N=18,663)	27
Figure 1.7	Bra cup size of patient cohorts (N=18,663)	27
Figure 1.8	Dietary habits at diagnosis (N=18,663)	29
Figure 1.9	Exercise habits at diagnosis (N=18,663)	29
Figure 1.10	Stress level at diagnosis (N=18,663)	30
Figure 1.11	Distribution of risk factors among patients at diagnosis (N=18,663)	37
Figure 2.1	Method of first breast cancer detection in the patient cohorts (N=17,360)	47
Figure 2.2	Major presenting symptoms of self-detected* breast cancer in the patient cohorts (N=14,401)	49
Figure 2.3	Locations of malignant tumour on breasts within the patient cohorts (N=18,358)	52
Figure 2.4	Mammographic density of breasts of patients diagnosed through mammogram (N=9,317)	54
Figure 2.5	Cancer stage at diagnosis (N=18,358)	58
Figure 2.6	Distribution of tumour size (cm) of invasive breast cancer (N=14,250)	59
Figure 2.7	Number of positive axillary lymph nodes among patients with invasive breast cancer (N=14,862)	60
Figure 2.8	Distribution of tumour size (cm) of in situ breast cancer (N=1,965)	60
Figure 2.9	Use of locoregional radiotherapy among patients who underwent breast-conserving surgery by cancer stage (N=6,406)	74
Figure 2.10	Use of locoregional radiotherapy among patients who underwent mastectomy by cancer stage (N=10,725)	74
Figure 2.11	Type of first generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=166)	77
Figure 2.12	Type of second generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=112)	77
Figure 2.13	Type of third generation chemotherapy drugs (non-HER2 regimen) used in neoadjuvant setting (N=508)	78
Figure 2.14	Type of HER2 regimens used in neoadjuvant setting (N=339)	78

		Page
Figure 2.15	Generation of chemotherapy drugs used by biological subtype in neoadjuvant setting (N=1,025)	79
Figure 2.16	Type of first generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=1,647)	81
Figure 2.17	Type of second generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=2,159)	81
Figure 2.18	Type of third generation chemotherapy drugs (non-HER2 regimen) used in adjuvant setting (N=2,900)	82
Figure 2.19	Type of HER2 regimens used in adjuvant setting (N=704)	82
Figure 2.20	Generation of chemotherapy drugs used by biological subtype in adjuvant setting (N=7,722)	83
Figure 2.21	Generation of chemotherapy drugs used by cancer stage in adjuvant setting (N=7,899)	85
Figure 2.22	Type of first generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=43)	86
Figure 2.23	Type of second generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=75)	87
Figure 2.24	Type of third generation chemotherapy drugs (non-HER2 regimen) used in palliative setting (N=89)	87
Figure 2.25	Type of HER2 regimens used in palliative setting (N=76)	87
Figure 2.26	Generation of chemotherapy drugs used by biological subtype in palliative setting (N=190)	88
Figure 2.27	Use of endocrine therapy by cancer stage (N=17,774)	90
Figure 2.28	Use of anti-HER2 targeted therapy in HER2 positive patients by cancer stage (N=3,215)	92
Figure 2.29	Type of complementary and alternative therapies used (N=6,827)	93
Figure 3.1	Level of physical discomfort after surgery (N=16,153)	101
Figure 3.2	Level of physical discomfort after radiotherapy (N=9,664)	102
Figure 3.3	Level of physical discomfort after chemotherapy (N=9,575)	103
Figure 3.4	Level of physical discomfort after endocrine therapy (N=10,426)	104
Figure 3.5	Level of physical discomfort after anti-HER2 targeted therapy (N=2,048)	104
Figure 3.6	Level of physical discomfort after complementary and alternative therapies (N=6,621)	105

表索引

		頁
表I	本報告書內不同章節所用作分析的患者數目	15
表1.1	香港婦女罹患乳癌的一生累積風險（2010至2015年的平均數據）	111
表1.2	確診前的體重指數（總人數 = 18,663）	118
表1.3	確診前的家族乳癌病歷（總人數 = 18,663）	119
表1.4	確診前的個人非乳房腫瘤病歷（總人數 = 18,663）	119
表1.5	患者曾患惡性腫瘤的身體部位（總人數 = 327）	120
表1.6	確診前的乳房狀況或疾病病歷（總人數 = 18,663）	121
表1.7	確診前初經、收經及生育紀錄	122
表1.8	受訪群組的生育次數（總人數 = 14,106）	122
表1.9	確診前使用荷爾蒙避孕劑的情況（總人數 = 18,663）	123
表1.10	已收經患者在確診前使用荷爾蒙補充劑的情況（總人數 = 9,843）	124
表1.11	受訪群組罹患乳癌十大高危因素（總人數 = 18,663）	124
表1.12	按年齡分析檢查乳房的習慣（總人數 = 18,450）	126
表1.13	按教育程度分析檢查乳房的習慣（總人數 = 18,507）	127
表1.14	按每月家庭收入（港幣）分析檢查乳房的習慣（總人數 = 10,459）	128
表1.15	按居住地區分析檢查乳房的習慣（總人數 = 17,852）	129
表2.1	按醫療服務種類分析最初發現乳癌的模式（總人數 = 17,360）	135
表2.2	按癌症種類分析最初發現乳癌的模式（總人數 = 17,236）	136
表2.3	按癌症期數分析最初發現乳癌的模式（總人數 = 16,819）	136
表2.4	無意中發現乳癌的患者出現症狀至首次求醫相隔的時間（總人數 = 3,805）	137
表2.5	按醫療服務種類分析無意中發現乳癌的患者出現症狀至首次求醫相隔的時間（總人數 = 3,805）	138
表2.6	無意中發現乳癌的患者出現症狀至首次求醫相隔的時間與癌症期數的關係（總人數 = 3,369）	138
表2.7	受訪患者人數及乳癌個案數目	139
表2.8	乳房影像檢查的敏感度及診斷結果（總人數 = 18,358）	141
表2.9	以乳房X光造影檢查確診的患者檢查結果（總人數 = 13,220）	142
表2.10	按年齡組別分析以乳房X光造影檢查確診的患者乳房密度（總人數 = 9,069）	143
表2.11	乳癌活組織檢查的敏感度及診斷結果（總人數 = 18,358）	144
表2.12	入侵性乳癌患者檢定乳癌期數的方法（總人數 = 7,352）	145
表2.13	正電子掃描在不同期數患者的使用比例（總人數 = 7,352）	145
表2.14	入侵性乳癌的組織學類別（總人數 = 15,368）	149
表2.15	入侵性乳癌的級別、腫瘤的多灶性及多中心性（總人數 = 15,368）	150
表2.16	入侵性乳癌的生物學特性（總人數 = 15,368）	151
表2.17	按癌症期數分析入侵性腫瘤的生物學亞型（總人數 = 14,497）	152
表2.18	原位乳癌的組織學類別、級別、腫瘤的多灶性及多中心性（總人數 = 2,373）	153

