

# Symptomatic Breast Service

Saolta University Health Care Group

Annual Report 2015

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# **1.1 Clinical Lead Forward**

# 1.2 Foreword

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**Mr Ray Mc Laughlin**  
**Consultant Surgeon**  
**Lead Clinician**  
**Saolta Breast Service**



In 2015, the Symptomatic Breast Service at Saolta University Healthcare Group continued to perform at a very high level in delivering a breast care programme across the West of Ireland which on quality performance indices compares favourably with any centre worldwide. I am delighted to present our seventh Saolta Breast Service Annual Report which outlines the activity of the unit and reflects our remarkable performance against national key performance indicators as set out by the National Cancer Control Programme (NCCP).

The continued success of the Breast Service has been achieved due to the consistent contribution and commitment of the multidisciplinary teams including Consultant Surgeons, Radiologists, Pathologists, Radiation and Medical Oncologists who work tirelessly to deliver a high quality service which we all can be proud of.

The experience of our patients as they interface with our service is critical and I wish to acknowledge that these interactions are influenced and enhanced by the professionalism and support that patients receive from our Breast Physicians, Radiographers, Clinic Nurses, Breast Care Nurses, inpatient ward and theatre nurses and the administrative support staff. I wish to thank all of the team for their ongoing commitment and dedication.

I am delighted to include in this report a summary of the activity of the Breast Cancer Research Facility which is based in the Discipline of Surgery at the National University of Ireland, Galway and is led by Prof. Michael Kerin with Ms Carmel Malone as Head of School. In addition to the dynamic research programme, supporting roles are provided by the Breast Cancer Research Institute and the Clinical Trials Programme and I wish to acknowledge the significant work that they carry out.

This report also includes a welcome article from our colleagues in BreastCheck, the national screening programme as we jointly deliver a world class breast service across the Group.

At the end of 2014 we commenced the implementation of the NCCP post 5 year post treatment surveillance programme at University Hospital, Galway; patients who are 5 years post treatment are discharged to the programme and their follow up care involves them being enrolled in an annual mammographic program. In addition they carry on with their normal Primary Care interaction and follow-up with their own GP and do not need to attend a hospital breast clinic appointment. The end of 2015 saw 889 patients having been discharged to the programme and this number will invariably increase annually as more patients are discharged to the protocol.

Activity within the Symptomatic Breast Service continues to increase in a similar trend to previous years; in 2015 13,936 patients attended our Outpatient Departments and of this number 6,833 were new patients. Imaging activity at the Symptomatic Breast Service in Galway remains at a consistently high level for 2015 with statistics showing a 1.9% increase in overall activity. When compared to 2014, there has been an increase of 3.3% in the number of ultra sounds of the breast and axilla performed. Access for routine referrals continues to be a challenge however this remains a priority for the service and continues to be managed proactively on an ongoing basis.

We saw 419 patients with a new breast cancer diagnosis; 422 symptomatic cases and 217 were referred from BreastCheck, the national screening service.

- The cancer detection rate is 6.1 per 100 new patients seen across the Group, the low level detection rate continues in review patients and is reported as 0.38 per 100 review patients seen.
- The breast conservation rate in 2015 was 69% at UHG and 71% at LUH.

**The Breast Service performance against the NCCP KPIs maintained a consistently high level during 2015:**

- 99.9% of referrals triaged as urgent at the Breast Service in UHG were seen within two weeks.
- All patients with a primary operable breast cancer had a pre-operative mammogram and ultrasound within 12 weeks of assessment and routine breast imaging was provided to all patients within KPI. In 2015 no routine patient waited more than 6 weeks for mammography.
- 93% of patients had surgical intervention within 20 days of definitive diagnosis across the group.
- 97% of histopathology reports were available within 10 working days across the group.

Finally, I wish to acknowledge all those involved in the production of this report which substantiates the dedication, commitment and hard work necessary to sustain a superior breast cancer programme. I look forward to continuing to provide a world class service to our patients in 2016.

## **2.1 Performance and Activity**

## 2.2 Breast Clinic Data

The level of activity at the Saolta Breast Service (SBS) maintained a very high level again in 2015 with in excess of 6,800 new patients seen and over 7,100 review patient attendances across both sites at University Hospital Galway (UHG) and the satellite centre at Letterkenny University Hospital (LUH). As in previous years, GP referrals continue to be high across the group with no real change in GP referral patterns. The service however continues to prioritise urgent referrals ahead of routine referrals across the group in line with best practice.

*Table 1 & 2 below depict attendance and access performance for 2015.*

**Table 1 Number of patient attendances in SBC 2015**

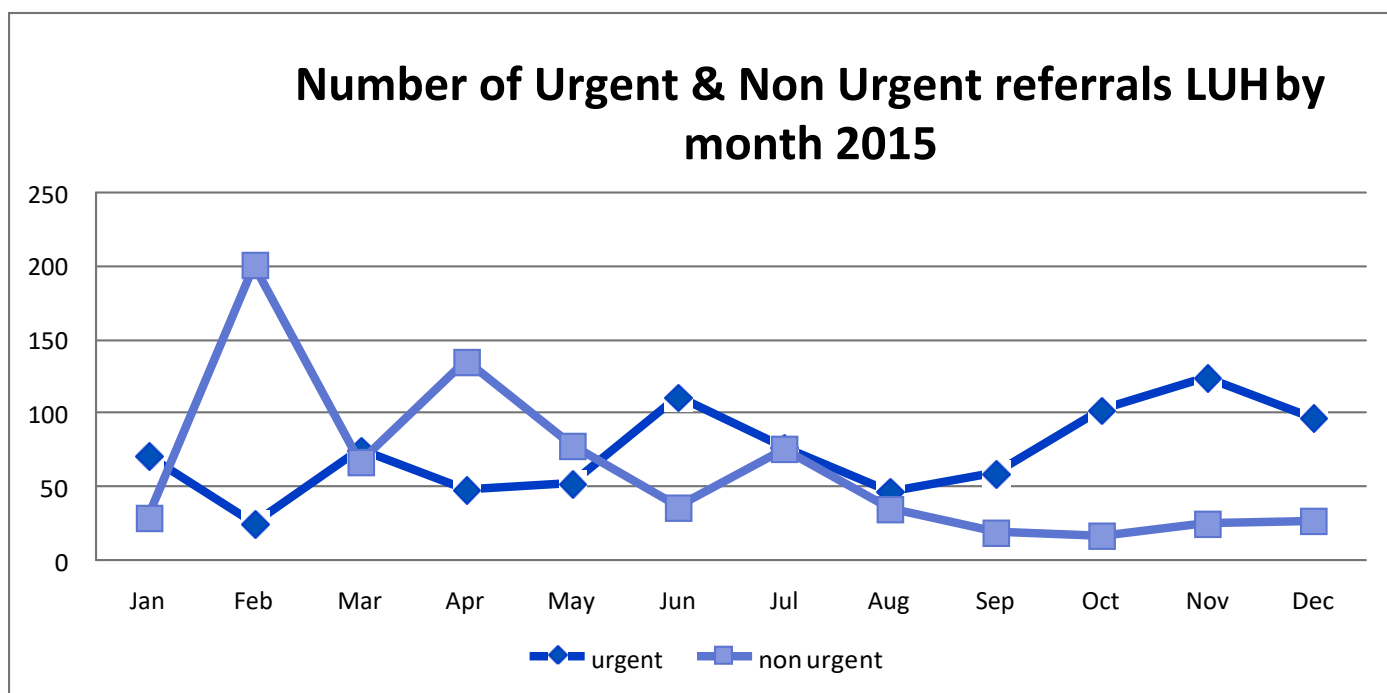
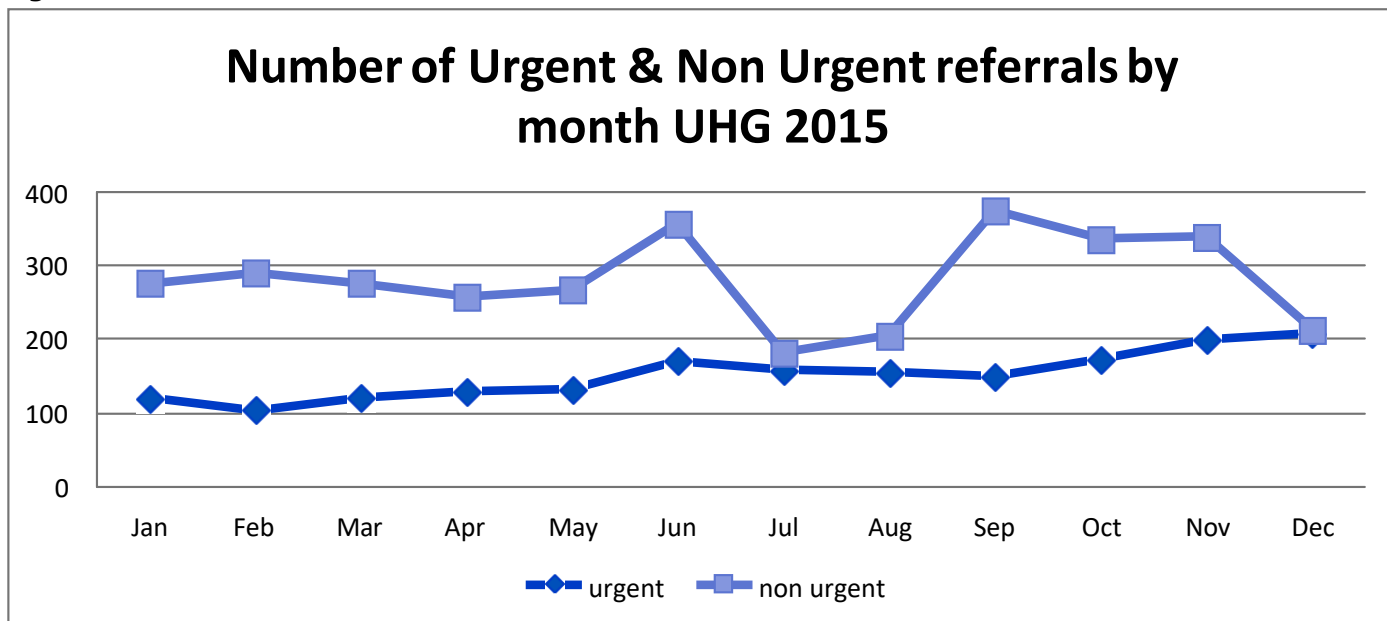
Performance Parameter	UHG	LUH	Total
Number of new patients attendances	5200	1633	6833
Number of review patients attendances	5905	1198	7103
<b>Total number of patients</b>	<b>11105</b>	<b>2831</b>	<b>13936</b>

The number of new patients seen across the breast service has increased by 7% when compared to 2014; as both sites continue to discharge patients to the NCCP Surveillance Mammography protocol, it is expected that the number of review patient attendances will start to decrease. This protocol applies to patients with breast cancer who have completed their treatment and are 5 year post treatment. The tangible impact of discharges to the protocol is beginning to be realized however the real impact will only be felt in future years; discharges to the protocol in the medium to long term will facilitate the optimization of clinic capacity for those patients who need to be reviewed in the breast service.

**Table 2 Classification of new referrals by urgent & routine 2015**

Performance Parameter	UHG	LUH	Total
Number of urgent referrals	1822	888	2710
Percentage offered appointment within 2 weeks	100%	90%	97%
Number of routine referrals	3378	745	4123
% offered an appointment within 12 weeks	91%	24%	79%

**Figure 1**

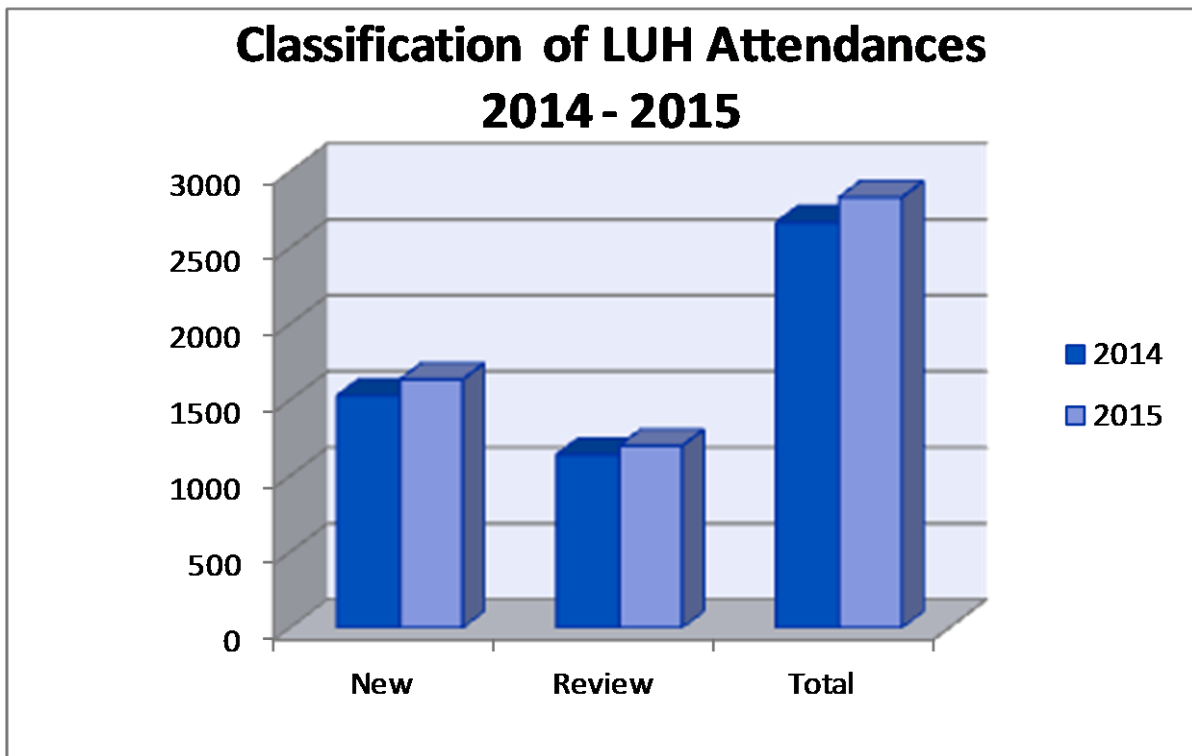
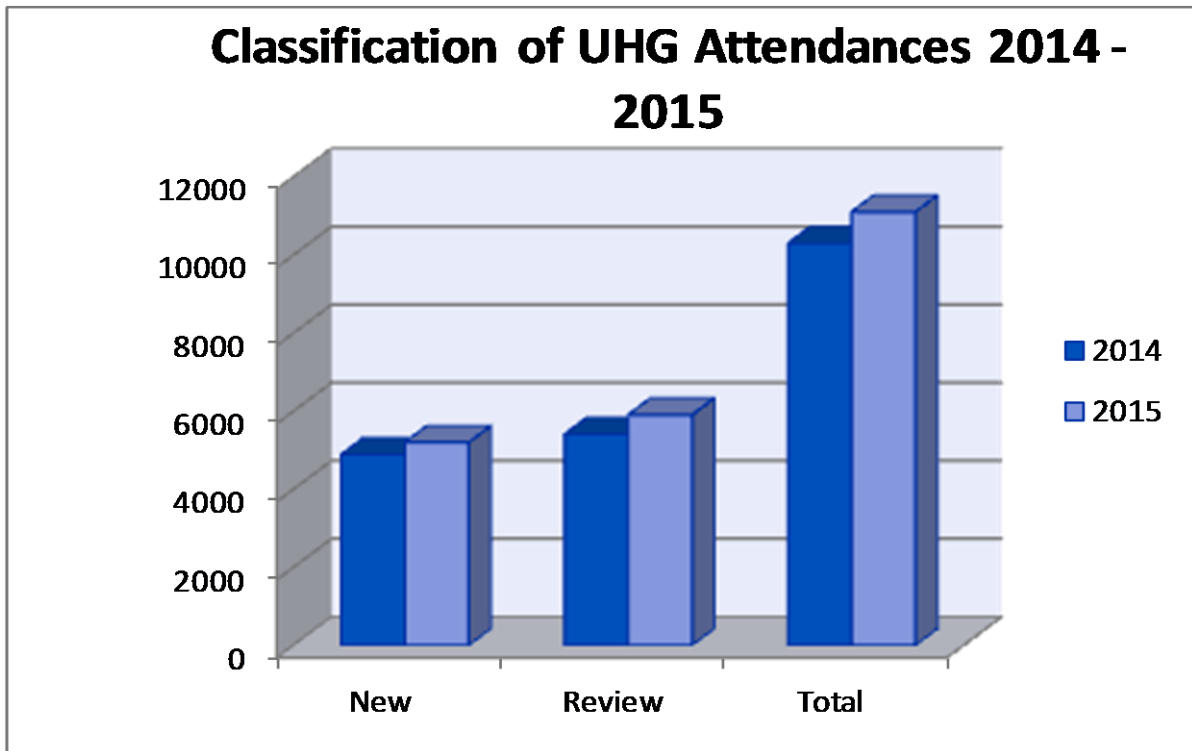


In 2015, 2,710 patient referrals were triaged as urgent and seen at breast clinics across Saolta University Health and 97% of patients were offered an appointment within ten working days. In addition, over 4,100 routine referrals were seen and 79% patients were offered appointment's within 12 weeks. The individual performance of both sites is depicted in Table 2 above.

