









### Introduction To The <u>National Audit of Breast</u> <u>Cancer in Older Patients (NABCOP)</u>

#### Mammary Fold Webinar Tuesday 19<sup>th</sup> October 2021

**Professor David Dodwell** NABCOP Oncology Clinical lead Consultant Oncologist, Nuffield Department of Population Health, Oxford

#### Professor Kieran Horgan

NABCOP Surgical Clinical lead Consultant Breast Surgeon, St James's University Hospital, Leeds

#### Dr Katie Miller

NABCOP Clinical Research Fellow Specialist Registrar in General Surgery, East of England

On behalf of the NABCOP Project Team









#### Webinar overview

Breast cancer in older patients

Nationally collected data The NABCOP – origins, achievements & implications for trainees

Tackling treatment variation in early breast cancer











### A brief overview – diagnosis and decisionmaking in older patients with breast cancer

**Dr Katie Miller** 





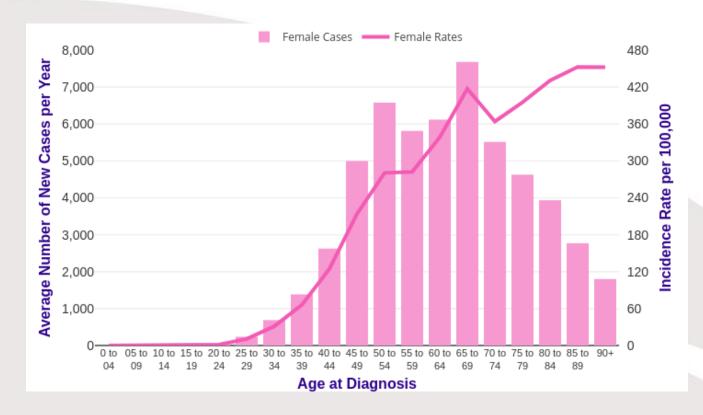






#### Breast cancer incidence increases with age

- Around 24% new diagnoses are among those aged 75+ years
- Highest incidence rates are in 85 – 89 age group





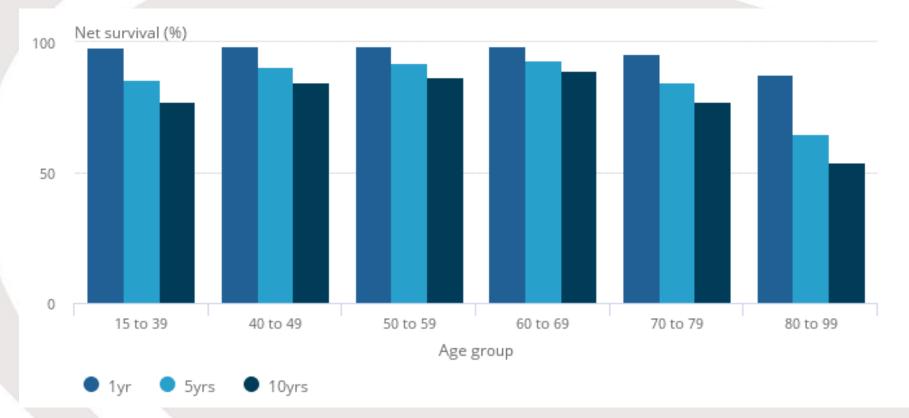




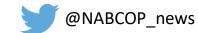


#### **Outcomes among older patients**

Figure: Age-standardised 1-year, 5-year and 10-year predicted net survival (%) for women with breast cancer in England