		頁
表2.19	原位乳癌的生物學特性（總人數 = 2,373）	154
表2.20	入侵性乳癌患者的手術類型	156
表2.21	原位乳癌患者的手術類型	157
表2.22	按年齡組別分析手術類型（總人數 = 17,412）	158
表2.23	按腫瘤大小分析手術類型（總人數 = 16,193）	158
表2.24	按癌症期數分析手術類型（總人數 = 17,464）	158
表2.25	按患者接受治療的醫療服務種類分析手術類型（總人數 = 17,299）	159
表2.26	按臨床淋巴結狀況分析淋巴結手術的種類（總人數 = 16,773）	159
表2.27	按癌症期數分析淋巴結手術的種類（總人數 = 14,959）	160
表2.28	按臨床淋巴結狀況分析入侵性乳癌的腫瘤大小（總人數 = 12,652）	160
表2.29	按淋巴結手術種類分析陽性淋巴結數目（總人數 = 14,852）	161
表2.30	輔助性局部區域性放射性治療對周邊淋巴結覆蓋程度（總人數 = 7,123）	163
表2.31	按癌症期數分析患者接受化療的比率（總人數 = 15,454）	164
表2.32	以確診時的年齡及癌症期數分析接受化療的比率（總人數 = 15,041）	164
表2.33	按年齡組別分析患者接受內分泌治療的藥物（總人數 = 11,295）	179
表2.34	按癌症期數分析治療方法數目（總人數 = 17,379）	181
表2.35	跟進訪問的結果（總人數 = 16,603）	182
表2.36	按手術類型及確診時的癌症期數分析局部區域性復發的情況	183
表2.37	患者出現局部區域性復發的位置（總人數 = 475）	183
表2.38	遠端擴散影響的器官（總人數 = 551）	183
表2.39	按乳癌生物學亞型分析四個最常受遠端擴散影響的器官	184
表2.40	按癌症期數分析入侵性乳癌患者的復發情況（總人數 = 13,734）	184
表2.41	乳癌死亡個案的特性（人數 = 196）	185
表3.1	按手術類型分析身體不適的程度（總人數 = 16,066）	189
表3.2	手術後五種最常見的身體不適（總人數 = 16,153）	189
表3.3	按接受放射性治療部位分析身體不適的程度（總人數 = 6,431）	190
表3.4	放射性治療後五種最常見的身體不適（總人數 = 9,664）	190
表3.5	化療後五種最常見的身體不適（總人數 = 9,575）	191
表3.6	內分泌治療後五種最常見的身體不適（總人數 = 10,426）	192
表3.7	抗HER2靶向治療後五種最常見的身體不適（總人數 = 2,048）	192
表3.8	乳癌為患者帶來的心理影響	194
表3.9	按年齡組別分析人生觀的轉變（總人數 = 15,684）	195
表3.10	按年齡組別分析自我形象的轉變（總人數 = 15,682）	195
表3.11	為存活而作出的心理和生活調節及應對策略	196
表3.12	按年齡組別分析患者憂慮復發的程度（總人數 = 15,713）	196

圖索引

		頁
圖I	香港乳癌資料庫參加者的確診年份分佈	12
圖II	香港乳癌資料庫報告的患者來源分佈	15
圖1.1	確診年齡的分佈（總人數 = 18,663）	111
圖1.2	受訪群組的職業（總人數 = 18,663）	112
圖1.3	受訪群組的教育程度（總人數 = 18,663）	113
圖1.4	受訪群組的每月家庭收入（港幣）（總人數 = 10,459）	113
圖1.5	受訪群組的居住地區分佈（總人數 = 18,663）	114
圖1.6	受訪群組的胸圍尺碼（總人數 = 18,663）	115
圖1.7	受訪群組的胸圍罩杯大小（總人數 = 18,663）	115
圖1.8	確診前的飲食習慣（總人數 = 18,663）	117
圖1.9	確診前的運動習慣（總人數 = 18,663）	117
圖1.10	確診前的精神壓力水平（總人數 = 18,663）	118
圖1.11	患者確診前擁有的乳癌高危因素數目分佈（總人數 = 18,663）	125
圖2.1	受訪群組最初發現乳癌的方式（總人數 = 17,360）	135
圖2.2	患者自己無意中發現乳癌的主要症狀（總人數 = 14,401）	137
圖2.3	乳癌的位置（總人數 = 18,358）	140
圖2.4	以乳房X光造影檢查確診的患者乳房密度（總人數 = 9,317）	142
圖2.5	確診時的癌症期數（總人數 = 18,358）	146
圖2.6	入侵性乳癌的腫瘤大小（厘米）分佈（總人數 = 14,250）	147
圖2.7	入侵性乳癌患者的腋下淋巴結狀態（總人數 = 14,862）	148
圖2.8	原位乳癌的腫瘤大小（厘米）分佈（總人數 = 1,965）	148
圖2.9	按癌症期數分析曾接受乳房保留手術患者接受局部區域性放射性治療的比率（總人數 = 6,406）	162
圖2.10	按癌症期數分析曾接受乳房切除手術患者接受局部區域性放射性治療的比率（總人數 = 10,725）	162
圖2.11	第一代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 166）	165
圖2.12	第二代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 112）	165
圖2.13	第三代化療藥物種類（非HER2藥物方案）在前置化療的使用比率（總人數 = 508）	166
圖2.14	在前置化療針對HER2的藥物組合使用比率（總人數 = 339）	166

		頁
圖2.15	按乳癌生物學亞型分析患者在手術前的前置化療使用的藥物種類（總人數 = 1,025）	167
圖2.16	第一代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 1,647）	169
圖2.17	第二代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 2,159）	169
圖2.18	第三代化療藥物種類（非HER2藥物方案）在術後輔助性化療的使用比率（總人數 = 2,900）	170
圖2.19	在術後輔助性化療針對HER2的藥物組合使用比率（總人數 = 704）	170
圖2.20	按乳癌生物學亞型分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,722）	171
圖2.21	按癌症期數分析患者在術後輔助性化療使用的藥物種類（總人數 = 7,899）	173
圖2.22	第一代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 43）	174
圖2.23	第二代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 75）	175
圖2.24	第三代化療藥物種類（非HER2藥物方案）在紓緩性化療的使用比率（總人數 = 89）	175
圖2.25	在紓緩性化療針對HER2的藥物組合使用比率（總人數 = 76）	175
圖2.26	按乳癌生物學亞型分析患者在紓緩性化療使用的藥物種類（總人數 = 190）	176
圖2.27	按癌症期數分析患者接受內分泌治療的比率（總人數 = 17,774）	178
圖2.28	按癌症期數分析HER2呈陽性患者接受抗HER2靶向治療的比率（總人數 = 3,215）	180
圖2.29	輔助及另類療法的種類（總人數 = 6,827）	181
圖3.1	手術後身體不適的程度（總人數 = 16,153）	189
圖3.2	放射性治療後身體不適的程度（總人數 = 9,664）	190
圖3.3	化療後身體不適的程度（總人數 = 9,575）	191
圖3.4	內分泌治療後身體不適的程度（總人數 = 10,426）	191
圖3.5	抗HER2靶向治療後身體不適的程度（總人數 = 2,048）	192
圖3.6	輔助及另類療法後身體不適的程度（總人數 = 6,621）	193

REFERENCES 參考資料

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HONG KONG BREAST CANCER REGISTRY'S PUBLICATIONS AND PRESENTATION

香港乳癌資料庫發表的刊物及簡報資料

Publications 刊物

Annual Report 年度報告

1. Breast Cancer Facts in Hong Kong 2008 Report (September 2009) 香港乳癌實況報告2008年（2009年9月出版）
2. Breast Cancer Facts in Hong Kong Report No.2 (September 2010) 香港乳癌實況第二號報告（2010年9月出版）
3. Breast Cancer Facts in Hong Kong Report No.3 (September 2011) 香港乳癌實況第三號報告（2011年9月出版）
4. Hong Kong Breast Cancer Registry Report No.4 (September 2012) 香港乳癌資料庫第四號報告（2012年9月出版）
5. Hong Kong Breast Cancer Registry Report No.5 (September 2013) 香港乳癌資料庫第五號報告（2013年9月出版）
6. Hong Kong Breast Cancer Registry Report No. 6 (September 2014) 香港乳癌資料庫第六號報告（2014年9月出版）
7. Hong Kong Breast Cancer Registry Report No. 7 (September 2015) 香港乳癌資料庫第七號報告（2015年9月出版）
8. Hong Kong Breast Cancer Registry Report No. 8 (September 2016) 香港乳癌資料庫第八號報告（2016年9月出版）
9. Hong Kong Breast Cancer Registry Report No. 9 (September 2017) 香港乳癌資料庫第九號報告（2017年9月出版）
10. Hong Kong Breast Cancer Registry Report No. 10 (September 2018) 香港乳癌資料庫第十號報告（2018年9月出版）

Bulletin 簡報

Issue No. 期數	Topic(s) 研究題目	Publication year 出版年份
1.	Study 1: Screening-detected breast cancer shows earlier stage than incidental self-detected cancer 研究一：相對於偶然的自行檢查，乳癌普查能更有效診斷出早期乳癌； Study 2: Unwrapping physical and psychosocial impacts of breast cancer on Hong Kong women 研究二：揭示乳癌對香港婦女帶來的生理及心理影響	2010
2.	Socio-economic Disparities in Breast Cancer Screening Practice and Cancer Staging in Hong Kong 經濟及社會狀況差異對乳癌普查習慣和癌症期數的影響	2012
3.	Impact of breast cancer by age in Hong Kong 年齡對本港乳癌個案的影響	2013
4.	A Study on the Differences in the Cancer Characteristics Between Self-detected and Screen-detected patients and the Treatments they Received 患者在有癥狀下發現和在定期檢測發現乳癌的癌症特性及所接受治療的差異研究	2013