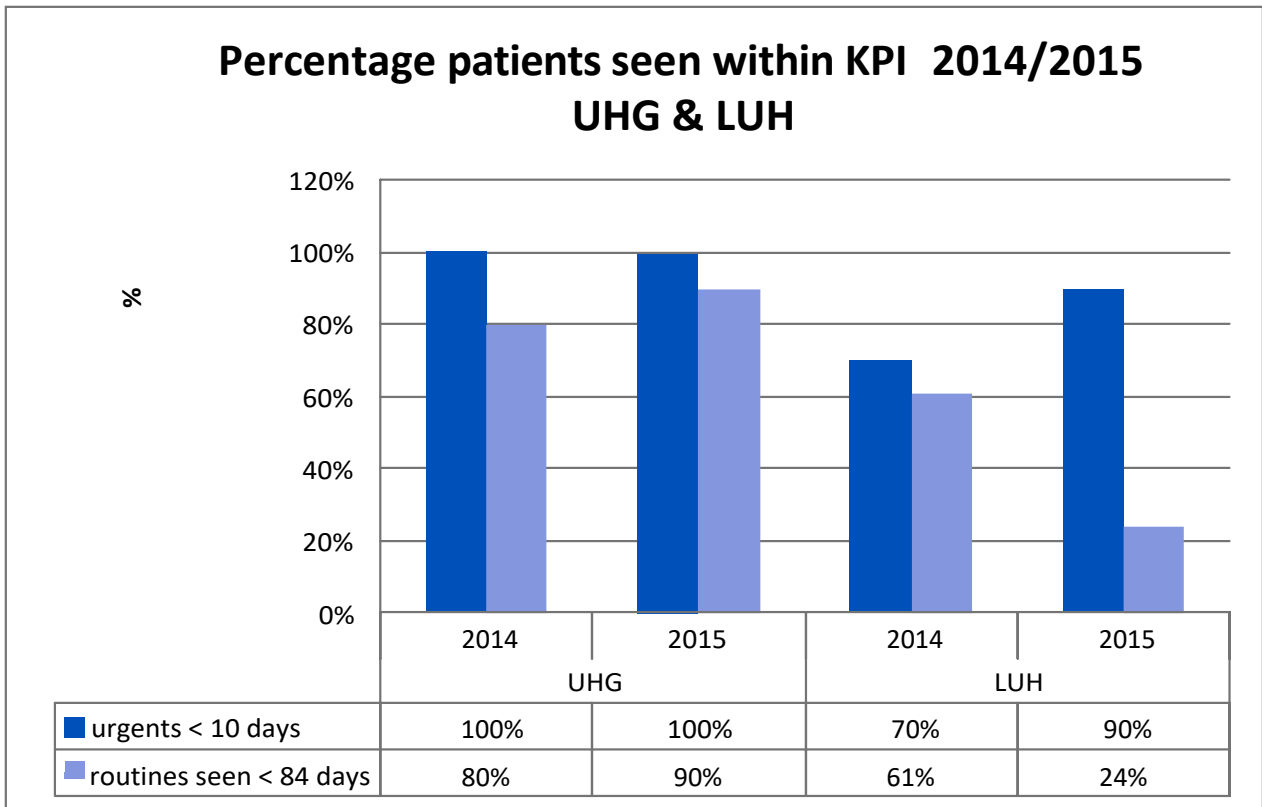
The monthly distribution of referrals by triage is displayed in Fig 1 above and data in relation to attendance and access is presented in Figs 2/3 below.



Figure 2



**Figure 3**



### Members of the Clerical/Administrative Team



(L-R) Mary O'Donnell, Fiona Plower and Joan Connolly-Hession



(L-R) Bernie O'Neill, Laura O'Kane, Andria Kelleher

## Nurse Managed Clinics

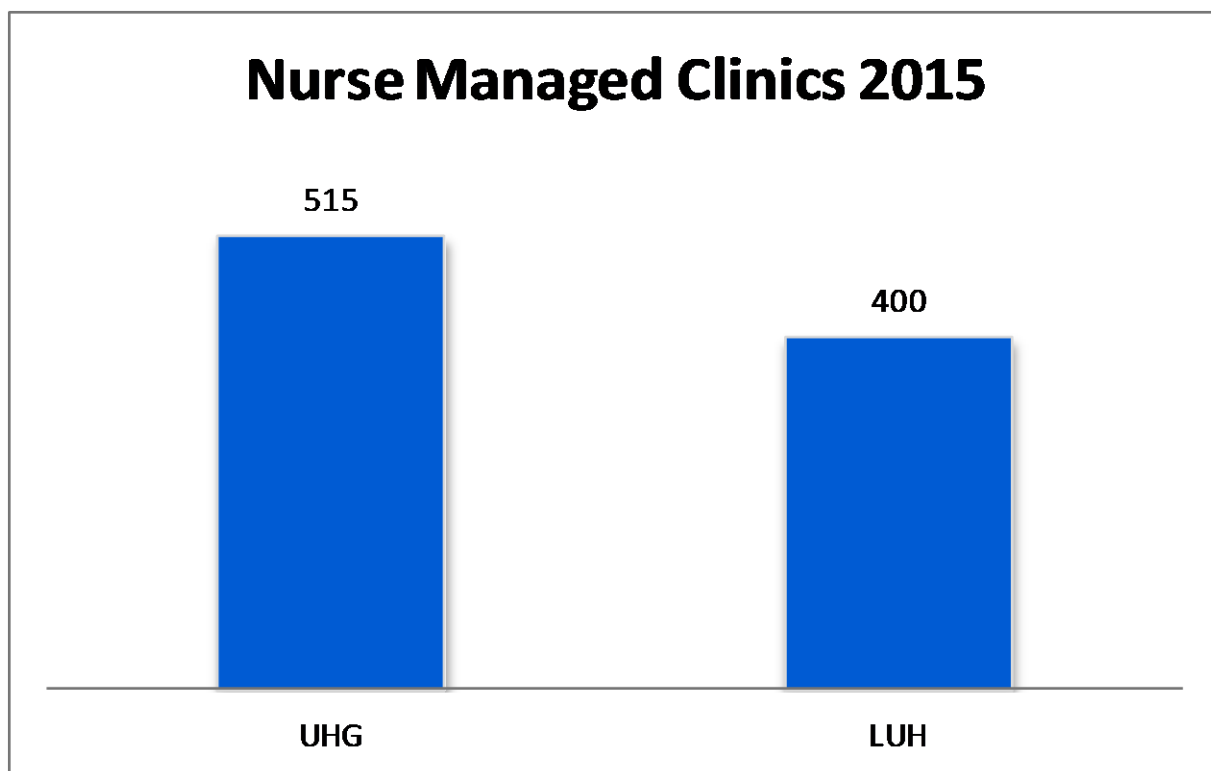


(L-R) Mary Grealish, Catherine Masterson and Helena Kett, Breast Care Nurses, absent from picture are Mary Dowd, Paula Leonard and Elizabeth Moran

The Breast Care Nurse Team are an integral component of the Breast Care Service across the Group. Their role is to provide information, education, and psychological support to patients, their families, and carers, at all stages of the cancer journey, from the time of initial diagnosis, throughout the treatment period, and beyond. Later on in this report Ms. Catherine Masterson, Clinical Nurse Specialist (CNS) provides an overview of the evolving role of the CNS in Breast Care.

Breast Care Clinical Nurse Specialist clinics are held across the group at University Hospital Galway (UHG), Mayo University Hospital (MUH), Sligo University Hospital (SUH) and Letterkenny University Hospital (LUH) supporting patients along their cancer care journey. In 2015, there were over 900 episodes of care administered by Breast Care Clinical Nurse Specialists across Saolta University Health Care Group.

**Figure 4**



**MUH or SUH Data not available**

## 2.3 Imaging

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### Imaging at the Symptomatic Breast Unit at University Hospital Galway



**Dr Rachel Ennis**  
**Consultant Radiologist**  
**University Hospital Galway**

Imaging activity at the Symptomatic Breast Service in University Hospital Galway remains at a consistently high level for 2015 with statistics showing a 1.9% increase in overall activity. When compared to 2014, there is an increase of 3.3% in the number of ultrasounds of the breast and axilla performed. The increase in MRI activity highlighted in last year's report has been maintained, with over 238 breast MRI's performed again in 2015.

Our routine waiting list is being proactively managed on an ongoing basis with no patient waiting on average, more than 6-8 weeks for an appointment. This is a key priority for the unit and we will continue to strive to maintain waiting list targets.

As part of the National Cancer Control Programme there has been a change in management with regard to patients who are 5 years post treatment; these patients are now being discharged to the Surveillance Mammography Protocol. This means that patients are no longer required to attend a Breast Clinic appointment but they still are required to attend for an annual mammogram at the breast radiology department.

Nationally new technologies like tomosynthesis and contrast enhanced studies are being introduced into Symptomatic Breast Services across the country. Our service in UHG is eager to expand and embrace these new technologies and we look forward to the opportunities created.

Going forward the breast imaging department at UHG, will continue to working closely with our breast clinician colleagues in order to deliver a seamless high quality breast service in line with NCCP national protocols.

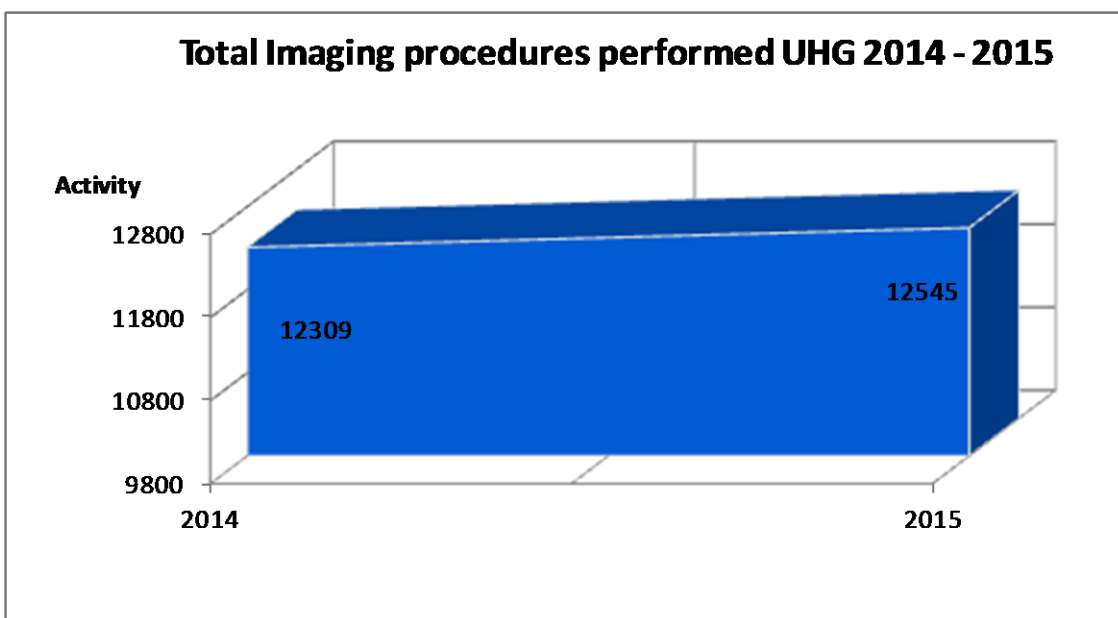
I wish to acknowledge all staff involved in the Breast Radiology Department for their ongoing dedication and commitment to delivering a world class breast diagnostic service.

Table 3 and figure 5 provides a breakdown of all radiology procedures performed at the unit in 2014 & 2015.

**Table 3: Number of radiology procedures performed 2014 – 2015**

<b>Diagnostic Procedure</b>	<b>2014</b>	<b>2015</b>
Mammography	7841	7793
Ultrasound (US) breast & axilla	3538	3657
US biopsies	417	485
MIBB Stereotactic biopsies (Minimal invasive breast biopsy)	34	37
US needle localisations	57	84
Mammo needle localisation	33	13
Clip placements	162	238
MRI	227	238
<b>Total</b>	<b>12309</b>	<b>12545</b>

**Figure 5**



In 2015, bilateral mammograms again represented the majority of mammograms performed. The distribution between left, right, additional views and specimen mammograms is displayed in figure 6, while figure 7 shows the image guided activity and Figure 8 displays ultrasounds performed by type for the twelve month period.