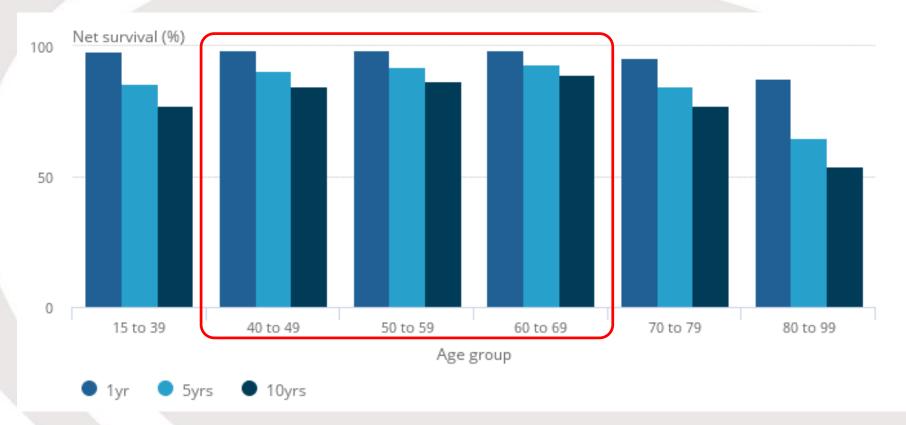






#### **Outcomes among older patients**

Figure: Age-standardised 1-year, 5-year and 10-year predicted net survival (%) for women with breast cancer in England











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#### **Outcomes among older patients**

 Derks et al. (2018) analysed treatment patterns and survival in patients aged ≥70 in European countries:

Country	5-yr Relative Survival	95% CI
Belgium	97.3	96.2 - 98.1
Ireland	99.4	89.0 - 100.0
The Netherlands	96.0	95.5 – 96.5
England	93.4	93.1 – 93.7

Source: Derks MGM, Bastiaannet E, Kiderlen M, et al.; EURECCA Breast Cancer Group. Variation in treatment and survival of older patients with non-metastatic breast cancer in five European countries: a population-based cohort study from the EURECCA Breast Cancer Group. Br J Cancer. 2018 Jul;119(1):121-129.





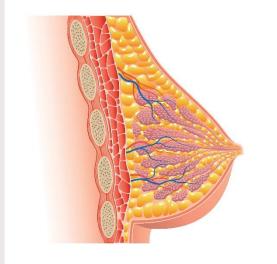






#### **Breast cancer among older patients**

- Larger tumour size
- More advanced stage:
  - Women 75-79 yrs are 46% more likely to be diagnosed with stage 3/4 BC compared with women 65-69 yrs







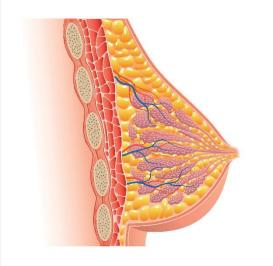






#### Breast cancer among older patients

- Larger tumour size
- More advanced stage:
  - Women 75-79 yrs are 46% more likely to be diagnosed with stage 3/4 BC compared with women 65-69 yrs
- NABCOP data older patients (>70 years) may have similar grade and molecular markers compared to women aged 50 – 69 years



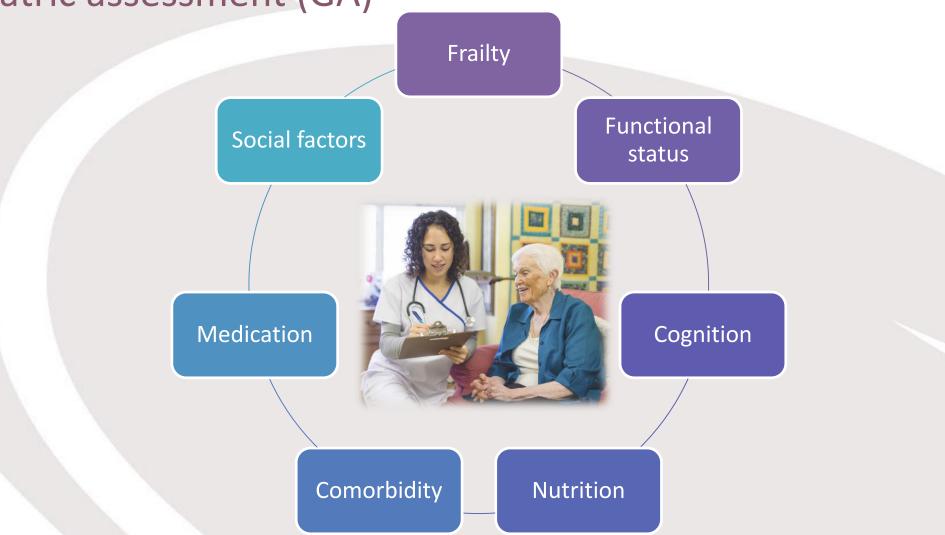








#### Geriatric assessment (GA)











#### **Clinical guidelines**

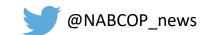
International Society of Geriatric Oncology (SIOG)

"Nonetheless, **functional age** (i.e. not chronological age) and **potential underlying frailty** should contribute to decision making about treatment." National Institute for Health and Care Excellence (NICE)

"Treat people with invasive breast cancer, **irrespective of age**, with surgery and appropriate systemic therapy...unless significant comorbidity precludes surgery." European Society for Medical Oncology (EMSO)

"Younger' patients should not be overtreated because they are 'young', just as 'older' patients should not be undertreated solely based on their calendar age."