Issue No. 期數	Topic(s) 研究題目	Publication year 出版年份
5.	Delay in Medical Consultation is More Common in Widows or Non-clerical/Labour Workers 喪偶者或非文職/勞動工作者的延誤求醫情況較為普遍	2014
6.	Sentinel Node Biopsy in Hong Kong Breast Cancer Patients 香港乳癌患者的前哨淋巴結切片	2015
7.	Breast Cancer in Hong Kong Elderly Patients 香港年長患者的乳癌狀況	2016
8.	Neoadjuvant Chemotherapy Induces Tumour Size Reduction and Enables Breast-Conserving Surgery in Hong Kong Breast Cancer Patients 手術前的前置化療有助香港乳癌患者縮小腫瘤及進行乳房保留手術	2017
9.	Risk Factors for Breast Cancer in Hong Kong Women: A Case-Control Study 香港婦女罹患乳癌的風險因素：病例對照研究	2018

Articles published in medical journals 醫學期刊文章

1. Cheung P, Hung WK, Cheung C, Chan A, Wong TT, Li L, Chan SWW, Chan KW, Choi P, Kwan WH, Yau CC, Chan EYY, Law SCK and Kwan D. Early Data from the First Population-Wide Breast Cancer-Specific Registry in Hong Kong. World J Surg. 2012 Apr;36(4):723-9.
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3. Yeo W, Lee HM, Chan A, Chan EY, Chan MC, Chan KW, Chan SW, Cheung FY, Cheung PS, Choi PH, Chor JS, Foo WW, Kwan WH, Law SC, Li LP, Tsang JW, Tung Y, Wong LL, Wong TT, Yau CC, Yau TK, Zee BC. Risk factors and natural history of breast cancer in younger Chinese women. World J Clin Oncol. 2014;5(5):1097-106. doi: 10.5306/wjco.v5.i5.1097.
4. Chan SW, Cheung C, Chan A, Cheung PS. Surgical options for Chinese patients with early invasive breast cancer: Data from the Hong Kong Breast Cancer Registry. Asian J Surg. 2016 May 18. pii: S1015-9584(16)30032-X. doi: 10.1016/j.asjsur.2016.02.003.
5. Yau TK, Chan A, Cheung PS. Ductal carcinoma in situ of breast: detection and treatment pattern in Hong Kong. Hong Kong Med J. 2017;23(1):19-27. doi: 10.12809/hkmj154754.

Presentations 簡報資料

1. Screen-detected breast cancer showed earlier staging than incidental self-detected cancer, Dr. Polly Cheung (Breast Cancer Conference 2009, The Chinese University of Hong Kong)
2. Breast cancer facts in Hong Kong Report No.2, Dr. Hung Wai Ka (International Surgical Week 2011, Japan) (Nominated for Breast Surgery International Best Paper Award)
3. Risk factors for breast cancer in Hong Kong, Ms. Amy Chan (33rd Annual meeting of the International Association of Cancer Registries 2011, Mauritius)
4. Local data from the Hong Kong Breast Cancer Registry, Dr. Polly Cheung (Breast Cancer Conference 2011, The Chinese University of Hong Kong)
5. Breast cancer facts in Hong Kong, Dr. Carol Kwok (4th Global Chinese Breast Cancer Organizations Alliance Conference 2012, USA)
6. Hong Kong Breast Cancer Registry: Evidence for improving cancer control and treatment, Dr. Polly Cheung (Breast Cancer Conference 2015, The Chinese University of Hong Kong)
7. Pathological response rate: Analyzing the outcome of neoadjuvant chemotherapy for patients enrolled in Hong Kong Breast Cancer Registry, Dr. Carol Kwok (24th Annual Scientific Meeting of Hong Kong College of Radiologists 2016, Hong Kong)
8. Elders with Breast Cancer Tend to Delay Seeking Medical Care and Present with a Later Cancer Stage, Dr. Janice Tsang (Symposium on Elderly Primary Breast Cancer Women 2017, England)
9. Hong Kong Breast Cancer Registry, Dr. Polly Cheung (Breast Cancer Conference 2017, The Chinese University of Hong Kong)

ABSTRACTS OF REPORTS NOS. 1 - 10

Breast Cancer Facts in Hong Kong 2008 Report (Report No. 1 published in 2009)

- the common risk factors for breast cancer in Hong Kong

Report No. 1 revealed that age, physical activity, health profile, lifestyle, dietary habit and socio-economic profile were important risk factors for breast cancer.

The most prevalent risk factors for breast cancer among patients in Hong Kong are as follows:

(1) Lack of exercise (< three hrs per week) (74%)
(2) No breastfeeding (64%)
(3) High levels of stress (40%)
(4) Use of oral contraceptives (38%)
(5) Overweight / obese (34%)
(6) No childbirth / first childbirth after age 35 (28%)
(7) Early menarche (<12 years old) (17%)
(8) Diet rich in meat / dairy products (15%)
(9) Use of hormonal replacement therapy after menopause (14%)
(10) Alcohol drinking (9%)
(11) Late menopause (>55 years old) (8%)
(12) Smoking (4%)

According to Report No. 1, most breast cancer cases were not inherited but were closely related to modifiable factors such as dietary habits, lifestyle and stress level in the body. In addition, 52% of the patients had at least two or three risk factors and less than 3% of patients had no known risk factor at all.

In order to reduce breast cancer risk, the Hong Kong Breast Cancer Foundation recommends women to act on the guidelines laid down by the American Cancer Society on Nutrition and Physical Activity for Cancer Prevention 2002:

- Maintain a healthy weight throughout life
- Adopt a physically active lifestyle
- Adopt a healthy diet, with emphasis on plant sources
- Drink no more than one alcoholic drink per day

One of the most noteworthy findings was the lower median age of diagnosis in Hong Kong in comparison with those generally reported in other countries. According to the report, the median age at which breast cancer was diagnosed in Hong Kong was 47.6, which was significantly lower than the respective ages reported in the United States (61 years) and Australia (62 years). The report also found that 81% of the patients in the cohort had bra cup size B or smaller and 64% had a breast size of 34 inches or below. This countered the common misconception that women with bigger breasts have a higher chance of getting breast cancer.

Breast Cancer Facts in Hong Kong 2009 Report (Report No. 2 published in 2010)

- private hospitals found higher ratio of in situ breast cancer

Report No. 2 analysed the differences in cancer characteristics and treatment methods of breast cancer patients who received cancer treatments at different types of medical facilities.

The 2,130 patients, based on the type of medical care received, were classified into three categories: total private medical care (23.1%); total public medical care (24.0%); and mix of private and public medical care (52.9%).

The distribution of cancer stage at diagnosis was studied and a significant discrepancy between the patients diagnosed early at stage 0 (in situ breast cancer) in private medical care (13.6%) and public medical care (5.7%) was identified. The tumour size of invasive breast cancer was generally found to be larger in patients receiving full care at public medical facilities.

The mastectomy rate of the patients who were treated in public medical facilities was twice as that in private medical facilities. The ratio of the patients who received breast reconstruction was also lowest in the public medical care group. The reason could be related to the patients' age and tumour size.

There was no difference in the patterns of using the chemotherapy drugs anthracycline, taxane and other drugs between the private and public sectors. There was also no obvious difference in the pattern of use of the endocrine therapy drug tamoxifen (the most common form of endocrine therapy) between different medical sectors across different cancer stages.

Findings of this report highlighted the higher number of advanced breast cancer cases observed in the public sector which would need to be addressed and further investigated.

Breast Cancer Facts in Hong Kong Report No. 3 (Report No. 3 published in 2011)

- lower income districts recorded higher rate of advanced stage breast cancer and lower breast cancer screening rate

Report No. 3 highlighted that regular breast screening using mammogram proved to be an effective tool for detecting breast cancer at an early stage and hence reducing mortality. According to this report, the median tumour size of breast cancer detected through screening was 1.4 cm, one-third smaller than the tumours self-detected by patients by chance (2.1 cm). This demonstrated that patients benefited from regular breast screening.