Figure 6

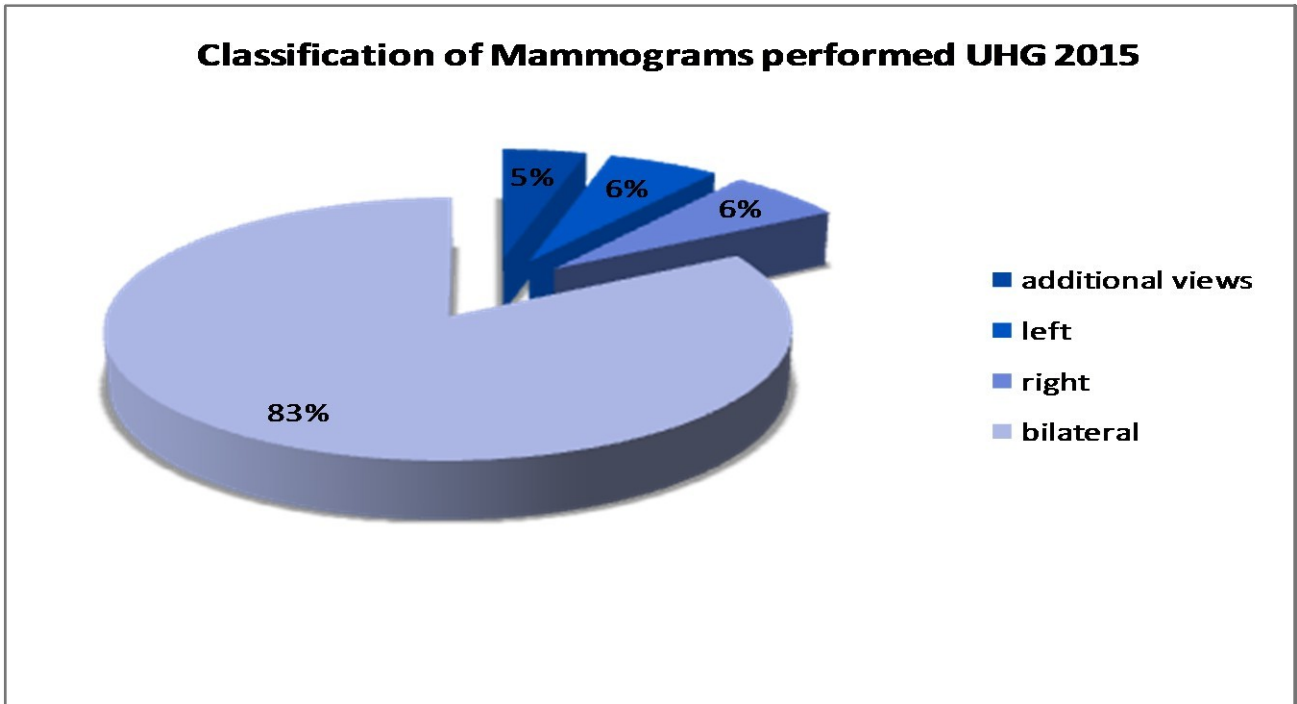
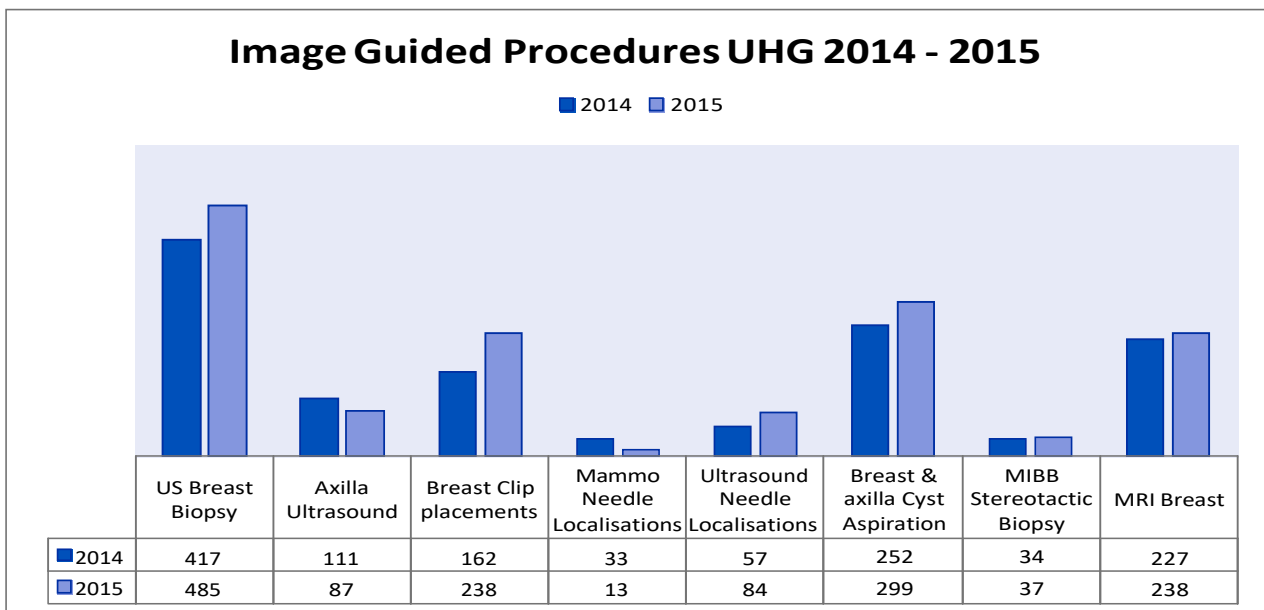


Figure 7



## Members of the Radiography Team



**(L-R) Caroline Flaherty and Aileen Codd**

Imaging activity at the Symptomatic Breast Service in University Hospital Galway remained at a consistently high level for 2015 with statistics showing a 1.9% increase in overall activity.



**(L-R) Gina Dawson, Joanne Lowe, Cathriona O'Callaghan and Aileen Codd**



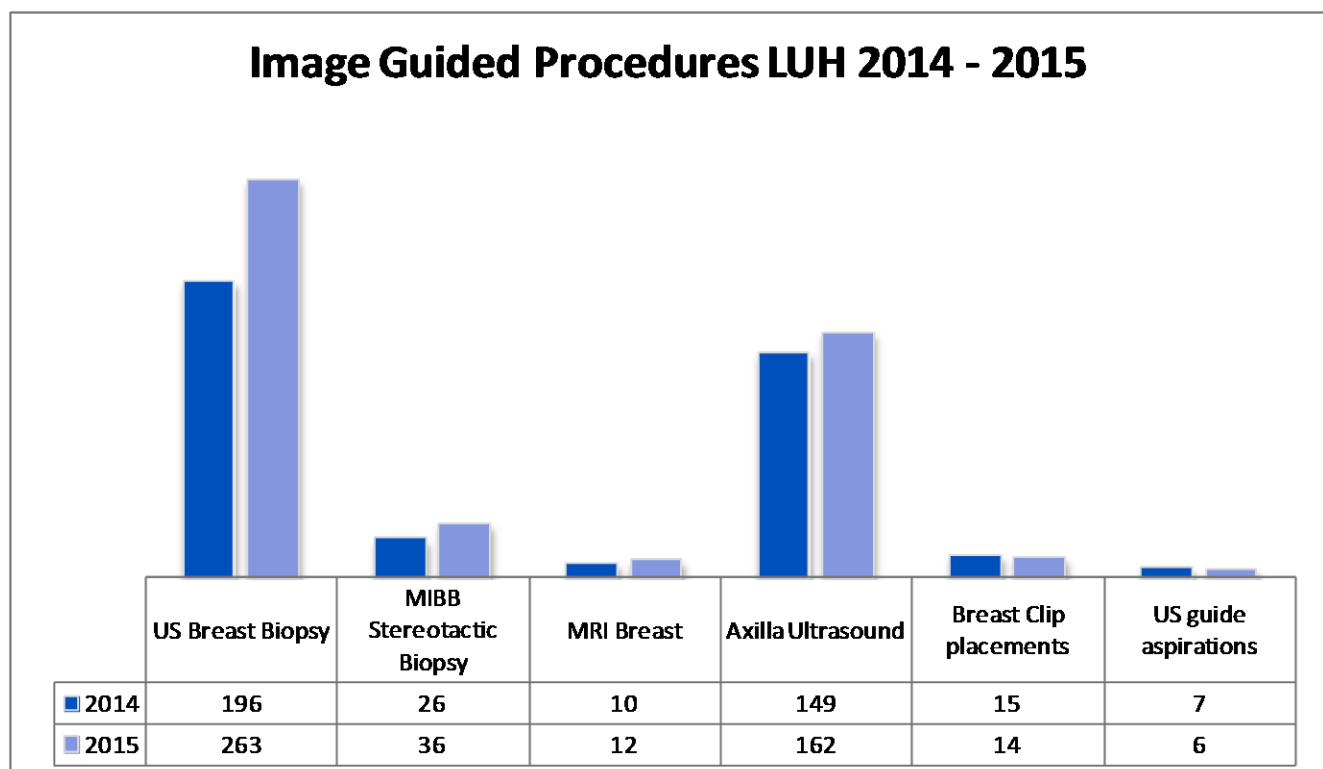
## Imaging in the Symptomatic Breast Unit at Letterkenny University Hospital (LUH)

The Breast Imaging Department at Letterkenny University Hospital carried out over 3,800 imaging procedures in 2015 as outlined in Table 4 below. Figure 8 reflects the number and type of image guided procedures performed in 2014 and 2015.

**Table 4: Number of radiology procedures performed 2014-2015**

Diagnostic Procedure	2014	2015
Mammography	2248	2325
Ultrasound Breast (US) & Axilla	1137	1197
US biopsies	196	263
MIBB Stereotactic biopsies (Minimal invasive breast biopsy)	26	36
Clip placements	15	14
MRI Breast	10	12
US needle	10	31
Total	3642	3878

**Figure 8**





## 2.4 Breast Cancer Data

As in 2014, a significant aspect of the breast cancer data for the Symptomatic Breast Service at UHG in 2015 was the high rate of cancers detected for new patients seen. On average, the breast service across Saolta University Healthcare Group consistently maintains a cancer detection rate of 6 per 100 new patients seen.

The number of cancers detected in the review patient group remains at a low level. The analysis points to a marginal increase in the cancer detection rate for review patients across the Saolta University Health Care Group from 0.32% in 2014 to 0.38% in 2015.

The detection of cancers other than breast cancer is slightly higher than 2014 and is reporting at 37 non breast cancers detected in 2015 across the two sites, UHG and LUH. The number of breast cancers detected at the BreastCheck Screening Service is maintaining a relatively high level with 217 breast cancer diagnosis in 2015. The two services continue to complement and support each other in the provision of a world class breast cancer service with 639 breast cancers diagnosed across the Group. In our next article Dr Aideen Larke, Clinical Director highlights the role of BreastCheck West in the diagnosis of breast cancer across the region.

**Table 5: Breast Cancer cases diagnosed 2015**

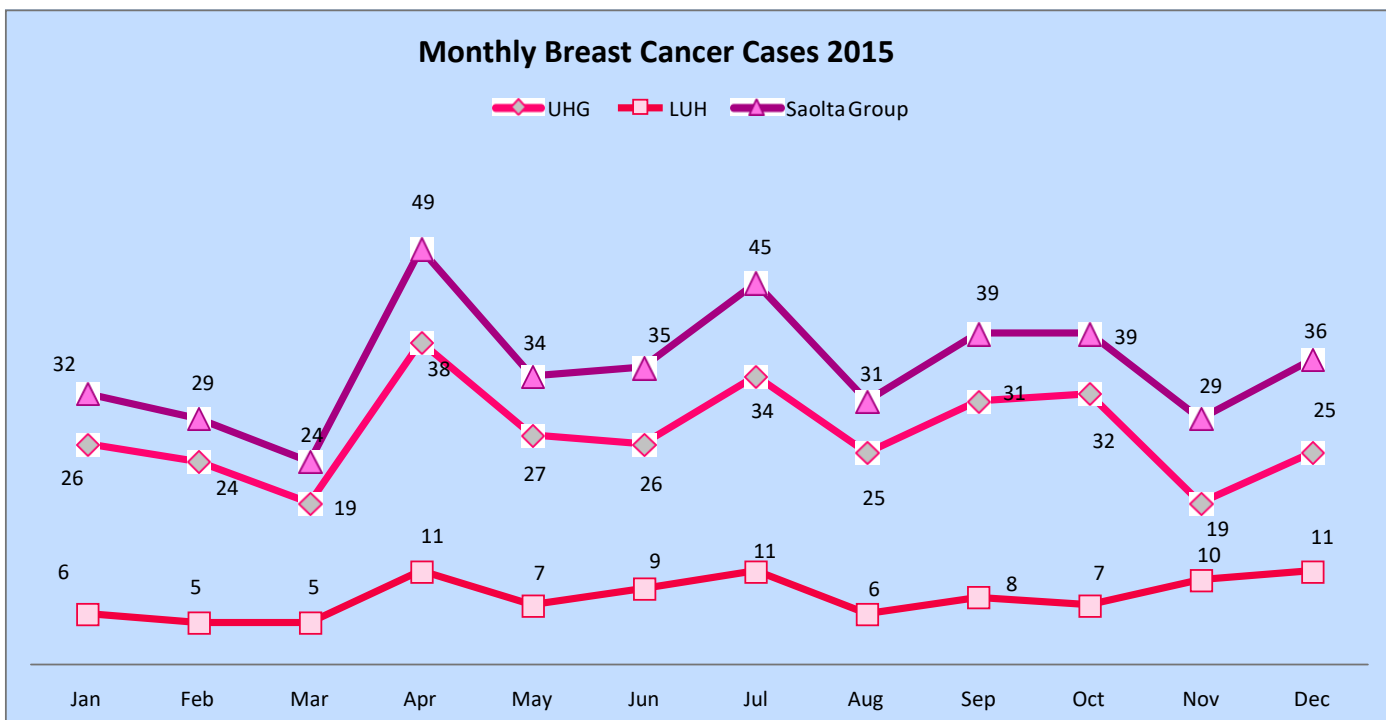
Performance Parameter	UHG	LUH	BreastCheck	Total
Number of new patients attendances at the Symptomatic Breast clinic	5200	1633	-	6833
Number of review patient attendances in the Symptomatic Breast clinic	5905	1198	-	7103
Number of new patients diagnosed with cancer at SBC	303	89	-	419
Total breast cancer diagnoses at SBC	326	96	-	427
Breast cancer diagnosis as part of BreastCheck screening programme	-	-	217	217
Diagnoses other than primary breast cancer	*37	4	-	20
Total number of cancers diagnosed at SBS and BreastCheck	**326	*96	217	639
Cancer detection rate per 100 new patients seen at SBC	6.3	5.9	-	6.1
Cancer detection rate per 100 review patients seen at SBC	0.38	0.41	-	0.38

\*6 patients presented with metastatic disease.