#### The balance between under and over treatment

*Tang et al.* reviewed post-operative mortality rates among women who received breast surgery who lived in a nursing home:

- 30-day mortality 3.2%
- 1-yr mortality 30.9% (among those alive at 1yr)
- **58.3%** experienced functional decline at 1-yr





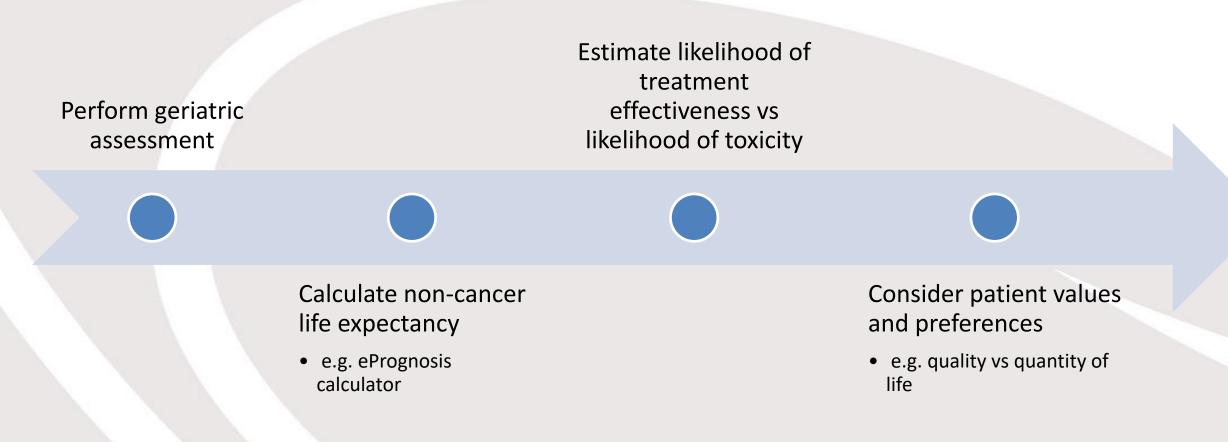








#### Principles of decision-making among older oncology patients













# Nationally collected data – strengths and limitations

#### David Dodwell





#### **National Data Sources**

- Cancer Outcomes and Services Dataset (COSD)
- Hospital Episode Statistics (In-patient, out-patient and A&E) e.g. surgery, co-morbidity, routes to diagnosis, etc.)
- Treatments SACT, RTDS
- Cancer Waiting Times
- National Audits (Prostate, lung and new breast audit fully integrated with NCRAS)
- Primary care prescription data
- Diagnostic Imaging Dataset
- Molecular Diagnostics (direct from molecular biology labs)
- National Cancer Patient Experience Survey
- Limited PROMs data











#### **NABCOP** data sources

#### Patients diagnosed in England

National cancer registration dataset

**Rapid Cancer Registration Dataset** 

The Cancer Outcomes and Service Dataset (COSD)

Hospital Episode Statistics dataset (HES)

Systemic Anti-Cancer Therapy dataset (SACT)

National Radiotherapy Dataset (RTDS)

Office for National Statistics (ONS) mortality data

#### Patients diagnosed in Wales

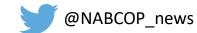
Data Analysis Wizard (DAW) extract and Welsh Breast Cancer Clinical Audit (WBCCA) extract from the Canisc patient record system;

Patient Episode Database for Wales (PEDW)

Welsh radiotherapy dataset

Office for National Statistics (ONS) mortality data











# The NABCOP – origins, achievements, and implications for trainees

Professor Kieran Horgan Dr Katie Miller









#### Setting and upholding standards

- ABS instrumental in setting of standards for management of breast cancer in the UK
- Standards will only fulfil their potential to optimise care if attainment is measured