Report No. 3 also revealed disparities in breast screening rates and breast cancer characteristics across different districts in the territory of Hong Kong.

Half of the breast cancer patients in Wanchai, the district with the highest household income, had regular mammography screening before diagnosis. In the low-income districts of Kwun Tong and Sham Shui Po, 80% of the patients never had mammograms, the highest among all other districts. The percentages of patients who never had mammography screening were also high in Kwai Tsing, North District, Tuen Mun and Tai Po (about 70%). According to the Census and Statistics Department statistics in 2008, these districts had lower household incomes, compared to the overall median household income of HK$18,000.

The overall percentage of advanced-stage cases (stages III and IV) in the patient cohort was 12.4%. The districts with higher percentages of advanced-stage cases included Wong Tai Sin (17.8%), North District (16.0%), Sham Shui Po (15.0%), Kwun Tong (14.4%) and Kwai Tsing (14.4%). The number of advanced-stage breast cancer patients who received treatment in public hospitals (16.7%) was twice the number of those patients who received treatment in private hospitals (7.4%).

Report No. 3 concluded that regular breast screening was associated with breast cancer of less advanced stage. More work, therefore, would be needed to promote breast cancer awareness and screening, especially in the low-income districts. The findings of Report No. 3 also prompted the Hong Kong Breast Cancer Foundation to open the Hong Kong Breast Cancer Foundation Jockey Club Breast Health Clinic (Kowloon) in March 2018 in order to reach out to women living in Kowloon and the New Territories to educate them about regular screening as well as provide affordable yet professional and quality breast cancer screening and diagnostic services.

Hong Kong Breast Cancer Registry Report No. 4 (Report No. 4 published in 2012)
- unhealthy lifestyle prevails among young breast cancer patients

According to Report No. 4, most breast cancers were diagnosed in women aged between 40 and 70 in Hong Kong (79.7%). The patient cohort also included patients who were under 40 years old (14.0%) and patients who were over 70 years old (5.1%), at diagnosis.

Data analyses revealed that lifestyle-related risk factors such as lack of exercise (85.4%), high levels of stress (46.0%), and dairy/meat-rich diets (20.3%) were prevalent among young patients (under 40). Hormone related factors also prevailed among young patients including the absence of childbirth (43.4%), lack of breastfeeding experience (74.6%), and early menarche (19.5%).

While more young patients were diagnosed at early breast cancer stage (76.6%), young patients were more likely to have breast cancer with more aggressive biological features and recognised prognostic factors, including higher nuclear grade (Grade 3) of tumours (45.2%); presence of lymphovascular invasion (40.8%); presence of multifocality (15.3%); higher expression of human epidermal growth factor receptor 2 (HER2) (28.7%); and triple negative disease (absence of endocrine receptors) (13.0%). At the same time, a higher proportion of young patients received breast-conserving surgery (45.3%), chemotherapy (68.3%), mastectomy and reconstruction (20.3%), radiotherapy (67.8%) and anti-HER2 targeted therapy (7.2%).

Analyses of the psychological impact of breast cancer on patients revealed that young patients were less likely to accept the diagnosis calmly or positively (16.2%), and were more likely to worry about recurrence all the time (12.3%). The number of patients who changed their lifestyle after diagnosis was also higher among young patients, such as changing dietary habits (71.0%) and doing more exercise (59.0%).

Report No. 4 concluded that patients under 40 encountered more prevalent risk factors for breast cancer and experienced more aggressive cancer with greater fear of disease recurrence, which could profoundly affect the quality of life of these young patients.

Hong Kong Breast Cancer Registry Report No. 5 (Report No. 5 published in 2013)

- regular mammography screening reduces the need for total mastectomy and chemotherapy

The HKBCR Report No. 5 compared the breast cancer characteristics and treatments of two breast cancer patient cohorts aged 40 or above: one consisting of patients diagnosed by regular mammograms without presenting symptom(s) (regular screening group) and the other one consisting of those with presenting symptoms who did not undergo regular screening (self-detected group).

Results showed that 40% of the regular screening group were in situ cancer, compared to 8% in the self-detected group, meaning "stage 0" cancer cases was nearly five times higher in the regular screening group. The mean invasive tumour size found in the regular screening group (with median diameter of 1.3 cm) was also smaller than that in the self-detected group (with median diameter of 2.3 cm).

Slightly less than half (46%) of the patients in the regular screening group received total mastectomy, while two-thirds (67%) of those in the self-detected group received the same surgery. There were also significantly more patients in the self-detected group (66%) who required chemotherapy, compared to the regular screening group (25%).

In summary, the tumour sizes of the patients with breast cancer detected through regular screening were generally smaller and could be diagnosed at earlier stages. The need of these patients for total mastectomy and/or chemotherapy treatment was also lower. Women, therefore, should conduct regular breast cancer screening to maximise the chance of early detection of the disease and hence reducing the need for aggressive treatment methods.

Hong Kong Breast Cancer Registry Report No. 6 (Report No. 6 published in 2014)
- delay in medical consultation leads to more serious breast disease

The HKBCR Report No. 6 assessed the magnitude of delay in seeking medical care from the onset of symptom(s) and factors associated with such delay. "Self-delay" refers to patients' delay in seeking first medical consultation after the onset of symptoms and "care delay" is defined as medical systems' delay in diagnosis and/or treatment.

According to the findings, the median time of "self-delay" was 40.0 days and 32.5% of the patients waited three or more months before seeking medical consultation. For "care delay", the median time was 20.0 days and 80.9% of the patients started their first treatments in less than a month from the diagnosis of cancer which is within international standards. In addition, 45.7% of the patients had their first treatments at least three or more months after the first sign of symptom.

"Self-delay" had significant negative impact on the disease. Those who delayed their consultation for three or more months were 50% more likely to have larger tumours at diagnosis and 30% more likely to be node-positive, thus the tumours were 70% more likely to be diagnosed as stage III or IV cancer.

Three factors, namely occupation, marital status and having a history of benign breast conditions, were found to be strongly associated with "self-delay". Non-clerical (low-skilled) or labour workers were found to be about 60% more likely to "self-delay" than those who were unemployed; patients who were widowed were also more likely to "self-delay" than those who were unmarried; and patients with previous benign breast conditions had an almost 50% higher tendency to "self-delay".

Overall, the clinical and financial implications point to a bigger, unresolved public health problem in Hong Kong.

Widows or women who are non-clerical or labour workers should be viewed as target groups for increasing breast health awareness. More specifically, they should be made aware of breast cancer symptoms. Women should take notice of any changes in their breasts and seek medical advice as soon as possible. Breast cancer is completely curable if detected in the early stage.

Hong Kong Breast Cancer Registry Report No. 7 (Report No. 7 published in 2015)

- sentinel node biopsy among Hong Kong breast cancer patients

The HKBCR Report No. 7 investigated the changes in the pattern of sentinel node biopsy (SNB) usage over time in Hong Kong. The benefits of using SNB to replace routine axillary dissection (AD) are that SNB removes the risk of unnecessary extensive lymph node removal, thereby significantly decreases the risks of post-surgical complications of AD such as lymphoedema, thus significantly improving the patients' quality of life.

According to the findings, the use of SNB increased from 45.7% in 2006 to 76.6% in 2012. In particular, more patients with negative clinical nodal status received SNB alone than those patients with positive clinical nodal status (44.0% vs. 11.4%). The proportion of clinically node negative patients receiving SNB (including both SNB alone and SNB followed by AD) showed a positive linear trend over the study period and the proportion increased from 45.7% in 2006 to 76.6% in 2012.

SNB (including both SNB alone and SNB followed by AD) was more commonly used in patients with smaller tumours and the proportion showed a positive linear trend over the study period. For tumours of two cm or less, the use of SNB (including both SNB alone and SNB followed by AD) increased from 50.2% in 2006 to 80.6% in 2012, and that proportion increased from 34.2% in 2006 to 54.2% in 2012 for those patients with tumours that were larger than two cm, but smaller than five cm.