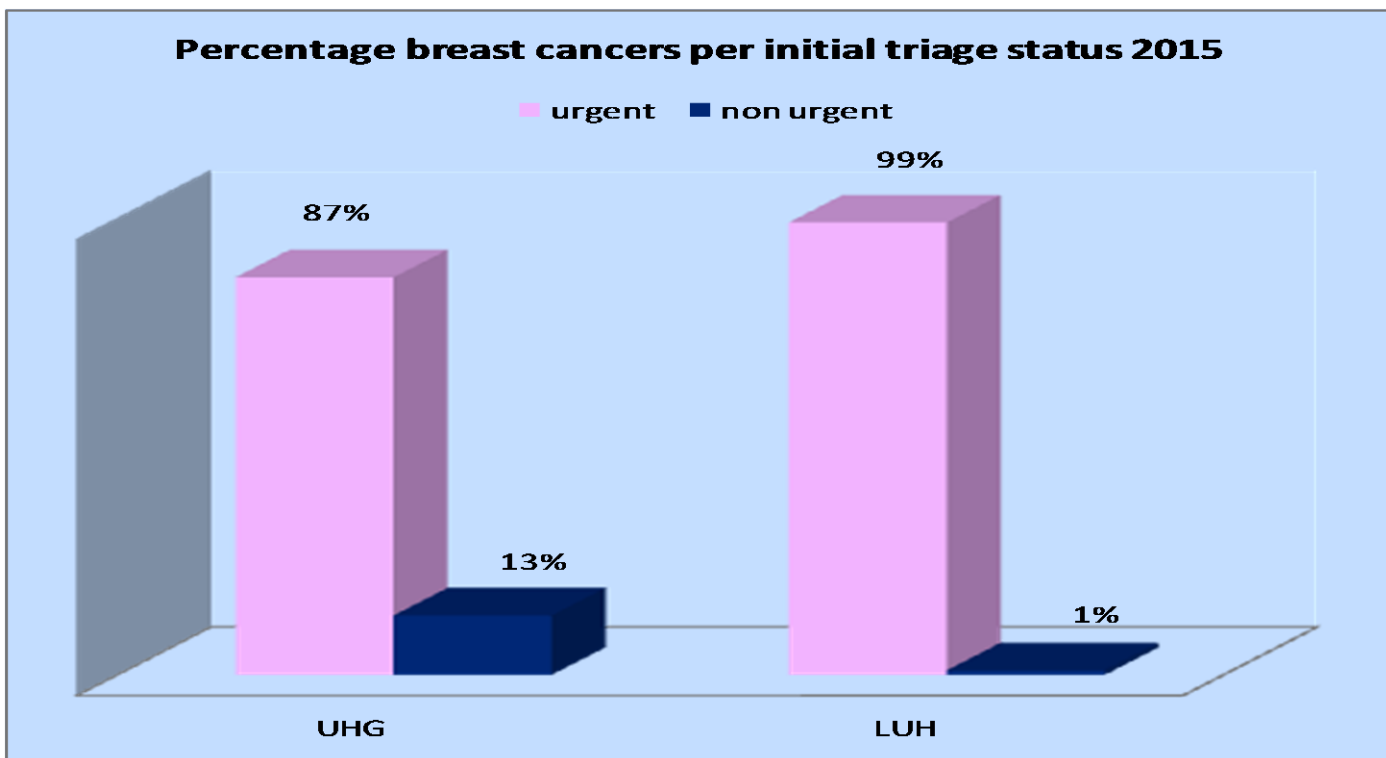
\*\*UHG Please note two of these diagnoses were made outside of the country, \*LUH Please note 3 of these diagnoses were made outside of the cancer centre

Table 5 above outlines the breast cancer cases diagnosed in 2015 while Figure 9 highlights the **monthly breakdown** of the cancer cases diagnosed in UHG and LUH. Figure 10 gives the percentage of cancers as per initial triage. Table 6 gives the **gender breakdown** of breast cancer cases over the last two years.

**Figure 9**



**Figure 10**



**Table 6: Symptomatic Breast Cancer Cases by gender 2014/2015**

	Female	Male	Total
UHG 2014	291	4	295
UHG 2015	323	3	326
LUH 2014	69	1	70
LUH 2015	96	0	96

Table 7 below presents the **geographical spread** of patients diagnosed in 2015 with 39% of diagnoses at UHG originating from Galway city and county; 44% came from the surrounding counties of Sligo, Mayo, Leitrim and Roscommon. In LUH 95% of patients diagnosed with breast cancer came from County Donegal.

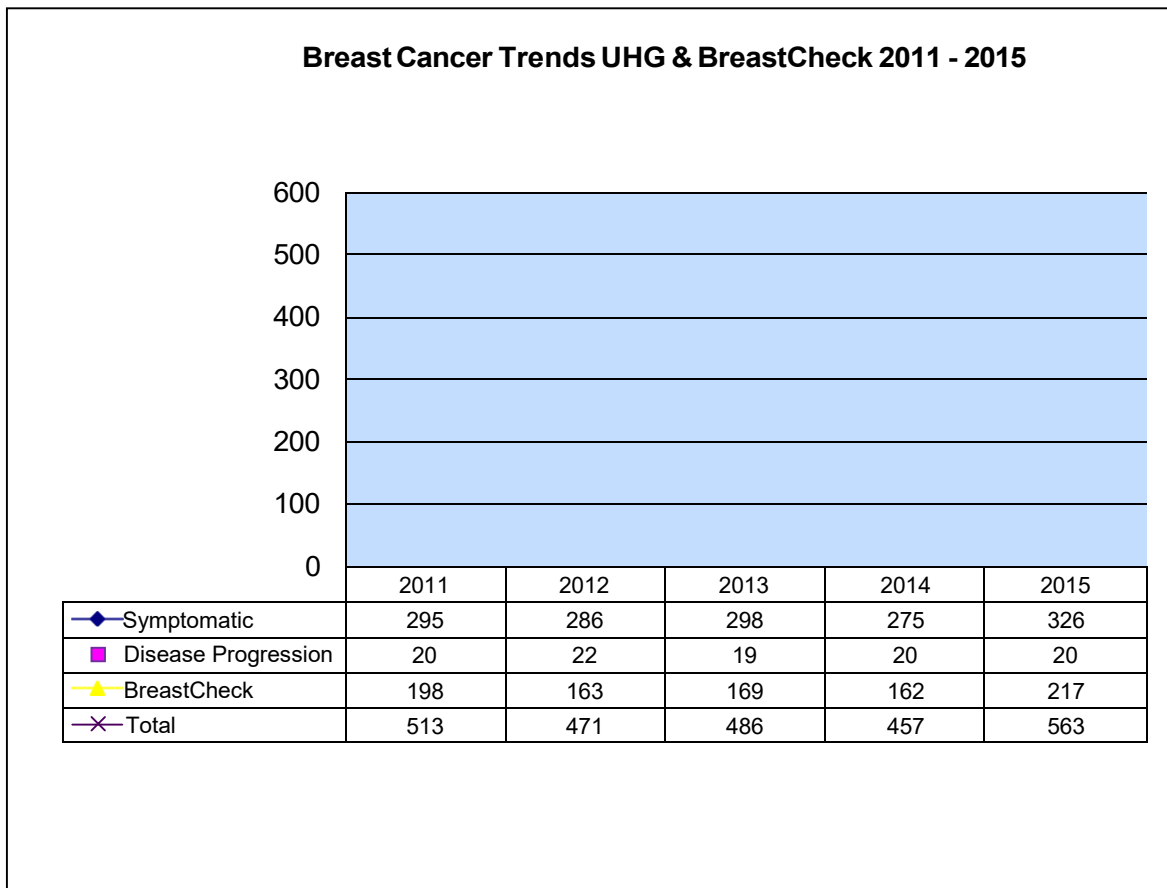
**Table 7: Symptomatic Breast Cancer Cases by County of Residence 2015**

Breast Cancer cases by county	UHG	LUH
Clare	14	-
Donegal	12	92
Galway (county 93 + city 34)	127	-
Leitrim	11	3
Limerick	1	-
Longford	1	-
Mayo	69	-
Offaly	7	-
Roscommon	24	-
Sligo	38	1
Tipperary	5	-
Westmeath	17	-
*Total diagnosis	*326	*96

**\*UHG Please note that 2 patients were diagnosed outside Ireland. LUH 2 patients were diagnosed outside the cancer centre.**

A breast cancer trend analysis for University Hospital Galway is presented in Figure 11 with the inclusion of the figures for BreastCheck West. Figure 12 presents a comparative **age profile** of cancers diagnosed at UHG & LUH in 2015. The age profile is relatively similar when compared to 2014 indicating that women in their 40's and over have a greater risk of contracting breast cancer than those in their twenties or thirties.

**Figure 11: Breast Cancer Trend Analysis**

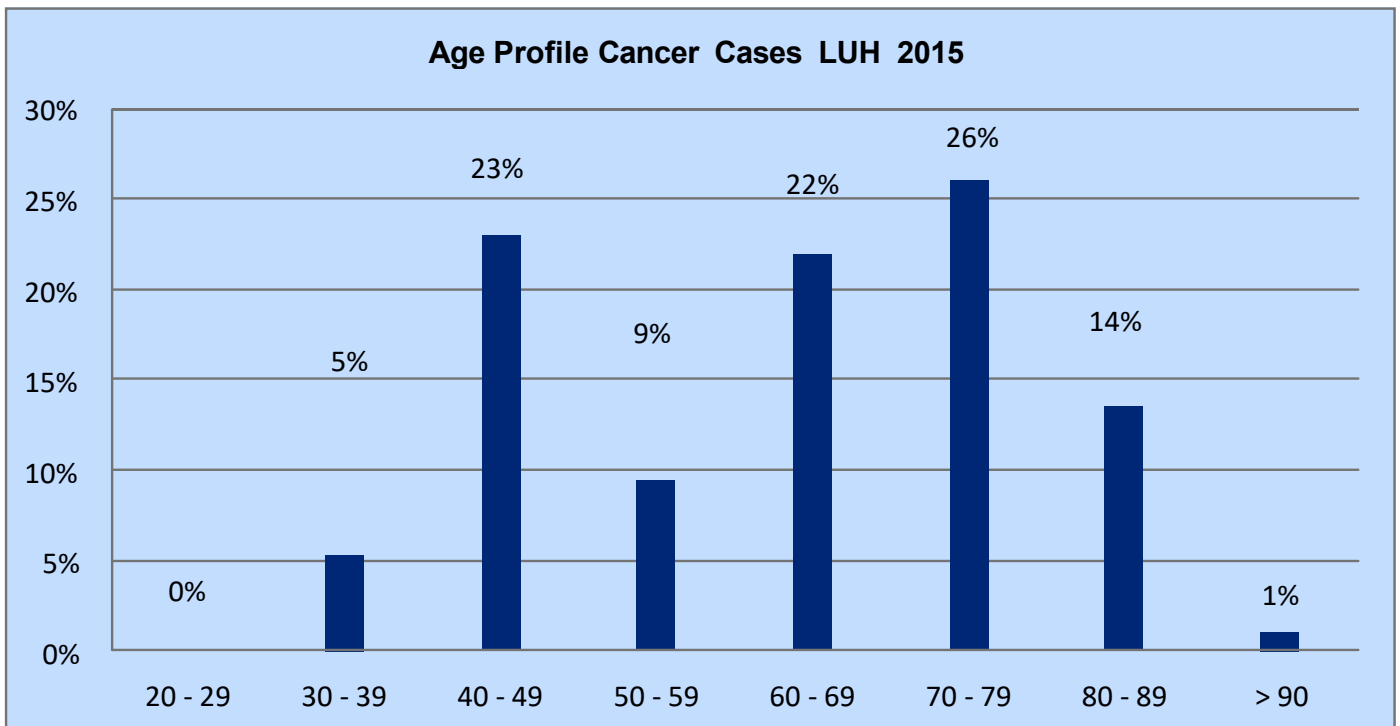
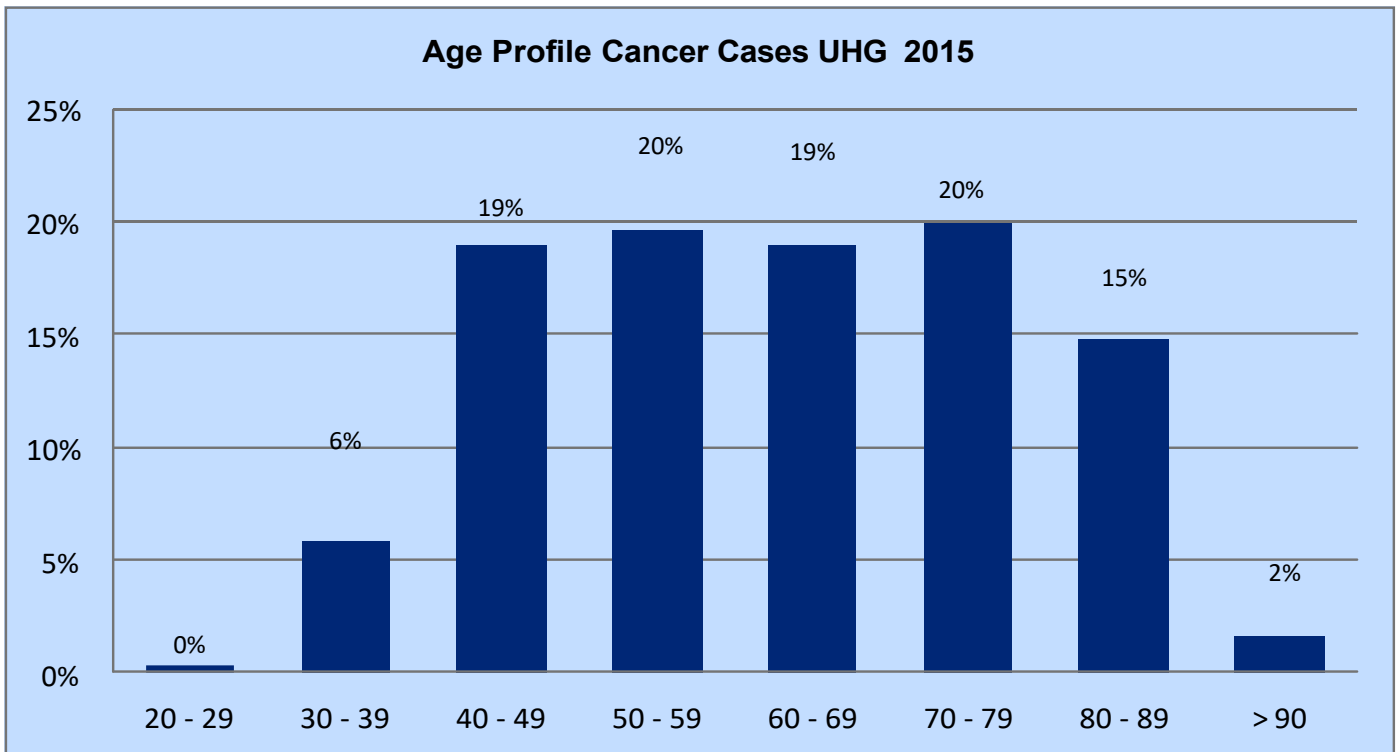


**Margaret Rushe, MDM Co-ordinator UHG**



**Bernie O'Neill and Joan Connolly-Hession Breast Unit Reception, UHG**

**Figure 12**



# 2.5 BreastCheck, The National Screening Programme



**Dr Aileen Larke**  
**Clinical Director & Lead Consultant Radiologist**  
**BreastCheck West**



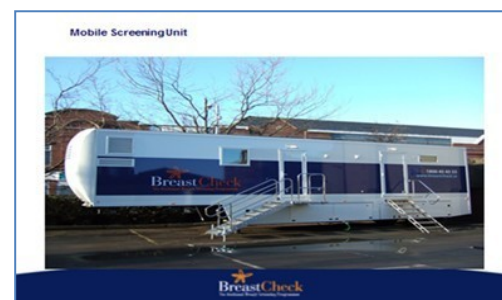
BreastCheck – The National Breast Screening Programme, plays a central role in diagnosis and management of breast cancer in Ireland, providing free mammograms to women aged 50-65 every two years. BreastCheck, a national population based screening programme, lies within the Health & Wellbeing Directorate.

Breast cancer remains the most commonly diagnosed cancer in women in Ireland with over 2,700 women diagnosed each year. Survival has improved as a result of screening, symptomatic detection and improved treatment options. Through providing regular mammograms, BreastCheck works to reduce mortality by detecting breast cancer at the earliest stage, when a woman has more treatment options available and her chosen treatment is likely to be less extensive and more successful.