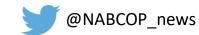




#### Origins of the NABCOP

- National audits
  - Initial submission by ABS 2011 other tumour sites deemed to require scrutiny more urgently
  - Resubmitted in 2014 to HQIP (Healthcare Quality Improvement Partnership) to claim final national audit slot of 11 across medicine
  - Initial proposal to audit all breast cancer
  - Large 'Noah's Ark' open review panel of the submission "too broad" & "should be more far reaching"











#### Origins of the NABCOP

- 2014
  - All interested parties canvassed to identify the area of UK breast cancer care where it was judged to be suboptimal, and if rectified offered the largest benefit for the greatest number of patients
  - Care of the older patients was the most frequent response by a wide margin











#### Origins of the NABCOP

- Who is "old"?
- Audit designed to study patients aged **70+ years**...

...but agreed to include women **50-69 years** as a comparator group thereby auditing >70% of all patients with breast cancer in England/Wales

- Joint collaboration between ABS and Clinical Effectiveness Unit of RCSEng (home to multiple national audits)
- What does good care look like?
- Work with pre-exciting national datasets no extra demand on units
- Multi-professional Clinical Steering Group first met 28<sup>th</sup> September 2016













#### **Key achievements & findings**



Quality improvement resources

Pilot projects

Key findings



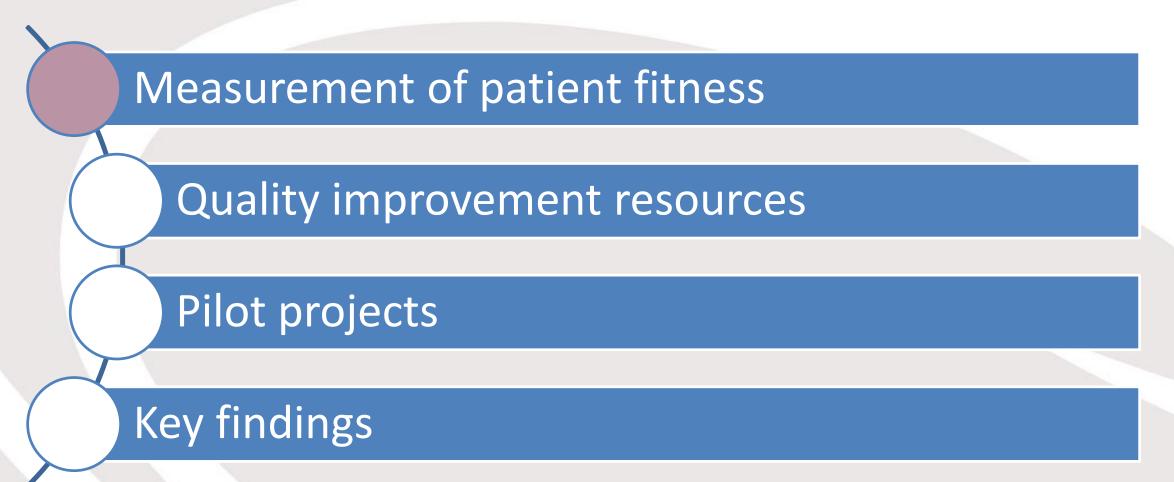








#### **Key achievements & findings**











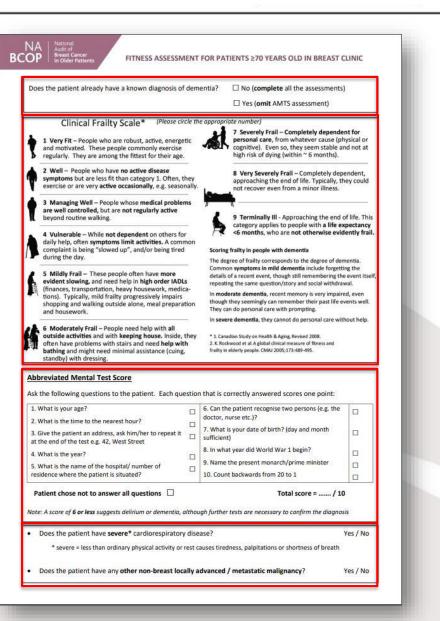
Improvement Partnership



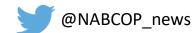
Patient fitness

NABCOP fitness assessment form

- COSD Version 9
  - Breast cancer specific items on patient fitness
  - Enable patient-level frailty information to be collected on women aged 50+ yrs