SNB (including SNB alone and SNB followed by AD) was more commonly used by over 40.0% of patients with early-stage breast cancer and the use of SNB increased over the study period. In addition, the proportion of the patients who received unnecessary AD (with or without SNB) decreased over the study period: from 44.8% in 2006 to 28.9% in 2012.

In summary, SNB had become a method of choice for more surgeons and patients over the study period. Both surgeons' clinical and patients' personal decisions affect the use of SNB to replace AD as the first nodal surgery for determining the extent of the disease. Surgeons have the responsibility to explain to their patients about SNB and its well-established reliability for determining the nodal status in early stage breast cancer. More efforts should be put into educating breast cancer patients about the benefits of SNB over AD.

Hong Kong Breast Cancer Registry Report No. 8 (Report No. 8 published in 2016)

- elderly with breast cancer tend to delay seeking medical care and present with a later cancer stage

The HKBCR Report No. 8 studied breast cancer in local elderly patients. Breast cancer risk increases with age and it is anticipated that the number of elderly affected by breast cancer will increase with time.

According to the findings, upon the onset of symptoms, more elderly patients delayed for more than a year before seeking medical consultation (17.7% vs. 10.8% for patients of all ages; p=0.005). These elderly patients tended to be diagnosed with stage III or IV disease, compared to the elderly patients who sought medical consultation within three months (29.7% vs. 14.5%; p=0.068). Compared to patients of all ages, invasive tumours in elderly patients exhibited more favourable biological features, including more grade one tumours (26.5% vs. 19.2%; p<0.001) and absence of lymphovascular invasion (75.6% vs. 68.1%; p<0.001).

In addition, more invasive tumours in elderly patients were estrogen receptor positive (83.0% vs. 78.1%; p=0.001), progesterone receptor positive (70.8% vs. 66.0%; p=0.006) and human epidermal growth factor receptor 2 negative (83.6% vs. 78.7%; p=0.001) as compared to patients of all ages. Elderly patients received more mastectomies (81.7% vs. 57.3% for patients of all ages; p<0.001) but less chemotherapy and radiotherapy. Furthermore, elderly patients with more comorbidities received more conservative treatment.

In conclusion, the study results revealed that while elderly patients tended to delay seeking medical consultation, they received less aggressive cancer modalities as compared to patients of all ages. Comorbidity may have association with the treatment choices among elderly patients. Although age is an important factor to consider in decision-making for cancer treatment, it must not be the sole factor.

Hong Kong Breast Cancer Registry Report No. 9 (Report No. 9 published in 2017)

- neoadjuvant chemotherapy can reduce HER2+ tumour size and the need for mastectomy

The HKBCR Report No. 9 investigated the use of neoadjuvant chemotherapy (NAC) over two study periods, 2006 to 2010 and 2011 to 2015, and assessed the effectiveness of NAC among local breast cancer patients. NAC refers to the administration of chemotherapy before surgery in treating cancer.

There was significant increase in the use of NAC over the two study periods in Hong Kong breast cancer patients: from 4.8% in the period of 2006 to 2010 to 9.4% in the period of 2011 to 2015 ($p<0.001$). The increase was found especially for the patients with triple negative, HER2 positive (ER and PR negative) and luminal B (HER2 positive) subtypes, as well as those with clinically stage IIB and stage III of breast cancers at diagnosis. In addition, the administration of NAC was positively correlated with cancer stage at diagnosis, in that the proportions of the patients treated with NAC increased from 2.9% for stage IIA disease to 25.8% for stage III disease.

NAC was found to be effective in downsizing tumour, in which one-fifth of the patients achieved pathological complete response (pCR) in the breast and axillary nodal status after NAC. In particular, higher pCR rates were observed in the patients with HER2 positive (ER and PR negative) subtype, in which almost half (48.6%) of them achieved pCR ($p<0.001$). The proportions of the patients who achieved pCR in patients with luminal B (HER2 positive) and triple negative subtypes were 28.0% and 29.6%, respectively, which were also significantly higher when compared to the other subtypes. Furthermore, higher proportions of clinically stage IIA or IIB patients treated with NAC underwent breast-conserving surgery when compared to those who were not treated with NAC.

Findings of this report showed that NAC can reduce HER2+ tumour size and the need for mastectomy among breast cancer patients. Alterations in breast biomarkers were found in some patients treated with NAC meaning that retesting these biomarkers on the residual tumour would be useful in tailoring further adjuvant therapies. Further studies would be conducted to evaluate the effectiveness of treatment in terms of survival outcomes among this group of patients treated with NAC.

Hong Kong Breast Cancer Registry Report No. 10 (Report No. 10 published in 2018)

- both non-modifiable and modifiable factors are associated with risk of breast cancer

The HKBCR Report No. 10 compared breast cancer patients with age-matched women without history of any cancers on four categories of potential factors for breast cancer, namely i) non-modifiable; ii) modifiable and lifestyle-related; iii) modifiable and behavioural-related; and iv) modifiable and medical-related, to understand the reasons for a rising trend of incidence in Hong Kong.

As expected, women having first-degree relative(s) suffering from breast cancer (aOR=2.88; 95%CI, 2.43-3.41) or having menarche before 12 years old (aOR=1.35; 95%CI, 1.19-1.52) were associated with an increased risk of breast cancer. Compared to women who had their first live birth at or before the age of 35, women who had first live birth after the age of 35 had a significantly higher risk of breast cancer (aOR=2.06; 95%CI, 1.66-2.55).

In addition, when compared to women who exercised for three hours or more per week, those who exercised for less than three hours per week were more likely to be diagnosed with breast cancer (aOR=1.53; 95%CI, 1.39-1.69). Women who self-reported as having higher levels of stress (having stress for more than half of the time) were at higher risk (aOR=3.40; 95%CI, 3.09-3.73). Women who consumed diets which were rich in meat or dairy products had higher risk of getting breast cancer than those who consumed balanced diets (aOR=1.80; 95%CI, 1.57-2.07). Obesity was also associated with a 46% increase in the risk of breast cancer (aOR=1.46; 95%CI, 1.32-1.62).

For postmenopausal women, experiencing menopause after the age of 55 was associated with an increased risk of breast cancer (aOR=1.71; 95%CI, 1.21-2.41). Nulliparous postmenopausal women also had 38% increased risk when compared to those who had first live birth at or before the age of 35 (aOR=1.38; 95%CI, 1.13-1.68).

In general, the study results suggested that both non-modifiable and modifiable factors are associated with the risk of breast cancer among local Chinese women. Women are, therefore, encouraged to maintain a healthy lifestyle in order to reduce their risk. In addition, women should be breast aware and seek medical help promptly if they found abnormalities in their breasts. Women who possess the significant non-modifiable and/or modifiable factors should undergo regular breast screening in order to detect cancer early and seek timely treatment.

第一至十號報告摘要

香港乳癌實況2008報告（第一號報告，2009年出版）
— 本港常見乳癌高危因素

香港乳癌資料庫首份報告揭示了個人年齡、運動習慣、健康紀錄、生活方式、飲食習慣和經濟及社會條件都是乳癌高危因素。

第一號報告亦找出本港乳癌患者共通的乳癌高危因素：

（1） 運動不足（每周< 3小時）（74%）
（2） 沒有餵哺母乳經驗（64%）
（3） 高度精神壓力（40%）
（4） 服用口服避孕藥（38%）
（5） 超重 / 肥胖（34%）
（6） 不曾生育 / 35歲後首次生育（28%）
（7） 提早初經（<12歲）（17%）
（8） 多吃肉類 / 奶類製品（15%）
（9） 更年期後使用荷爾蒙補充劑（14%）
（10） 飲酒（9%）
（11） 延遲更年期（>55歲）（8%）
（12） 吸煙（4%）

報告又指出本港大部分乳癌個案都不是遺傳的，而是跟可改變的因素有關，例如飲食習慣、生活模式和精神壓力水平。52%的患者均具有以上兩或三項高危因素；只有不足3%患者完全沒有已知高危因素。

要減低患乳癌的風險，香港乳癌基金會建議婦女參考美國癌症協會2002年制定的防癌營養和運動指引：

- 保持健康體重
- 恒常做適量運動
- 飲食健康，多菜少肉
- 若要飲酒，每日不超過一杯

其中值得注視的分析結果是本港乳癌患者比海外患者的發病年齡中位數較低。根據《香港乳癌實況報告2008年》（第一號報告），患者確診年齡中位數為47.6歲，明顯低於美國的61歲和澳洲的62歲。另外，受訪群組中有81%患者杯罩尺碼為B級或更小，64%的胸圍尺寸為34吋或以下。這些數據澄清了坊間有關胸大婦女患上乳癌機會較高的誤解。