The BreastCheck Western Unit opened in Galway December 2007 to deliver a high quality screening service to almost 80,000 women in the large geographical catchment area in the West and North West of Ireland. This includes counties Galway, Mayo, Sligo, Donegal, Roscommon, Leitrim, Clare and Tipperary North Riding. Eligible women are invited to attend either the BreastCheck Screening Unit in Galway University Hospital or one of the BreastCheck mobile units across the region, for mammographic screening on a two year call and re-call programme.

In accordance with best practice, international guidelines, and the BreastCheck Clients' Charter, each mammogram is read by two independent experienced breast radiologists. Women with abnormal mammogram results are asked to return to a triple-assessment clinic with additional mammographic views and ultrasound



examinations. If any suspicion of cancer remains, an ultrasound- or stereotactically-guided biopsy is performed. All biopsy results are discussed at a multi-disciplinary team meeting, and patients are informed of their result within five working days.



Ms J. Raftery, RSM, Mr K. Sweeney, Lead Consultant Surgeon, Ms J. Kelly, Unit Manager & Dr A. Larke, Clinical Director (Dr M Sheehan, Consultant Pathologist not pictured)

The BreastCheck Team	
Clinical Director	Dr. Aideen Larke
Unit Manager	Ms. Jennifer Kelly
RSM	Ms. Joan Raftery
Radiologists	Dr. Aideen Larke (lead) Dr. Ann Marie O'Connell Dr. Catherine Glynn
Lead Pathologist	Dr. Margaret Sheehan
Lead Surgeon	Mr. Karl Sweeney

In 2015, 48,836 women were invited for a screening mammogram and 30,137 attended, representing an uptake rate of 69% which compares favourably with other screening services.

Performance Parameter	Western 2015
Number of women screened	30,137
Number of women re-called for assessment	1,367
Re-call rate	4.53%
Number of women diagnosed with cancer	217

1,367 (4.53%) women had an abnormal mammogram and were recalled to triple assessment clinic.

In 2015, the BreastCheck Western Unit diagnosed a total of 217 women with breast cancer. This cancer detection rate (7.2 per 1000) is similar to other national and international breast screening services.

BreastCheck delivers an annual programme evaluation report. This confirms that the targets laid out at the beginning of each year are being met and that the level of high quality service is consistent.

BreastCheck commenced the first stage of age expansion rollout in 2015. The programme age will extend to 69 years of age; however that is to be phased in incrementally by one year, every year for the next 5 years. Therefore as of 2015, the age now includes women aged 65.

BreastCheck is part of the National Cancer Screening Service, which also encompasses CervicalCheck - The National Cervical Screening Programme, BowelScreen - The National Bowel Screening Programme and Diabetic RetinaScreen - The National Diabetic Retinal Screening Programme.

## 2.6 Surgical Data

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The table below outlines the numbers and types of breast surgeries performed in 2015 at University Hospital Galway and Letterkenny University Hospital. A significant aspect of the surgical activity at UHG is the continuous improvements to the breast conservation rate from 66% in 2014 to 69% for 2015. The decision to have a mastectomy is a significant one and is informed by tumour size, histology, nodal status among other factors such as the impact of neoadjuvant therapies on the tumour. The other critical factor where need is not the determinant is patient choice. Many women will opt for a mastectomy even when less invasive surgery may be recommended by the consultant surgeon. In earlier years, breast surgery was heavily skewed towards mastectomies; today however conservation of the breast is uppermost in the treatment of breast cancer.

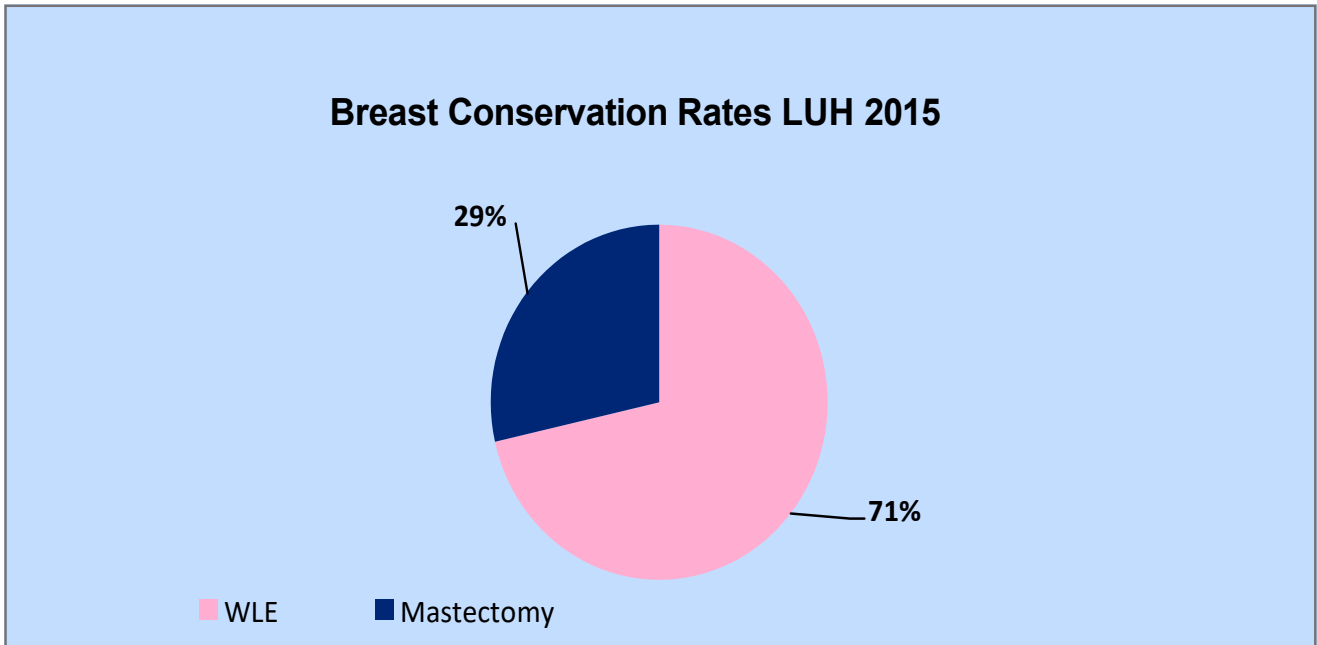
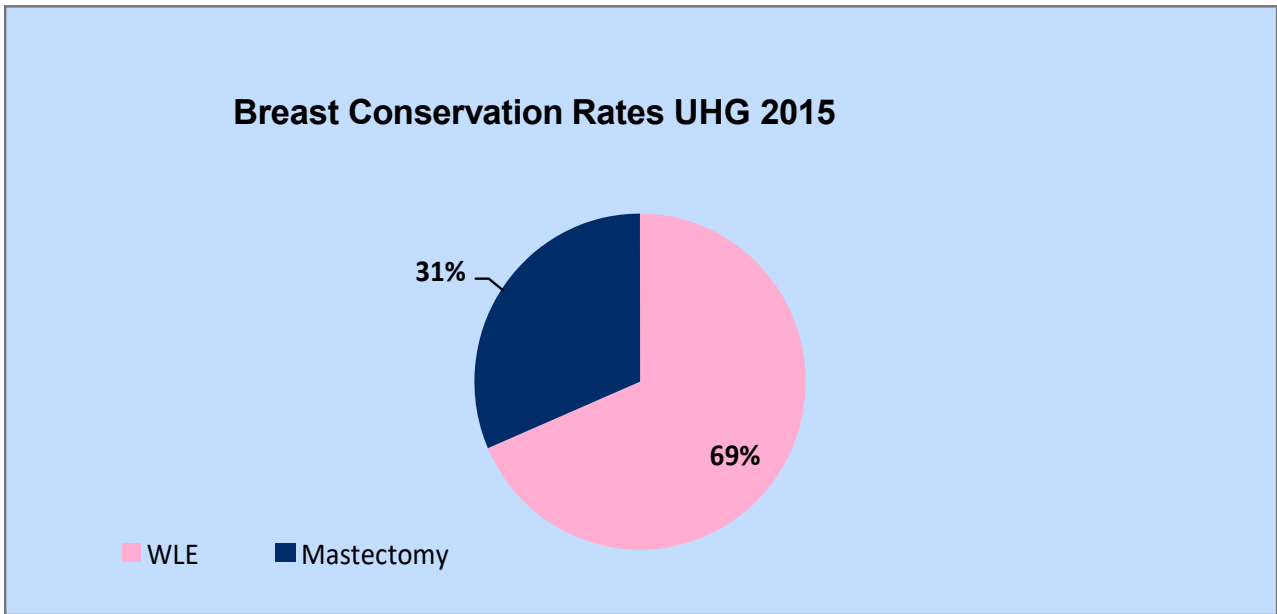
**Table 8: Symptomatic Breast Cancer Procedure Types 2015**

Procedure	UHG	LUH
Number of Wide local excisions	168	65
Number of Excision of Margins	19	5
Number of Mastectomies	77	26
Number of Sentinel Lymph node biopsies	160	61
Number of Axillary Clearance	67	18
Reconstruction procedures - immediate	37	9
Reconstruction procedures – delayed	2	-

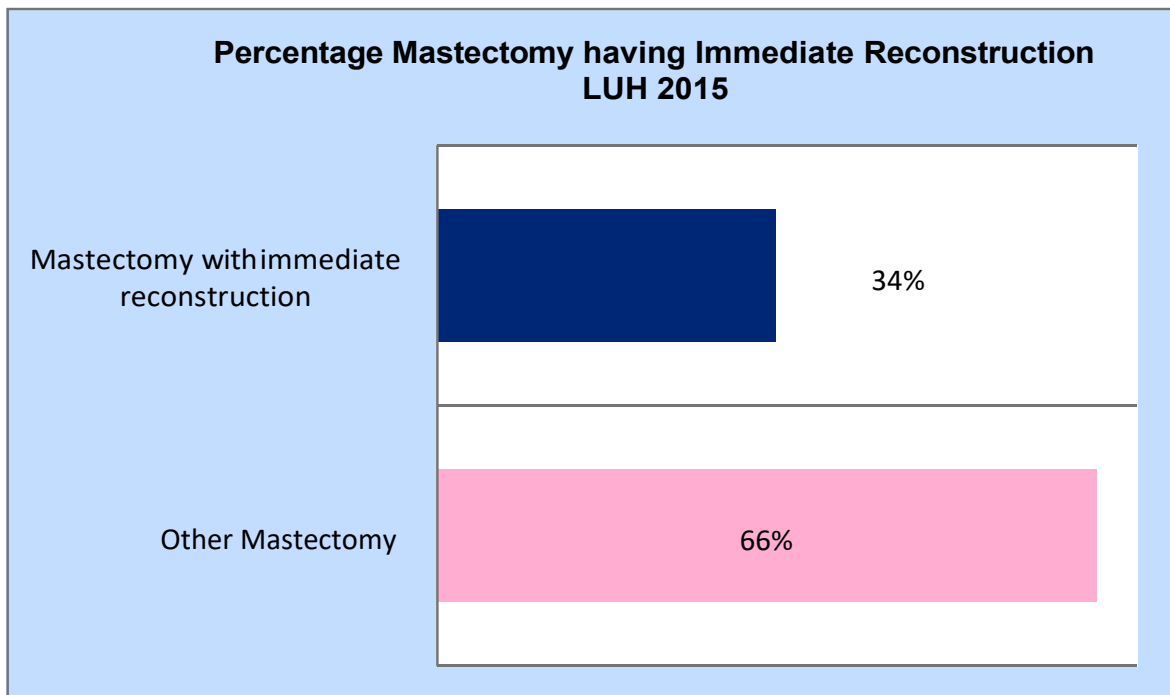
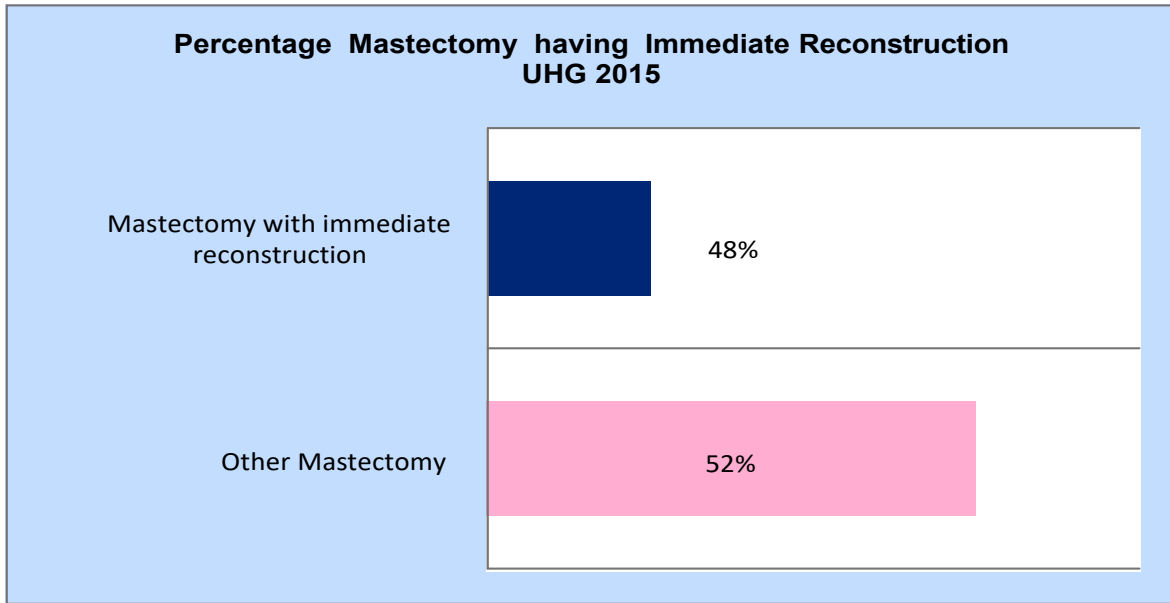
The following illustrations depict the rates of Breast Conservation, the percentage of mastectomies having immediate reconstruction and the percentage of sentinel nodes v axillary clearance at both sites in 2015.