#### Patient fitness

• Secondary Care Administrative Records Frailty (SCARF) index

#### Open access

#### **Original research**

**BMJ Open** Construction of the secondary care administrative records frailty (SCARF) index and validation on older women with operable invasive breast cancer in England and Wales: a cohort study

Yasmin Jauhari <sup>(i)</sup>, <sup>1</sup> Melissa Ruth Gannon, <sup>1,2</sup> David Dodwell, <sup>3</sup> Kieran Horgan, <sup>4</sup> Karen Clements, <sup>5</sup> Jibby Medina, <sup>1</sup> Carmen Tsang, <sup>2,6</sup> Thompson Robinson, <sup>7</sup> Sarah Shuk-Kay Tang, <sup>8</sup> Ruth Pettengell, <sup>8</sup> David A Cromwell<sup>1,2</sup>



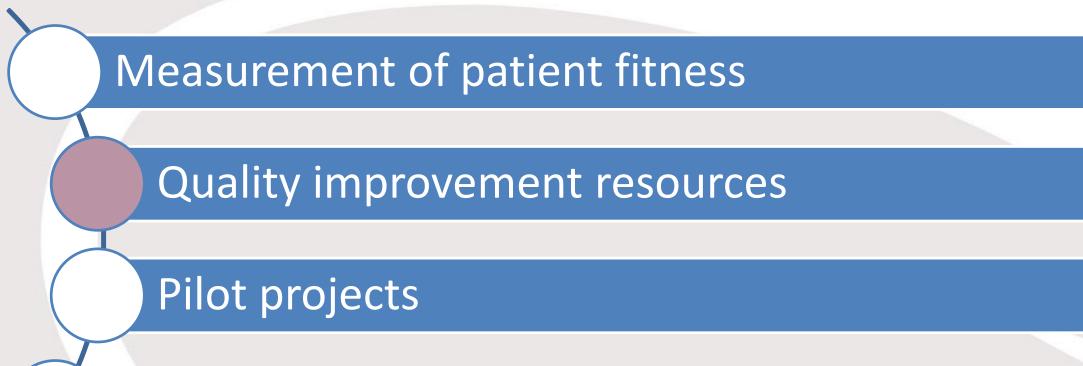








#### **Key achievements & findings**



Key findings











#### **Quality improvement resources**

- Annual Report Supplementary materials
  - Data viewer
  - Local action plan
- Guide for older patients with BC
- Patient level dataset
  - Key data items