香港乳癌實況第二號報告（第二號報告，2010年出版）

— 私營醫院的原位癌個案比率較高

《香港乳癌實況第二號報告》分析公私營醫療機構的乳癌個案在癌症特徵和治療方法方面是否存有差異。

研究將受訪群組中2,130名患者按其使用醫療服務的類別分為三組：私營醫療服務（23.1%）；公營醫療服務（24.0%）；混合使用公私營醫療服務（52.9%）。

在確診癌症期數方面，私營醫療服務使用者組別中的原位癌0期個案比率最高（13.6%）；公營醫療服務組別中的0期個案僅佔5.7%。另外，在公營醫療服務組別中入侵性乳癌患者的腫瘤顯著較大。

使用公營醫療服務的患者，接受全乳切除手術的比率較使用私營服務患者高出一倍。公營醫療服務使用者接受乳房重建的比率較低，原因可能與患者年齡和腫瘤大小有關。

在化療方面，不論是使用公營或私營醫療服務的患者，使用anthracycline、taxane和其他藥物的模式分別不大。常用的內分泌治療藥物tamoxifen的使用模式在不同醫療服務組別及癌症期數組別中沒有差異。

報告亦發現公營醫療服務組別的晚期乳癌個案比率較高，箇中原因有待探討。

香港乳癌實況第三號報告（第三號報告，2011年出版）

— 低收入地區的晚期乳癌個案比率較高，而乳癌普查率則偏低

定期接受乳房X光造影檢查作為乳癌普查的做法，醫學上證實可有效偵測早期乳癌和減低乳癌患者的死亡率。根據《香港乳癌實況第三號報告》，經由例行乳癌普查偵測的乳癌腫瘤大小中位值為1.4厘米，比患者自己無意中發現的腫瘤（2.1厘米）小三分一。這反映有乳房檢查習慣的好處。

第三號報告揭示了本港不同地區的乳癌普查率和乳癌個案特徵存有差異。

灣仔區是全港住戶入息中位數最高的地區，居住在這區的乳癌患者有半數在確診前有定期接受乳房X光造影檢查的習慣。居住在觀塘和深水埗等低收入地區的乳癌患者，從來沒有做過乳房X光造影檢查的比率高達八成，其他收入偏低地區如葵青、新界北區、屯門和大埔也有七成。各區收入是參照政府統計處的2008年人口普查統計，全港總體住戶入息中位數為18,000元。

受訪群組中整體的晚期（第III及IV期）乳癌個案佔12.4%，這比率在低收入地區普遍偏高，如黃大仙（17.8%）、新界北區（16.0%）、深水埗（15.0%）、觀塘（14.4%）和葵青（14.4%）。若以醫療機構類別分析，公立醫院的晚期乳癌個案（16.7%）比私營醫院（7.4%）高出一倍多。

總括而言，研究顯示定期檢查與確診時乳癌期數有關，因此，在低收入地區加強乳健教育工作和推廣乳癌普查至為重要。第三號報告的研究結果更促使香港乳癌基金會在2018年3月於九龍區開設香港乳癌基金會（賽馬會）乳健中心（九龍），期望可以拓展服務予居住在九龍及新界區婦女，教導她們定期檢查的重要性。乳健中心亦提供專業、優質而收費大眾化的乳健檢查和診斷服務。

香港乳癌資料庫第四號報告（第四號報告，2012年出版）

— 年輕乳癌患者多有不健康生活習慣

根據《香港乳癌資料庫第四號報告》的分析結果，本港乳癌患者確診乳癌的年齡大多數介乎40至70歲之間（79.7%），而受訪群組中有14.0%患者在40歲前確診乳癌，另外5.1%患者則為70歲以上。

數據分析顯示，年輕乳癌患者（40歲前確診）普遍擁有多項與生活習慣相關的高危因素，如運動不足（85.4%）、高度精神壓力（46.0%）和飲食含豐富肉類或乳類製品（20.3%）。至於與荷爾蒙有關的乳癌高危因素，在年輕患者中亦較常見，如不曾生育（43.4%）、沒有餵哺母乳經驗（74.6%）或提早初經（19.5%）等。

此外，較多年輕患者罹患早期乳癌（76.6%），但年輕患者的腫瘤特性則較惡，包括腫瘤分級較高（第3級）（45.2%）、出現淋巴血管入侵現象（40.8%）及腫瘤多灶性（15.3%）、第二型人類上皮生長素受體呈陽性（28.7%）及三陰性（缺乏內分泌受體）（13.0%）的比率較高。治療方面，年輕患者明顯較多接受乳房保留手術（45.3%）、化學治療（68.3%）、乳房切除及重建手術（20.3%）、放射性治療（67.8%）及抗第二型人類上皮生長素受體靶向治療（7.2%）。

至於乳癌對患者的心理影響方面，年輕患者能冷靜或積極接受確診乳癌的比率較低（16.2%），且經常憂慮乳癌復發（12.3%）。然而，較多年輕患者在確診乳癌後會在生活模式方面有正面的轉變，如改變飲食習慣（71.0%）及多做運動（59.0%）等。

總括而言，40歲以下的患者普遍具有較多罹患乳癌的高危因素，而且腫瘤較惡，憂慮復發的恐懼也較大，對生活質素可能造成深遠的影響。

香港乳癌資料庫第五號報告（第五號報告，2013年出版）

— 定期乳房X光造影檢查減低全面乳房切除和化療的需要

《香港乳癌資料庫第五號報告》比較了兩組40歲以上乳癌患者的乳癌特徵和治療情況，一組是在沒有顯露病徵的患者於定期乳房X光造影時確診（定期接受影像檢查組），另一組呈現病徵的患者是沒有進行定期檢查的（自我檢查組）。

結果顯示，40%的定期接受影像檢查組患者的乳癌屬於原位癌症，自我檢查組則為8%，等於說定期接受影像檢查組的「0期」癌症病例幾乎是自我檢查組的五倍。定期接受影像檢查組之中，入侵性腫瘤大小的平均值也小於自我檢查組，直徑中位數分別是1.3厘米與2.3厘米。

定期接受影像檢查組中接受全面乳房切除的患者少於半數（46%），而自我檢查組患者接受同類手術的比例達到三分二（67%）。此外，與定期接受影像檢查組患者（25%）相比，自我檢查組有較多患者（66%）需要接受化療。

歸納而言，通過定期接受影像檢查而檢測得乳癌患者的腫瘤體積一般較小，並且可以在初期確診。這些患者需要全面切除乳房和 / 或接受化學治療的可能性也較低。因此，婦女應該定期接受乳房影像檢查，以增加早期確診病症及接受較少入侵性的治療的機會。

香港乳癌資料庫第六號報告（第六號報告，2014年出版）

—「延誤求醫」的患者病情顯著較嚴重

《香港乳癌資料庫第六號報告》評估乳癌患者在發現乳癌病癥後延誤求醫的嚴重程度和相關因素，「延誤求醫」指患者發現病癥後耽誤初次就醫的時間，而「延誤診治」即醫療系統因素令患者延遲接受診斷和 / 或治療。

分析顯示，「延誤求醫」的時間中位數為40.0天，約32.5%的患者等待三個月或以上才求醫。至於「延誤診治」的時間中位數是20.0天，80.9%患者在確診後一個月內開始首次治療，符合國際標準。45.7%患者在初次發現病癥至少三個月或以上後才接受首次治療。

「延誤求醫」對病情產生顯著的負面影響，「延誤求醫」三個月或以上的患者，在確診時有較大腫瘤和陽性淋巴結的機會分別高出50%和30%；「延誤求醫」患者確診時癌症期數較高（第三至第四期）的可能性亦高出70%。

乳癌患者的「職業」、「婚姻狀況」和「曾出現良性乳房狀況」等三項特徵，都與「延誤求醫」有顯著關係。從事非文職（基層工作）或勞動工作的患者，較沒有工作者「延誤求醫」的機會高出近六成；喪偶的患者「延誤求醫」的可能性，較從未結婚者高；曾經有良性乳房狀況的患者傾向「延誤求醫」的機會亦高五成。