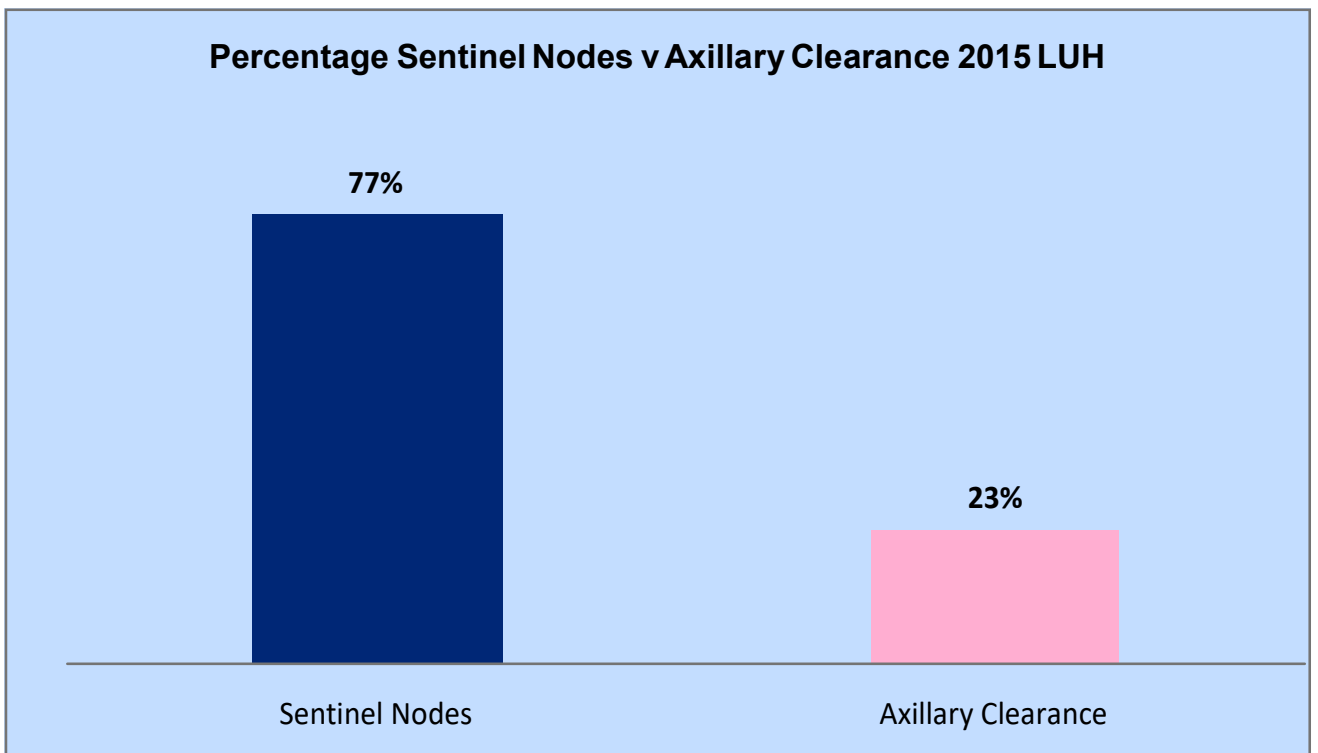
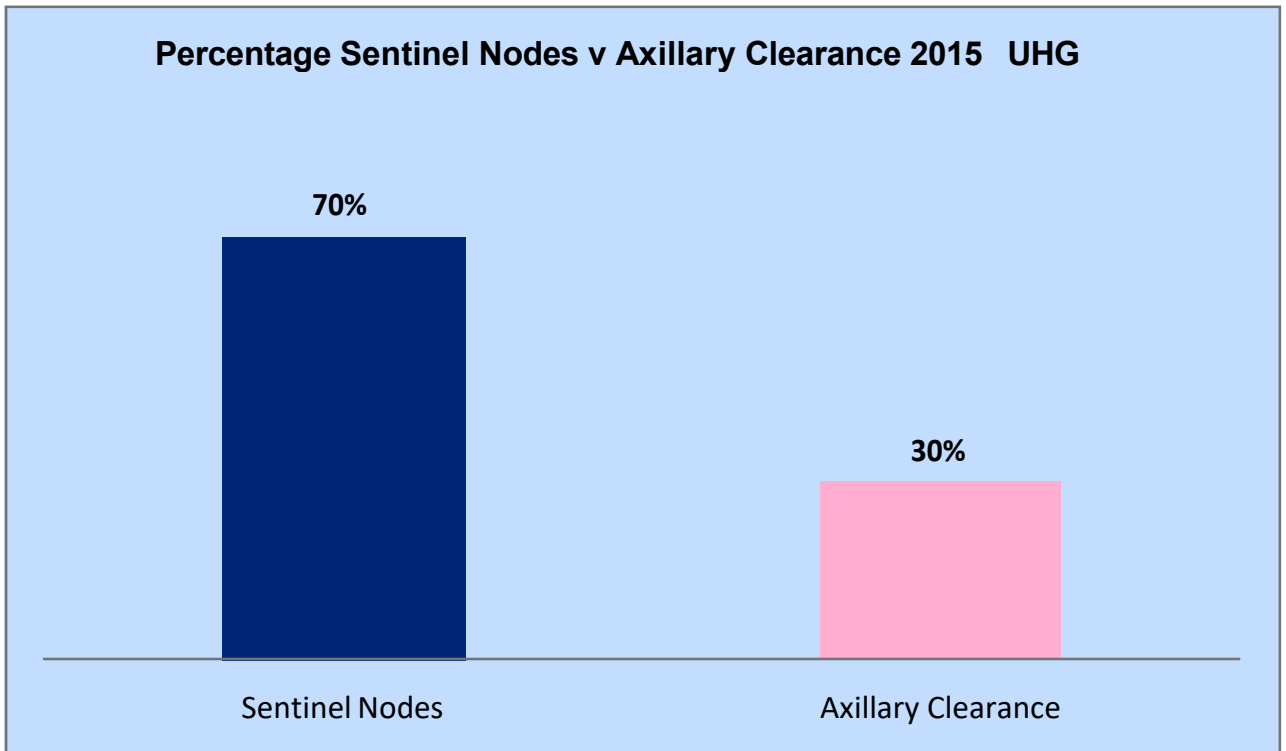
**Figure 13**



**Figure 15**

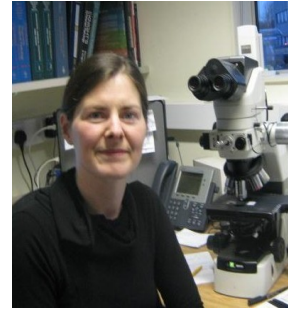


**Figure 16**



## 2.7 Histopathology

**Dr Caroline Brodie**  
**Consultant Histopathologist**  
**University Hospital Galway**



Diagnostic and therapeutic specimens for benign and malignant breast disease were accessioned by the Histology Department in 2015. Pathological features of biopsy material submitted to the symptomatic breast pathology service are outlined below.

### **I. Preoperative (diagnostic) specimens**

A total of 952 preoperative (diagnostic) needle core biopsies of breast were accessioned and classified according to the B-coding system (850 in 2014, 880 in 2013, 933 in 2012, 945 in 2011, 816 in 2010, 747 in 2009). The numbers of biopsies submitted in each B-code group and comparison with previous years is set out below (fig. 1).

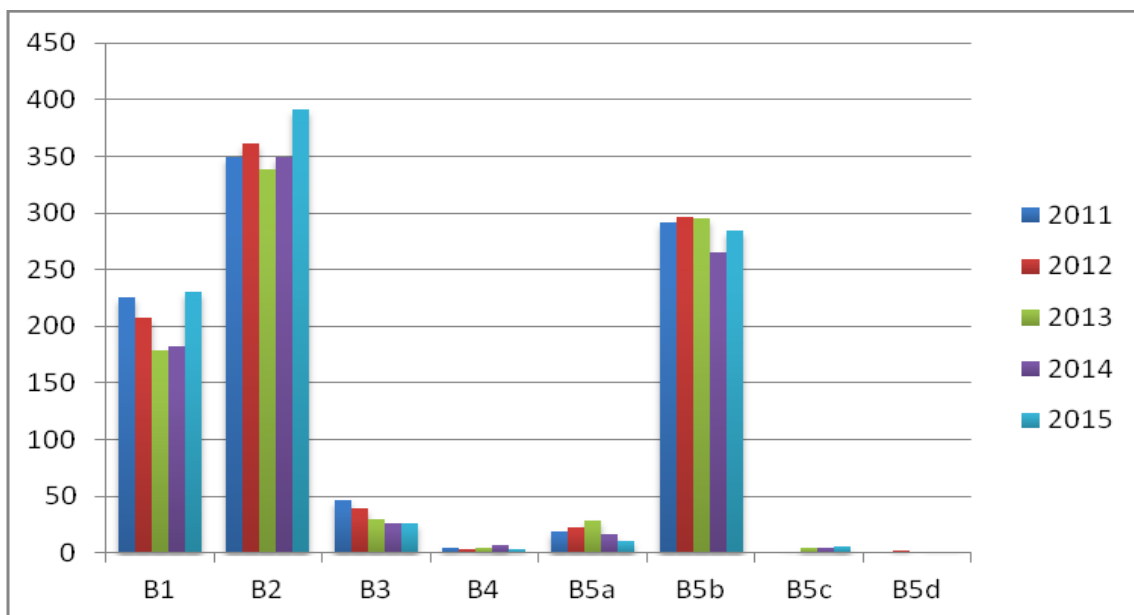


Fig. 1.

### **II. Therapeutic resections:**

A total of 231 resections for invasive carcinoma were accessioned, of which 132 were wide local excisions and 99 were mastectomies, including 10 bilateral mastectomies. Fifteen resection specimens were accessioned for DCIS, comprising 5 wide local excision specimens and 10 mastectomies. A further 135 open (excision) biopsies were accessioned, with 4 bearing DCIS, 2 bearing invasive carcinoma and 129 bearing benign breast disease.

### III. 1. Steroid Hormone Receptors

Oestrogen receptor (ER) and progesterone receptor (PR) were scored according to the Allred (Quick) score; scores with <1% staining were interpreted as negative, scores with >1% staining were interpreted as positive. ER and PR status is illustrated below in figs 2 & 3.

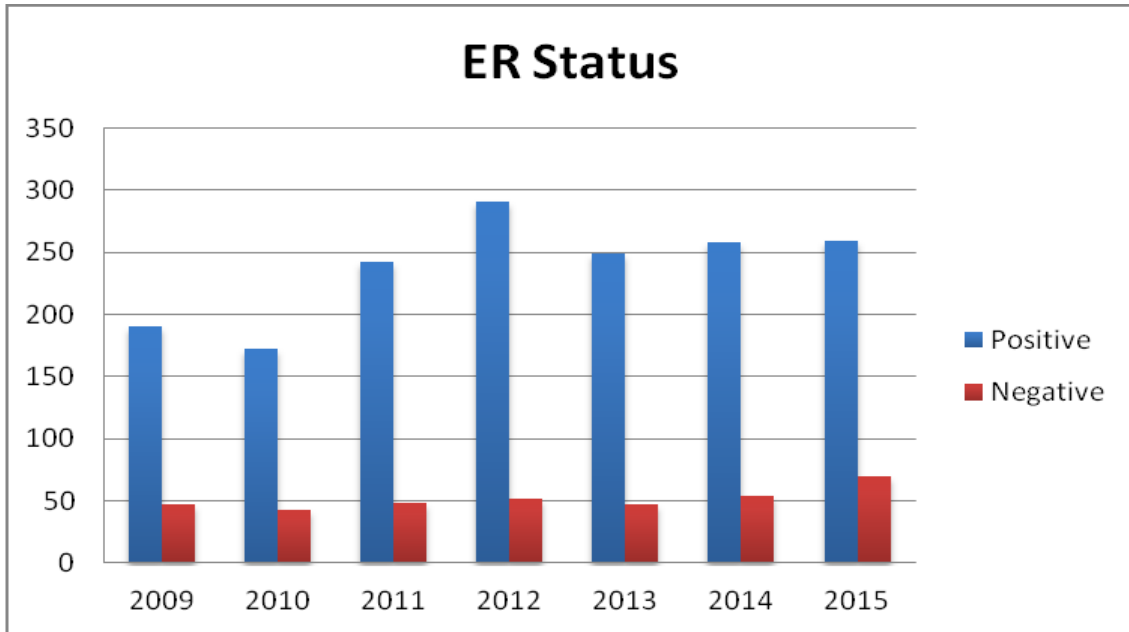


Fig. 2. ER status

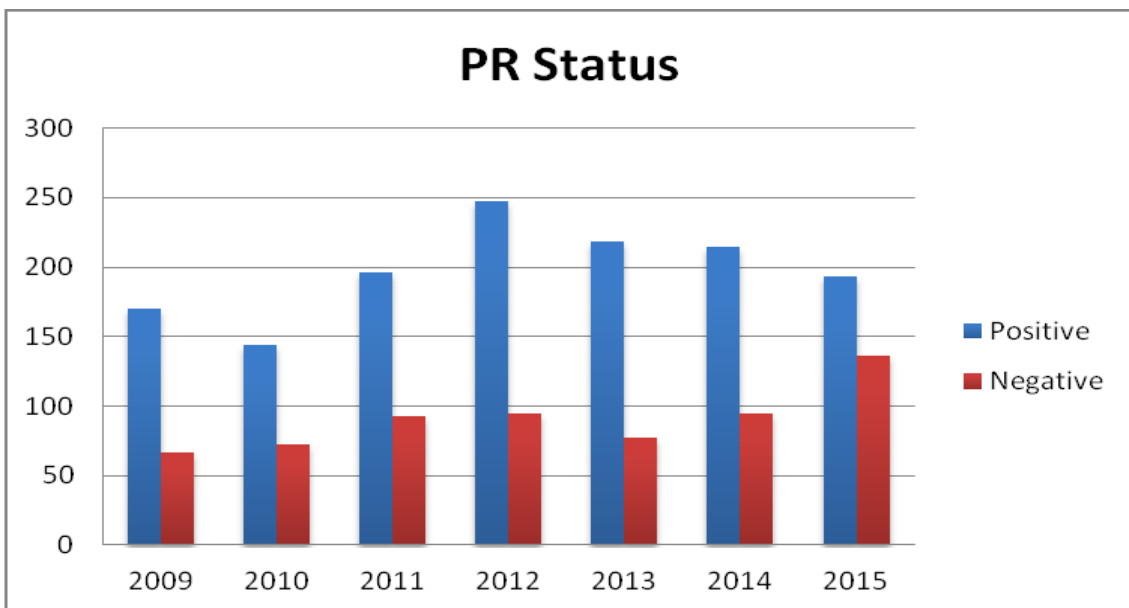
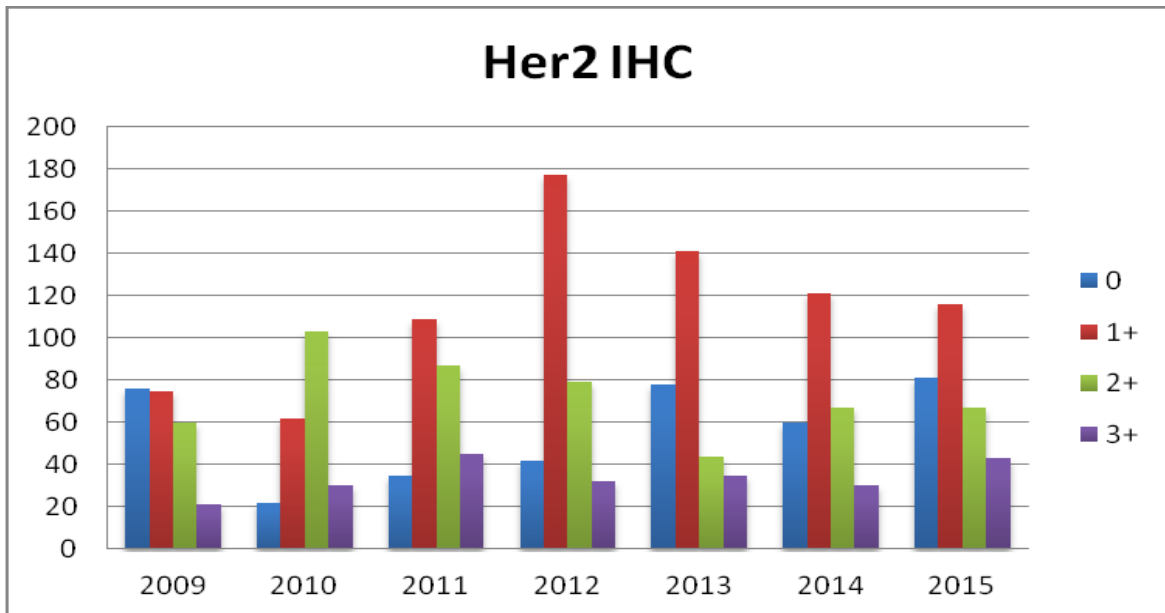