	uide to asking importa articular relevance to v				
of younger patients. • The National Audit of consistent with recon • If you are a woman ap	nd that the treatment older pati Breast Cancer in Older Patients Inmended practice and to identifi ged 70e diagnosed with breast c al nurse specialist (CNS) to talk	NABCOP) was set up to where there are different ancer, we hope this guid	ВСС	A National Audit of Cancer in Older Patients	Royal College of Surgeons of England
The picture to the rightshows the sequence of steps in a typical breast cancer pathway, from diagnosisto treatment, in English and Welsh hospitals. Over the page you will find information	MDT meeting To discuss twatment options Performance with throw per gene with the beadweetd) with obed and guitter if and ther reeds.	Bragnosis of     Breast cancer tre     Bragy scale     Arry so accord to the second of the seco	<b>₹</b> -	Diagnosis of breast cancer When your breast cancer was diagnosed, you will have had a breast examination, imaging of your breasts, and a tissue sample or biopsy'taken. The results from these investigations will be reviewed in a multidisciplinary team (MOT) meeting where specialists will discuss what treatments are available to treat your specific breast cancer.	Classitions to ask your breast care team: • What size is my breast cancer, according to my test result + His my concern spread e.g. to the armpit nodes? • How is my general health & fitness for treatment assess • Is surgery an option for my breast cancer? The items below should be recorded boot; your breast cancer • IABLOP found these are less likely to be recorded in older wor ABLOP on these are less likely to be recorded in older wor ABLOP on these are less likely to be recorded in older wor • As your breast cancer team if these have been recorded for your • Estoge(approgrestrom recorder status • Model stage (spread to armpit lymphnodes) • Tumour grade • Tumour size
on each of these steps in the pathway along with some prompts for questions you may find useful to ask as a woman aged 70+.		Follow-up     Follow-up     Follow-up     Follow-up     can be in the     of regular mammagain     cines wilds for borb, to     use spoular will after     fineting your treatment	8-	Supporting you through treatment (& decision making) Your breast care team are there to help and supporty ou through your digaosis and treatment. The questions to the right may help you to work through any concerns you may have before or during treatment.	Mountions to out your levent one from:     How will treatment affect my day to day activities?     Are there any clinicalitrials/which i could consider?     What support is available for me if I am a care for others     Who can it tak for he joy with my mental health?     Is there any financial support available for me?
	Please new. Do particup two two monopolities for New advocation motivery plan will be write down any thoughts, or quest	tions you might have, a	<u>-</u> -	Surgery This will involve an operation to the breast and possibly to the axilia (armpit). The NABCOP has found that fewer older women have surgery for breast cancer compared with younger women, and so it is important to ask your breast surgical treatment. If surgery is not an option, you may be offered hormonal (endocrine) therary as an alternative.	Questions to ask your breast surgeon:           + How can i prepare myself physically & mentally for surge wastectomy?           > What are the proofs cons of having a lumpectomy over a mastectomy?           > is breast reconstruction an option for me?           + How does recovery from this surgery compare to joint replacement surgery?           > What are the risks of needing another operation?
			<b>1</b>	(Neo) Adjuvant therapy Adjuvant therapies are additional treatments you may be offered for breast cancer. Some might be offeced before your surgery and are called neoadjuvant therapy'. You should discussivity your breast cancer team if this is an option for you.	Cuestions to ask your breast ancologist: • What therapy is bestfor my breast cancer? • Am is a candidate for chemotherapy, radiotherapy or any other treatments? • Will the treatment be in the form of tablets, injections or • When will mytherapy start and how long will it last? • What are the side effects of the therapy? • How will know if the treatment is working?
his guide has bee ollaboration with		BREAST CANCER NOW Juny	-	Follow-up Your breast unit will organise appropriate follow-up for you. This may be clinic appointments, telephone consultations or an open access service. The type of follow-up appointments and how often they are organised will depend on your hospital and what treatment(s) you received. Women aged 71 and over canstillask for	Questions to ask your breast care feam: • How often will you see me to check I'm ok? • Where can I find support on adapting to life after breast cancer? • What are the signs i should look out for of my breast can returning? • Find out more

 If you would like to know more about the NABCOP or for links to general information about breast cancer, please visit our FAQs page: https://www.nabco.org.w/about/fao/public/

Information<sup>4</sup>, The COPD-19 and the two standing the two standing to the two standing