整體上，「延誤求醫」導致較複雜的治療和較高的醫療開支，同時帶來未解決的香港公共健康問題。

喪偶者或非文職 / 勞動工作者應被視為特定的婦女群組，加強關注該群組的乳房健康教育，特別是針對婦女對乳癌病癥的認識，婦女應注意乳房健康和留意乳房的變化，若乳癌徵狀持續應盡快求醫，只要及早發現，乳癌是可以治癒的。

香港乳癌資料庫第七號報告（第七號報告，2015年出版）

— 香港乳癌患者的前哨淋巴結切片檢查

《香港乳癌資料庫第七號報告》就香港過去在前哨淋巴結切片檢查的使用模式上的變化進行調查。以前哨淋巴結切片檢查來取代常規的腋下淋巴切除術，好處是前者可以免卻不必要地廣泛切除淋巴結的風險，從而大大減低腋下淋巴切除術引發術後併發症的風險，例如淋巴水腫，因而能顯著改善患者的生活質素。

根據研究發現，使用前哨淋巴結切片檢查的比率從2006年的45.7%增加到2012年的76.6%。尤其值得注意的是，臨床淋巴結呈陰性的患者接受前哨淋巴結切片檢查的比率顯著比呈陽性的患者為高（44.0%比11.4%）。臨床淋巴結呈陰性的患者接受前哨淋巴結切片檢查（包括只接受前哨淋巴結切片檢查和接受前哨淋巴結切片檢查之後接受腋下淋巴切除術）的比率在研究時段內有正線性上升趨勢，比率從2006年45.7%上升到2012年的76.6%。

腫瘤尺寸較小的患者較普遍採用前哨淋巴結切片檢查（包括只接受前哨淋巴結切片檢查和接受前哨淋巴結切片檢查之後接受腋下淋巴切除術），相關比率在研究時段內呈正線性上升趨勢。就腫瘤≤2厘米的患者而言，採用前哨淋巴結切片檢查（包括只接受前哨淋巴結切片檢查和接受前哨淋巴結切片檢查之後接受腋下淋巴切除術）的比率從2006年的50.2%上升至2012年的80.6%，而介乎2-5厘米的腫瘤患者的比率則從2006年的34.2%上升至2012年的54.2%。

超過40.0%的早期乳癌患者使用前哨淋巴結切片檢查（包括只接受前哨淋巴結切片檢查和接受前哨淋巴結切片檢查之後接受腋下淋巴切除術），較為普遍，相關比率在研究時段內也有所增加。此外，在研究時段內，接受不必要腋下淋巴切除術（無論有沒有接受前哨淋巴結切片檢查）的患者比率不斷減少，從2006年的44.8%下降到2012年的28.9%。

總結而言，在研究時段內，越來越多外科醫生和患者採用前哨淋巴結切片檢查。外科醫生的臨床決定和患者的個人決定，都影響是否使用前哨淋巴結切片檢查來取代腋下淋巴切除術作為斷定癌症的擴散程度的首個淋巴結手術。外科醫生有責任向患者解釋前哨淋巴結切片檢查，以及其在用於斷定早期乳癌患者的淋巴結狀況的公認可靠性。香港乳癌基金會將盡更大努力教育乳癌患者有關以前哨淋巴結切片檢查取代腋下淋巴切除術的好處。

香港乳癌資料庫第八號報告（第八號報告，2016年出版）

— 年長乳癌患者延誤診治晚期癌症倍增

《香港乳癌資料庫第八號報告》研究本地年長患者的乳癌情況。乳癌風險隨年齡增長而上升，預計罹患乳癌的年長患者也會按隨時間遞增。

根據研究結果顯示，患者在自己無意中發現癌症後，相比所有年齡患者，較多年長患者會在出現病癥後等待超過一年才首次求診（10.8% 比 17.7%; p=0.005）。這些延誤求醫的年長患者，相比在三個月內求醫的年長患者有較大機會被確診為第三或四期癌症（29.7% 比 14.5%; p=0.068）。與所有年齡患者比較，年長乳癌患者的入侵性腫瘤在生物學角度上較好，包括較多腫瘤級別屬於一級（26.5% 比 19.2%; p<0.001）及沒有出現淋巴管入侵（75.6% 比 68.1%; p<0.001）。

較多年長患者的入侵性腫瘤的雌激素受體呈陽性（83.0% 比 78.1%; p=0.001）、黃體酮受體呈陽性（70.8% 比 66.0%; p=0.006）和第二型人類上皮生長素受體呈陰性（83.6% 比 78.7%; p=0.001）。相比所有年齡患者，較多年長患者接受乳房切除手術（81.7% 比 57.3%; p<0.001），但較少接受化學治療和放射性治療。再者，研究亦顯示患有較多並存病的年長患者多接受較保守的治療方法。

總括而言，研究結果指出年長患者較傾向於延誤診治，不過與所有年齡患者相比，他們較多接受入侵性較低的乳癌治療方案。數據亦顯示並存病可能與年長患者接受的治療方案有關。雖然在決定癌症治療方案時，年齡是重要的考慮因素之一，但卻不應該是唯一因素。

香港乳癌資料庫第九號報告（第九號報告，2017年出版）

— 手術前的前置化療有助縮小香港乳癌患者第二型人類上皮生長素受體（HER2）呈陽性的腫瘤及降低進行乳房切除手術的需要

《香港乳癌資料庫第九號報告》調查在2006至2010年與2011至2015年期間，乳癌患者接受手術前的前置化療的情況，並評估前置化療對本地乳癌患者的效用。前置化療是指治療癌症時，在外科手術前先進行化療。

香港乳癌患者接受前置化療的比率在2006至2010年與2011至2015年期間顯著上升，從2006至2010年的4.8%大幅增加到2011至2015年的9.4%（$p<0.001$）。此增長尤其見於三陰性亞型的患者、HER2呈陽性（雌激素及黃體酮受體呈陰性）的患者、管腔B型（HER2呈陽性）的患者、以及臨床屬於第IIB期和第III期癌症的患者。接受前置化療的比率與確診時的癌症期數呈現正比，從第IIA期的2.9%增加到第III期的25.8%。

研究顯示接受前置化療有助縮小腫瘤，其中五分之一患者在前置化療後乳房和腋下淋巴結狀況達到病理完全緩解。HER2呈陽性（雌激素及黃體酮受體呈陰性）亞型的患者有最佳效果，將近半數（48.6%）患者達到病理完全緩解（$p<0.001$）。而管腔B型（HER2呈陽性）和三陰性亞型患者達到病理完全緩解的比率分別是28.0%和29.6%，亦顯著高於其他亞型。此外，臨床第IIA期和第IIB期的患者在接受前置化療之後進行乳房保留術的比率較沒有接受前置化療的患者為高。

此報告結果顯示前置化療有助縮小乳癌患者HER2呈陽性腫瘤及降低進行乳房切除手術的需要。部分患者的生物標記在進行前置化療後有所轉變，意味著重新測試殘留腫瘤的生物標記將有助於調整進一步的術後輔助治療。進一步的研究將根據接受前置化療患者群組的存活成果來評估這個療法的效益。

香港乳癌資料庫第十號報告（第十號報告，2018年出版）

— 乳癌與不可改變和可改變的因素有關

《香港乳癌資料庫第十號報告》比較了乳癌患者和沒有任何癌症病歷的婦女（以歲數作配對）在四類可能與乳癌有關的因素的表現，從而了解本地乳癌個案上升的趨勢的成因。四類可能與乳癌有關的因素包括：一）不可改變的；二）可改變及與生活方式有關；三）可改變及與行為有關；及四）可改變及與醫學有關。

正如所料，直系親屬曾患乳癌（aOR=2.88; 95%CI, 2.43-3.41）或初經於12歲前（aOR=1.35; 95%CI, 1.19-1.52）的婦女有較大風險患上乳癌。相比在35歲或以前首次生育的婦女，在35歲後才首次生育的有明顯較大風險患上乳癌（aOR=2.06; 95%CI, 1.66-2.55）。