Fig. 3. PR Status

### III.2. HER2 Status

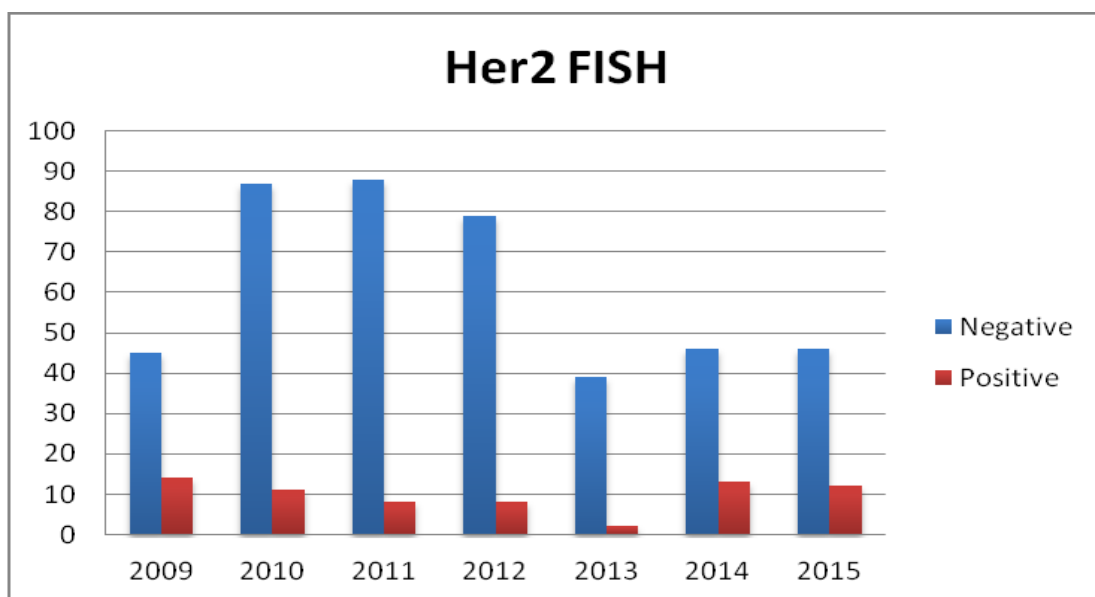
HER2 status was initially assessed by immunohistochemistry (IHC), and scored 0, 1+, 2+ and 3+ as set out below in fig 4.



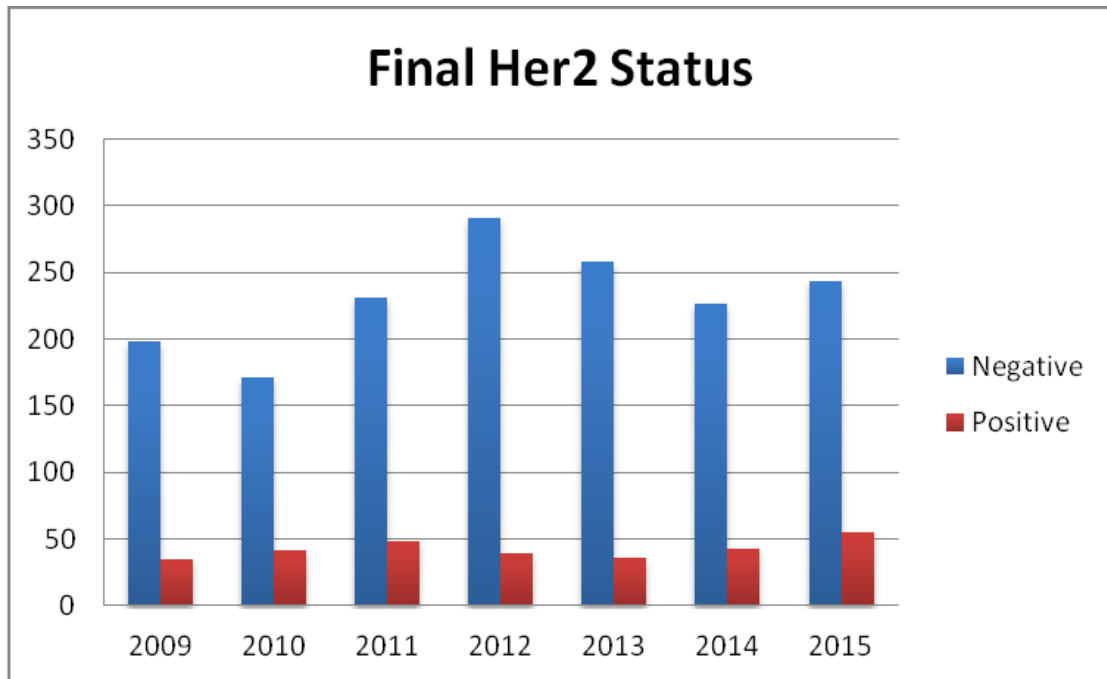
**Fig. 4. Her2 status by immunohistochemistry.**

Immunohistochemistry scores of 0 and 1+ were interpreted as HER2 negative. Cases with HER2 IHC score of 3+ were interpreted as HER2 positive. Borderline cases (IHC score 2+) were assessed for gene amplification status by FISH. Breakdown of FISH results and overall final HER2 status are set out below (figs. 5, 6).

Immunohistochemistry scores of 0 and 1+ were interpreted as HER2 negative. Cases with HER2 IHC score of 3+ were interpreted as HER2 positive. Borderline cases (IHC score 2+) were assessed for gene amplification status by FISH. Breakdown of FISH results and overall final HER2 status are set out below (figs. 5, 6).



**Fig. 5. Her2 FISH.**



## 2.8 Radiation Oncology

**Dr Joseph Martin**  
**MB, MRCPI, FFRRCSI**  
**Consultant Radiation Oncologist**



The Radiation Oncology Department in UHG works in tandem with the Symptomatic Breast Cancer Multidisciplinary Team (MDT). Numbers are gradually increasing, in line with NCRI projections. Despite this KPI's continue to be met as reflected in the table above.

Ongoing trials in breast cancer include NSABP 51, which looks at an adaptive approach to radiotherapy based on the pathological response of breast cancer to neo-adjuvant chemotherapy.

As a national training unit, radiation oncology welcomed the addition of a 3<sup>rd</sup> Specialist Registrar (SpR) to the team. It marks an endorsement of the unit and its training record.

A new-build radiotherapy unit has been approved and the funding formally signed off by HSE Estates earlier this year. Work should commence 2017/2018 after the new Adult Mental Health Unit (AMHU) is occupied.

Radiotherapy is grateful for the support of all their colleagues in the Symptomatic Breast Unit and MDT.

<b>2015 Radiation Oncology Breast Cancer</b>	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Total Radical New Starts for KPIs</b>
Access to Specialist Opinion - Time from receipt of referral letter to first visit with Radiation Oncologist (Average Days)	5	7	3	5	
Radical Patients Treated with External Beam Radiation Treatment (EBRT)	74	57	59	47	237
Patients treated within NCCP Guidelines - Treated within 15 working days of designated Ready to Treat (RTT) date.	72	56	57	47	
%	97%	98%	97%	100%	



## 2.9 Performance Monitoring

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**Judith McLucas**  
**Business Manager**

### Internal Performance Monitoring

We continue to proactively manage review patient appointments in order to ensure that appointments are scheduled for those patients who clinically require them. This effectively means that patients attending our review clinics now, have a better experience overall, with longer consultation times, shorter wait times and a more comfortable, less congested waiting area.

As alluded to earlier in the report, the implementation in the latter part of 2014 of the NCCP Mammography Surveillance Protocol for patient's 5 years post treatment will pay dividends in future years in terms of reducing review clinic numbers. This programme allows us to discharge breast cancer patients from clinics to the Protocol. Effectively, the research shows that most recurrences (over 80%) occur within five years of diagnosis, and are usually identified by the patient themselves. Patients with breast cancer are managed by the Specialist Breast Service until all treatment is complete. Treatment can last for five years post - diagnosis. This includes the time - frame where the risk of recurrence is greatest. In 2015 889 patients were discharged to the protocol at UHG; this number will increase over time as more patients are discharged to the programme. It is anticipated that not only will the attendance of patients at clinics be reduced but that more importantly the patient experience of those patients who need to attend will be enhanced.

### External Performance Monitoring

#### **1. National Cancer Control Programme (NCCP) Key Performance Indicators (KPI's):**

In 2015 the Symptomatic Breast Centre's at UHG and LUH continued to submit their returns as part of the NCCP monitoring process overseeing the individual hospitals compliance with the National Key Performance Indicators.

Our 2015 performance against the national KPI's is depicted in table 9 and is reporting positively with the overall service performing above the required national target in many of the parameters measured. With the number of GP breast referrals remaining at a consistently high level across the Group, access within 12 weeks remains an ongoing challenge for the non urgent patient group as indicated below.

**Table 9: NCCP KPI Performance by Symptomatic Breast Unit 2015**

KPI	Key Performance Measure	Target	UHG	LUH	Service Performance
1 (a)	Access for urgent patients within 10 working days	>95%	99.9%	90%	97%
1 (b)	Access for non urgent patients within 12 weeks	>95 %	91%	24%	79%
1 (d)	Routine breast imaging requests shall be carried out within 12 weeks of assessment	>90%	100%	100%	100%
2 (a)	Patients with primary operable breast cancer shall have pre-op mammography <u>and</u> ultrasound examination.	>95%	100%	100%	100%
2 (b)	Patients over the age of 35 with a clinically palpable focal abnormality (S3, S4 or S5) shall have mammography and targeted ultrasound	>95%	100%	98%	99%
2 (c)	Core biopsies shall be imaged guided where an R3, R4, R5 abnormality is identified	>90%	100%	99%	100%
3 (a)	Patients with primary breast cancer shall be diagnosed without an operative procedure (open biopsy).	>90%	97%	100%	97%
3 (b)	Definitive diagnosis within 10 days (urgent patients)	>90%	95%	70%	89%
4 (a)	All patients with a diagnosis of primary breast cancer shall be discussed at MDM	>95%	100%	100%	100%
5 (a)	Surgical intervention within 20 days of definitive diagnosis	> 90%	95%	95%	93%
5 (b)	Following surgery, patients who require radiation therapy alone shall commence treatment within 12 weeks of final surgical procedure.	>90%	59%	96%	67%
5 (c)	Following surgery, patients who require adjuvant chemotherapy and radiation therapy shall commence radiation therapy within 4 weeks of completing chemotherapy	>90%	51%	27%	56%
5 (d)	Following surgery, adjuvant chemotherapy shall commence, within 8 weeks of the final surgical procedure where required	>90%	80%	85%	83%
6	Patients with a diagnosis of primary operable invasive breast cancer shall have an ultrasound of the axillary nodes	>90%	90%	100%	92%
9 (d)	The histopathology report containing the prognostic data will be available within 10 working days	>95%	97%	100%	97%

## **3.1 Quality and Audit**

## 3.2 Breast Physicians at Breast Unit, University Hospital Galway

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From L-R: Dr. Ruth Smith, Dr. Marina Curran, Dr. Naadia Ibrahim and Dr. Suzette Kearns

The 4 breast physicians joined the team at the symptomatic breast unit in August 2013. With a background in General Practice, the doctors completed a Specialty Skills in Breast programme run by the Royal College of Surgeons in London.

There are 2 Breast Physicians at each Clinic held at UHG.

A Breast Physician is a doctor working in the specialised area of diagnosis and management of benign and malignant breast disease.

Breast Physicians have a wide range of skills that may include:

- clinical breast examination
- interpretation of mammography and breast ultrasound results
- performance clinical core biopsy
- counseling of women with breast cancer and benign breast disease
- assessment, monitoring and ongoing care of women at 'high risk' such as women who have a family history of breast cancer and those who have previously been treated for breast cancer.

Breast Physicians reduce the number of patients in a specialist breast centre who require consultation with a breast surgeon (1) and provide continuity and stability with the breast team in the public hospital system, where Specialty Registrars (SpR) and Senior House Officer's (SHO's) are rotating through the breast team every few months.

Breast Surgeons are often the most advantaged by the contributions made by the Breast Physician to the Multi Disciplinary Breast Care Team with Breast Physicians particularly adding value to the service provided by Breast surgeons. Breast Physicians are well trained, highly valuable members of the Multi -Disciplinary Breast Team with a skill set that enhances the patient care at all stages from diagnosis to treatment to follow up (3)

(1) Brennan ME, Houssami N. Image-detected "probably benign" breast lesions: a significant reason for referral from primary care. *Breast* 2006; 15: 683-686.<PubMed>

(2)(*Med J Aust* 2007; 187 (2): 111-114

(3) *ANZ J Surg.* 2007 Oct; 77(10):846-9

## 3.3 The evolving role of the Breast Care Clinical Nurse Specialist (CNS)

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**Ms. Catherine Masterson**  
**Clinical Nurse Specialist**



The traditional breast care nurse role was developed in response to research conducted by Sylvia Denton (Breast Care CNS, Barts and The London NHS Trust) and Michael Baum (Surgical Oncologist, Kings College London) who highlighted the specific psychological and emotional needs of women diagnosed with breast cancer. Their research identified the patients at risk of psychological morbidity and by offering emotional support the breast care nurse was able to improve the outcomes of patient care. Breast care nurses have developed and adapted their skills according to their working environment. Many have diversified their role to provide care in areas such as fitting breast prosthesis, informing and supporting women undergoing reconstructive breast surgery and lymphoedema management.

Advanced practice nursing represents the future frontier for breast care nursing practice and professional development. The role has evolved in many countries in response to changing societies, lifestyle health issues and the need to address the cost of health care. In Ireland the Commission of Nursing report A Blue Print for the Future (1998) identified the need to develop clinical career pathways for nurses wishing to stay in clinical practice. In 1999 the National Council for the Professional Development of Nursing and Midwifery (NCNM) was established to support the development of clinical nurse specialist and advanced nurse practitioner roles.

With increasing pressure on breast units in Ireland and the UK to meet the two week waiting time for urgent referrals and the change to shift patterns for surgical trainees through the imposition of the EU working time directive a nurse practitioner may be seen to be in an ideal position to fulfil an advanced clinical care delivery role. However the introduction of an ANP role should not be viewed as physician replacement but more as a complementary addition to the model of care. The nurse practitioner would work autonomously in breast clinics with ready access to a consultant breast surgeon to provide advice and support if necessary. The integration of new role practices into an existing model of care requires the establishment of locally agreed protocols and the identification of a cohort of patients for whom the ANP will provide a full episode of care.

Numerous studies have shown that nurse practitioner care is associated with improved patient satisfaction and the nurse's clinical expertise compared favourably with other clinicians. There are the additional benefits of more available clinic appointments and continuity of care for women through the disease trajectory. These outcomes would be very much in keeping with the research findings of Baum and Denton.

It is essential that breast care nurses continue to expand their role and develop new roles in response to the changing needs of our health care system. The roles of breast care nurse and nurse practitioner complement each other, providing areas of expertise that combine to enhance care for patients.

## 3.4 Patient Experience

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The Symptomatic Breast Service welcomes all feedback from patients regarding their experience when they attend or interact with our service. The 'Your Service Your Say' comment cards are widely available throughout the unit and we have found that this is one of the best ways of engaging with patients and service users.