follow-up mammograms - if this applies to

you, ask your breast unit or GP for more



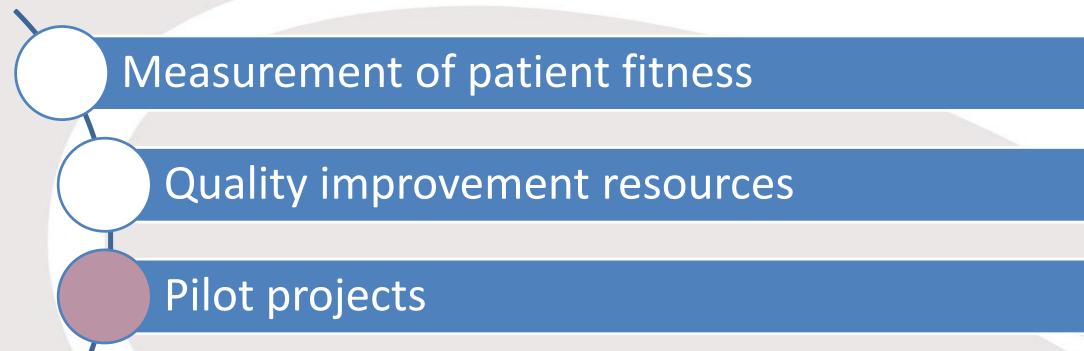








#### **Key achievements & findings**



Key findings



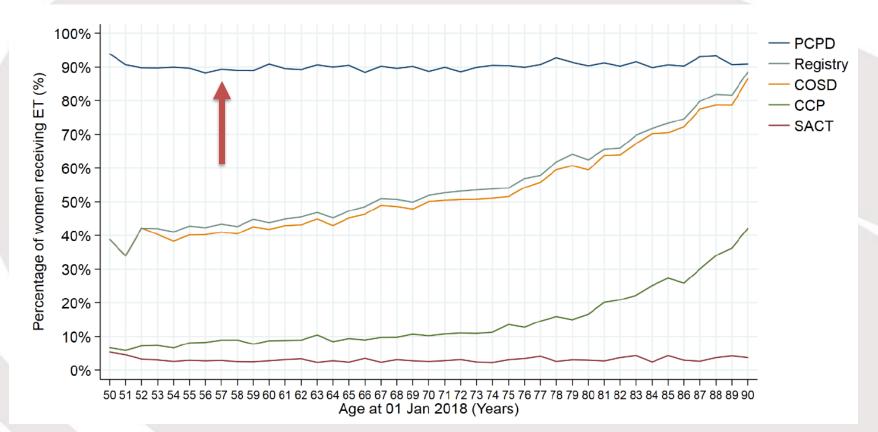






#### Pilot projects – Endocrine therapy prescriptions

## Figure: Use of ET identified within PCPD (2018) prescriptions compared with routine secondary care sources, by age



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#### **Key achievements & findings**



Quality improvement resources

Pilot projects

Key findings



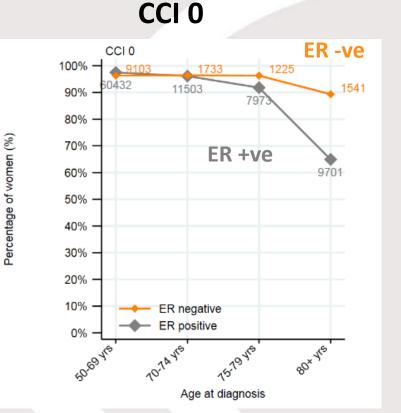








### Impact of fitness on likelihood of receiving surgery for EIBC, by age and ER status



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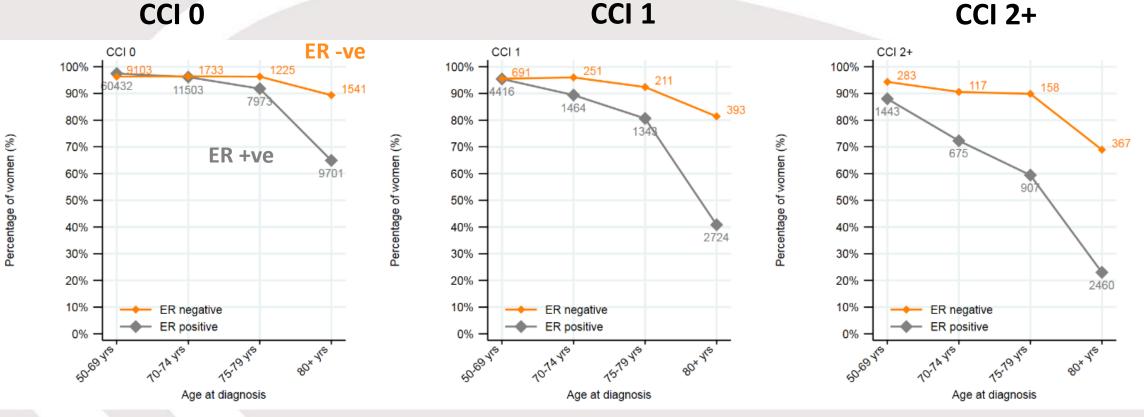








### Impact of fitness on likelihood of receiving surgery for EIBC, by age and ER status













#### Number of women diagnosed with breast cancer in England, by year of diagnosis and age



Source: National Audit of Breast Cancer in Older Patients (NABCOP) 2021 Annual Report, Chapter 3 Figure 3.3.