研究結果亦發現相比每周運動三小時或以上的婦女，缺乏運動（每周少於三小時）的婦女有較大風險患上乳癌（aOR=1.53; 95%CI, 1.39-1.69）。超過一半時間處於高精神壓力水平的婦女比少於一半時間的有較大風險患上乳癌（aOR=3.40; 95%CI, 3.09-3.73）。飲食含豐富肉類或奶類製品的婦女比均衡飲食的有較大風險患上乳癌（aOR=1.80; 95%CI, 1.57-2.07）。肥胖的婦女亦有46%較高乳癌風險（aOR=1.46; 95%CI, 1.32-1.62）。

對於更年期後的婦女，在55歲後才停經的有較高的乳癌風險（aOR=1.71; 95%CI, 1.21-2.41）。沒有生育的更年期後婦女的乳癌風險，相比在35歲或以前首次生育的婦女增加了38%（aOR=1.38; 95%CI, 1.13-1.68）。

總括而言，本研究顯示在本地華裔婦女中，乳癌與不可改變和可改變的因素有關。我們鼓勵婦女保持健康的生活方式，以減低她們的乳癌風險。同時，女士應該關注乳房健康，若發現有任何異常，便盡快求診。乳房篩查有助發現早期乳癌，降低因乳癌死亡的機會。擁有本研究發現會增加患上乳癌風險因素（不論是可改變或是不可改變）的婦女更應定期接受乳房檢查，以及早發現乳癌，提高存活機會。

HOW TO GET INVOLVED 參與香港乳癌資料庫

1. 登記加入資料庫

所有乳癌患者，不論男女，都可以加入香港乳癌資料庫。無論你是剛確診、正接受治療、乳癌擴散或已完成療程，你的參與都彌足重要。

參加方法：

I. 簽署同意書（可在www.hkbcf.org/zh/our_research/main/54下載）。
II. 郵遞或經你的主診醫生交回填妥的同意書，授權香港乳癌資料庫收集你的個人資料和你的醫療記錄，以作分析之用。
III. 你將會收到香港乳癌資料庫的問卷，請你填寫後交回。
IV. 資料庫工作人員將每年與你和你的主診醫生聯絡，以更新你的健康狀況及治療資料。跟進訪問以電話進行，你亦可選擇填寫問卷和以郵寄或電郵方式交回。

所有資料均絕對保密處理，只供資料庫分析及研究用途。資料庫只會發表總體的統計和分析結果，而不會披露參加者的個人身份。

登記 / 查詢電話：2525 6033　　電郵：hkbcr@hkbcf.org

Join the Hong Kong Breast Cancer Registry (HKBCR)

Any woman or man who has experienced breast cancer is invited to join. Whether you are recently diagnosed, undergoing treatment, living with metastatic disease or years past treatment, your input is important to us.

What to do:

I. Download and sign the Consent Form (available at www.hkbcf.org/en/our_research/main/54).
II. Return the form to the HKBCR by post or through your doctor. Your consent will authorise the HKBCR to collect your personal data and to obtain your medical records for analysis purpose.
III. You will be asked to complete a set of questionnaires.
IV. The HKBCR staff will contact you and your doctor to update your record on a yearly basis. The follow-up interview is conducted by telephone. We can also send you a questionnaire, if you prefer.

All information is treated with strict confidentiality and is only used for the HKBCR's analysis and research purpose. Only aggregate data from the registry is released; the identity of individuals is protected.

Registration / Enquiry Tel: 2525 6033　Email: hkbcr@hkbcf.org

2. 訂閱香港乳癌資料庫第十二號報告（2020年9月出版）

Subscribe to the Hong Kong Breast Cancer Registry Report No. 12 (to be published in September 2020)

姓名Name_____　機構Organisation_____

通訊地址 Correspondence address_____

_____

電話Tel_____　電郵Email_____

3. 捐款支持 Make donations

你的捐款將支持香港乳癌基金會乳癌研究中心的研究工作，以助我們了解香港的乳癌實況和改善乳癌醫護方案。
Your generous donation will support our continued research through which we can contribute to a better understanding of breast cancer and improvement of breast cancer care in Hong Kong.

企業捐款 Company donations

有意捐款的公司請與我們聯絡，商談捐助的安排。
If you are interested to support our research work, please contact us. Your contributions are documented in a separate funding agreement.

我願意捐款 I wish to donate

☐ 一次過捐款 One-off donation HK$_____

☐ 每月捐款 Monthly donation

☐ HK$1,000 ☐ HK$500 ☐ HK$300 ☐ HK$200 ☐ HK$_____

捐款方法 Donation Method

☐ 銀行入數：請把善款直接存入香港乳癌基金會之滙豐銀行戶口：094-793650-838。
請連同存款收據正本 / 自動櫃員機單據正本寄回。捐款者請保留收據副本。
Bank Deposit: Please make a deposit into the Hong Kong Breast Cancer Foundation's bank account (HSBC A/C: 094-793650-838), and send us the original bank payment slip / ATM slip with this form. Please keep a photocopy of the slip for your own record.

☐ 按月自動轉賬：自動轉賬授權書將隨後寄上
Monthly Autopay: The autopay authorisation form will be sent to you.

☐ 劃線支票（抬頭寫上「香港乳癌基金會」）
Crossed Cheque (payable to "Hong Kong Breast Cancer Foundation")

☐ 信用卡 Credit Card ☐ VISA ☐ Master Card

有效日期 Expiry Date: ____D _____M _____Y 信用卡號碼 Card Number: _____

_____ _____

持卡人姓名 Cardholder's Name 持卡人簽名 Cardholder's Signature

姓名 Name (Mr先生 / Ms女士) :_____

電話 Tel :_____ 電郵 Email :_____

地址 Address :_____

填妥後請連同相關文件寄回香港乳癌基金會 地址：香港北角木星街9號永昇中心22樓 傳真：2525 6233
Please return the completed form with relevant document(s) to Hong Kong Breast Cancer Foundation, 22/F Jupiter Tower, 9 Jupiter Street, North Point, Hong Kong Fax: 2525 6233

港幣壹佰元或以上的捐款可申請免稅 All donations of HK$100 or above are tax reductible.
稅務局檔案號碼 IR File No.: 91/7226

捐款表格可以在下列網址下載或致電2525 6033索取表格。
Donation forms can be downloaded from the following link or call 2525 6033 to receive forms.
https://www.hkbcf.org/en/get_involved/main/434/

Breast Cancer HK Online

Breast Cancer HK Online is a unique online programme facilitating registered access by the medical community to the data collected and analysed by the Hong Kong Breast Cancer Registry, an initiative of the Hong Kong Breast Cancer Foundation (HKBCF).

Breast Cancer HK Online is a clinical decision support tool to assist doctors and other healthcare professionals in the management of breast cancer. It is the first of its kind in Hong Kong and is designed with the specific objectives of providing:

- A unique online breast cancer programme for medical professionals;
- An application to assist medical professionals to make clinical recommendations; and
- Enhanced access to the data on local breast cancer collected and analysed by the Hong Kong Breast Cancer Registry.

Once registered, users can access Breast Cancer HK Online to input relevant patient information and choose the treatment type to present – adjuvant and surgery. The programme will then calculate the patient's cancer stage and biological subtype and present the treatment patterns and statistics typical of that given cancer stage and biological subtype.

Please visit and register: http://brcaonline.hkbcf.org/

「乳癌在線」

「乳癌在線」是一個獨特的網上平台，讓已登記的醫療界用家獲取香港乳癌資料庫所搜集及分析的數據。香港乳癌資料庫是由香港乳癌基金會策動創立的。

「乳癌在線」是香港首個乳癌數據平台，也是專業醫護人員診治乳癌時的助診工具，其提供的服務為：

- 特別為醫護專業人員而設的乳癌應用程式；
- 協助醫療專業人士作出臨床決策，為患者提供最佳的護理方案；
- 讓醫療專業人員隨時隨地獲取經香港乳癌資料庫搜集及分析的本地乳癌數據。

透過這個網上平台，已登記的用家可揀選合適的參數，包括病理資料及治療類別，「乳癌在線」便會從數據庫中，篩選出與患者最接近的個案，分析治療趨勢，讓用家參考其中的治療方案。

請瀏覽及登記：http://brcaonline.hkbcf.org/

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Contributors 參與報告編撰

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