This feedback keeps us focused on the quality and safety of our service and provides us with the data required for initiating targeted intervention where necessary.

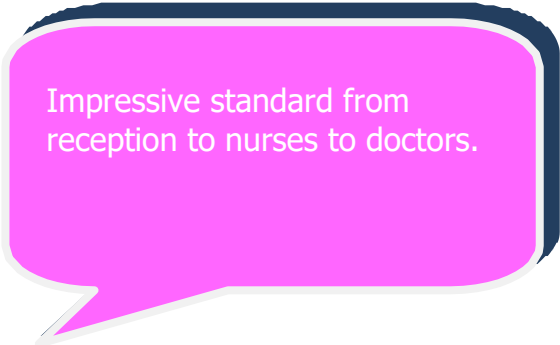
At the Breast Unit all communication from patients/service users are disseminated within the unit through the Symptomatic Breast Unit monthly Operational Group meetings and placed on staff notice boards within the unit for information, discussion and staff appreciation.

In line with Saolta University Health Care Groups policy, all feedback is placed on Q Pulse for review by management group level.

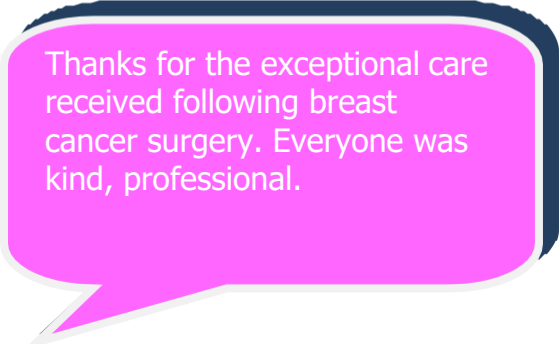
A sample of the type of positive comments received at the Breast Unit in 2015 is outlined below.



Amazing patient journey at the breast unit.



Impressive standard from reception to nurses to doctors.



Thanks for the exceptional care received following breast cancer surgery. Everyone was kind, professional.



breast service a first rate service

# 3.5 Risk Management Decision Making in High Risk Women.

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**Pauline McGough**  
**Clinical Nurse Manager**

## **Background**

As part of the post graduate professional certificate in Breast Care Nursing I decided to explore familial breast cancer and family risk assessment.

This project entailed studying one patient’s journey with particular focus on family history, risk assessment and the factors involved in decision making with regard to risk reducing surgery.

## **Aims and Objectives**

Following the identification of the patient the aims and objective of the project was to discuss risk assessment tools and the implications of genetic testing and risk management options for high risk women.

I also looked at how nurses could support women in their risk management decision making in addition to identifying recommendations for practice in line with the National Cancer Control Programme’s plan for the future.

## **Who do we test and how do we choose?**

Within the Breast Unit at UHG the decision as to who will be selected for genetic testing is largely informed by the Nice Guidelines 2013. In each clinic a summary of these guidelines is available as guidance (see table below). In addition, when obtaining family history it is important to take cognisance of an accurate three generation pedigree both maternal and paternal. The age of onset of breast cancer in the affected family is significant, other relevant considerations are male breast cancers within the family, ovarian cancers and bilateral breast cancers.



## Saolta Breast Service family risk assessment guidelines table

Saolta Breast Service Family Risk Assessment Guidelines		
Low Risk	Medium Risk	High Risk
<p><b>One</b> 1<sup>st</sup> degree relative with breast cancer &gt;40 years</p> <p><b>One</b> 2<sup>nd</sup> degree relative at any age</p>	<p><b>One</b> 1<sup>st</sup> degree relative with breast cancer &lt;40</p> <p><b>Two</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relatives with breast cancer at an average age of &gt;50 years</p> <p><b>Three</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relatives with breast cancer at an average age of &gt;60 years</p>	<p><b>Two</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relatives with breast cancer &lt;50 (one must be 1<sup>st</sup> degree relative)</p> <p><b>Three</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relatives with breast cancer &lt; 60 (one must be 1<sup>st</sup> degree)</p> <p><b>Four</b> relatives with breast cancer at any age (one must be 1<sup>st</sup> degree)</p> <p><b>Ovarian Cancer</b></p> <p>One relative with ovarian cancer at any age <b>Plus</b> on the same side of the family there is:</p> <ul style="list-style-type: none"> <li>• One 1<sup>st</sup> or 2<sup>nd</sup> degree relative with breast cancer before age 50</li> <li>• One additional relative with ovarian cancer at any age</li> <li>• Two 1<sup>st</sup> or 2<sup>nd</sup> degree relative with breast cancer at <b>average</b> age of &lt;60</li> </ul> <p><b>Bilateral Breast Cancer</b></p> <p><b>One</b> 1<sup>st</sup> degree relative with cancer in both breasts before age of 50</p> <p><b>One</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relative with bilateral breast cancer AND one 1<sup>st</sup> or 2<sup>nd</sup> degree with breast cancer &lt;60</p> <p><b>Male Breast Cancer</b></p> <p><b>One</b> male breast cancer at any age <b>Plus</b> on same side of family:</p> <p><b>One</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relative with breast cancer before 50</p> <p><b>Two</b> 1<sup>st</sup> or 2<sup>nd</sup> degree relative with breast cancer before <b>average</b> age of 60</p>
Imaging Required	Imaging Required	Imaging Required
<p>Mammogram if &gt; 35</p> <p>Follow up in primary care</p>	<p>Annual mammography for women between 35 – 49 years. (imaging to commence at age of 5 – 10 years younger than youngest affected relative)</p> <p>Follow up in primary care</p> <p>Women aged between 50 – 69 mammography to take place in National Breast Screening Programme</p>	<p>Annual mammography for women aged between 35 - 49 years (imaging to commence at age 5 – 10 years younger than youngest affected relative).</p> <p><b>BRCA1 &amp; BRCA2</b> mutation carriers (or with equivalent high risk) +/-</p> <p>Annual MRI breast for women aged between 30-49.</p> <p>Annual MRI breast only (no mammography) for women aged between 20 – 49 years with know TP53 mutation (or with equivalent risk of greater than 30% probability)</p>
Lifetime risk	Lifetime risk	Lifetime risk
<p>Lifetime risk of breast cancer is less than 17%</p> <p>A less than 3% risk of developing breast cancer in the next 10 years for women aged 40 - 49</p>	<p>Lifetime risk of breast cancer is 17% or greater but less than 30%</p> <p>A 3 - 8% risk of developing breast cancer in the next 10 years for women aged 40 - 49</p>	<p>Lifetime risk of breast cancer is 30% or greater</p> <p>Risk of faulty BRCA1, BRCA2 or TP53 gene is 20% or greater</p> <p>A greater than 8% risk of developing breast cancer for women aged 40 - 49</p>
Family Category	Significant Factors	

To date, all patients requiring genetic testing are referred to National Centre for Medical Genetics in Crumlin. However, since the introduction of the PARP Inhibitor Olaparib has been approved for women with BRCA mutated ovarian cancers; the potential need for urgent testing locally is being discussed. A recent 2016 study (Percival et al.,) concluded that the integration of genetic testing is increasingly important in cancer care and Clinical Nurse Specialists are well placed to be able to develop this role.

### Risk Assessment Tools.

There are a number of manual and computer risk assessment tools available, a number of which were explored during the course of this project e.g.

- IBIS
- Manchester scoring system (identified patient score 25 – cut off is 15)
- Breast Cancer Risk assessment tool (NSAPB, NCI)
- Gail model
- Claus model
- Tyrer-Cuzick model
- BRACAPRO
- BODICEA
- Fähras

However, in this patient's case our main indicators were her strong family history (mother and aunt) and her age of diagnosis.

## The impact of genetic testing on patients.

The decision to undergo genetic testing needs to be given a great deal of consideration; as the results are life changing; whether the result is positive or negative the psychological implications are significant. When considering the care of this cohort of patients the following impacts should be borne in mind.



## Genetic testing results are life changing

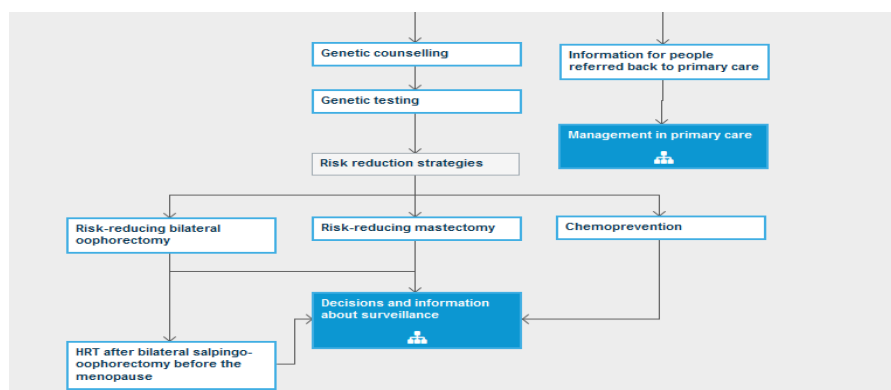
Metcalf (2014)



Following a positive result from genetic testing, the patient then has many other decisions to make with regard to surveillance versus risk reducing surgery.



## Treatment options for high risk patients



NICE Clinical Guidelines 164 (2013)

## Implication for Nursing Practice

Following a literature review some potential areas to be considered in nursing practice going forward were identified:

- Genetic Specialisation family dedicated time
- Ongoing Training and specialisation of nurses
- Education of patients so that they can be given back control e.g. exercise, diet etc
- Use of decision aids
- Awareness of support groups
- Specialist training in Genetic Counselling and Consenting within Oncology Clinics (Percival et.al. 2016).

Nurses are ideally positioned to provide support to this cohort of patients and as such can guide the patient and their family through the decision making process.

## Breast Service at University Hospital Galway, Saolta University Healthcare Group.

Whilst patients are referred to the National Centre for Medical Genetics, the Breast Unit at UHG is fortunate to have access to a Genetic Counsellor who holds clinics in the unit on a monthly basis to discuss patient's results. We have a wonderful team of Consultants and Breast Care Nurses who dedicate hours of their time to supporting patients in their decision making with regard to their options and who continue to provide support following surgery.

## Summary

This is a brief synopsis of some of the issues explored whilst undertaking this project. Genetic testing and risk management of these high risk families is a challenge which we will face more of as research fine tunes our ability to identify genetic mutations. As a team we need to continue to develop and expand our knowledge in this area so we may provide the utmost support needed.

The most significant component of this project involved following one particular patients trajectory of care, details of which I have largely omitted here. I would like to acknowledge the patient's willingness to share her story with me as part of my further education.



(L-R) Ms Patricia Quinn, Ms Ger Glynn and Ms Teresa O'Brien

## **4.1 Research and Academic Activity 2015**

**Professor Michael Kerin**  
**Professor of Surgery**  
**NUI Galway**



The laboratory research group, based in NUI Galway, is primarily funded by Breast Cancer Research. Researchers are fortunate to work closely with the clinical breast cancer team at University Hospital Galway and academic research colleagues at NUI Galway as well as national and international collaborators. Research is also crucial to understanding and treating this disease appropriately.

The Lambe Institute for Translational Research (named after the major philanthropic donors Dr Ronan and Ann Lambe) is the culmination of a decade of work with the Galway University Foundation and helped in no small part by Breast Cancer Research who contributed €1 million to the fund. The Lambe Institute was officially opened by An Taoiseach Enda Kenny in September 2015 and is home to multiple cancer research and medical technology groups. Sited on the campus of University Hospital Galway (the dedicated Cancer Centre for the West and Northwest of Ireland) and co-located with the HRB-Clinical Research Facility, the Lambe Institute is the ideal location to develop our breast cancer research programme.

Our research focuses on the study of circulating microRNAs, the role played by mesenchymal stem cells in tumour targeting, the inheritance of breast cancer risk and breast tissue regeneration. We are one of 6 academic centres in the *Irish Cancer Society's* first Collaborative Cancer Research Centre, BREAST-PREDICT and run a translational research trial in conjunction with ICORG.

In February 2015 several of our research students and academic staff took part in the **NUI Galway Cancer Awareness Event**. This was a collaborative initiative to showcase cancer research throughout the NUI Galway and was organized by the NUI Galway Cancer Society.

***Photo: Research Team 2015***



## 4.2 Research Awards

**Dr Terri McVeigh** (PhD student and SpR in Clinical Genetic) won the ASGBI Short Paper Prize at the 2015 Sylvester O'Halloran Surgical Meeting in March 2015 and won the William Stokes Poster Award at the St Luke's Symposium and Collegiate Members Research Meeting in October 2015.

**Dr James Brown** (Senior Postdoctoral Researcher) was awarded a bursary prize to attend the 2015 European Association for Cancer Research Meeting for his research, presented at the Irish Association for Cancer Research (IACR) annual conference in Limerick, in February 2015. The paper was entitled: "*Rational design and validation of a TIP60 histone acetyltransferase inhibitor for the treatment of breast cancer subtypes*"

**Dr Doireann Joyce** and **Dr Maire Caitlin Casey** (Pictured front row 1st and 2<sup>nd</sup> from left), two of our PhD researchers, were awarded scholarships to attend the "Molecular Prevention Course" at the National Cancer Institute, Washington DC, in August 2015.



Fourteen undergraduate medical students undertook research in our lab during the summer of 2015. John Bourke, a 4<sup>th</sup> year student, worked with Dr Doireann Joyce and Dr Roisin Dwyer and went on to win the poster prize at the 2<sup>nd</sup> Annual Atlantic Corridor Research Conference at the University of Limerick in October 2015. This conference brings together undergraduate research students from UL, UCC and NUI Galway.



**Photo: John Bourke is pictured 3<sup>rd</sup> from right with Dr Roisin Dwyer, 2<sup>nd</sup> from right at the UL Medical School**

## Research Publications

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12. Khan S, Wall D, Curran C, Newell J, Kerin MJ. MicroRNA-10a is reduced in breast cancer and regulated in part through retinoic acid. *BMC Cancer*. 2015 May 2;15(1):345. doi: 10.1186/s12885-015-1374-y. PubMed PMID: 25934412; PubMed Central PMCID: PMC4425901.
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## 4.2. Invited Lectures/Presentations

### Professor Michael Kerin

- NUI Galway Cancer Event "Breast cancer-How translational research has influenced treatment"  
NUI Galway, February 2015
- Evolve Biomed 2015 "Innovation in Breast Cancer Therapeutics"  
Dublin, April 2015
- Irish Surgical Discussion Group "Clinical Management of Breast Cancer: Impact of research and innovation"  
Cork, April 2015
- Irish Association of Plastic Surgery "Research in Academic Surgery"  
Galway, May 2015
- ABS Conference & AGM "The role of surgery in the personalised treatment of breast cancer"  
Bournemouth, UK, June 2015
- Bio-Behavioural Perspectives on Cancer International Seminar "Opening Address – Psychooncology"  
NUI Galway, September 2015
- Launch Saolta Cancer Centre Annual Report 2014  
Mayo University Hospital Medical Academy, December 2015

## 4.3. Conferences

39<sup>th</sup> Sir Peter Freyer Surgical Symposium & Memorial Lecture  
NUI Galway, Ireland, 4-5th September 2015

Conveners - Professor Michael Kerin & Professor Oliver McAnena

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The Symptomatic Breast Multidisciplinary Teams across the Saolta University Health Care Group

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# Notes







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