## Radiotherapy (RT) dose among women starting RT for operable non-invasive or early invasive BC, by start date of RT





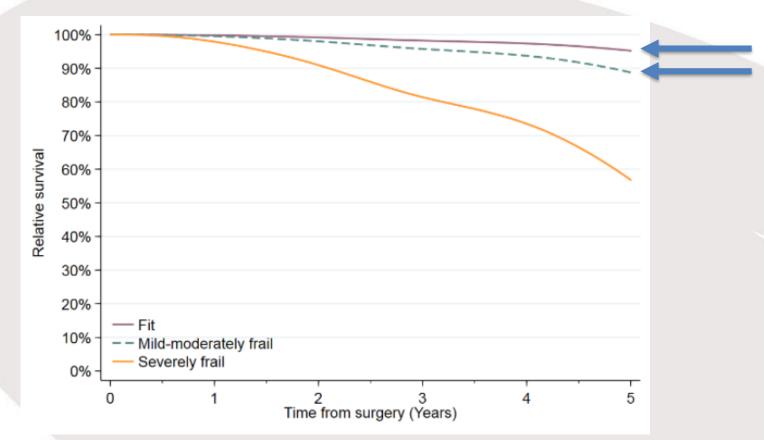






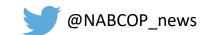


## Relative survival of women diagnosed with early invasive breast cancer who received surgery, by SCARF (frailty) index



Source: National Audit of Breast Cancer in Older Patients (NABCOP) 2021 Annual Report, Chapter 5 Figure 5.6.



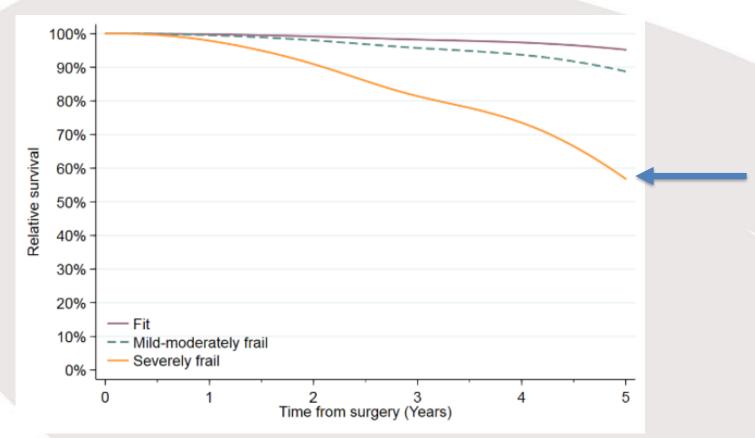








## Relative survival of women diagnosed with early invasive breast cancer who received surgery, by SCARF (frailty) index













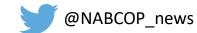
#### The NABCOP – implications for trainees

How are NABCOP products useful for trainees?

• Initial part of the QI process (data collection) has been performed

• Help to fulfil curriculum requirement to perform one audit/QI project per year









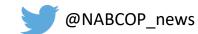


## NABCOP QI resources – data viewer Organisation data viewer

#### https://www.nabcop.org.uk/resources/nabcop-2021-annual-report-supplementary-materials/

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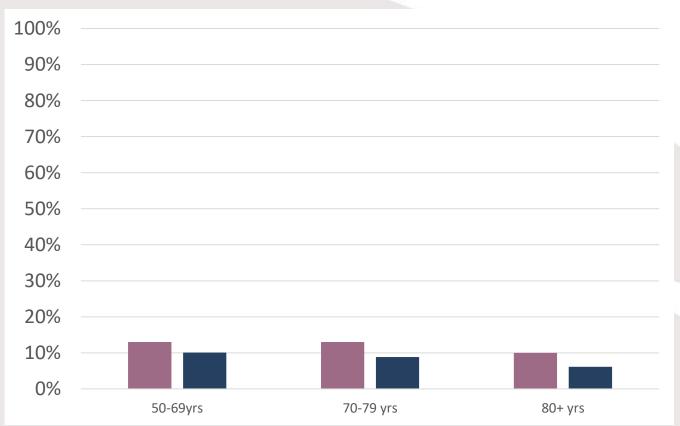


#### NABCOP QI resources – data viewer

#### **Resources on minimising reoperation rates:**

- Getting It Right First Time (GIRFT) Report
- American Society of Breast Surgeons
   'Toolbox' to Reduce Lumpectomy Reoperations

#### **Re-operation rates for women with EIBC**













## NABCOP QI resources – action plan Local action plan

https://www.nabcop.org.uk/resources/nabcop-2021-annual-report-supplementary-materials/

The provider shoul	d complete the following details to allow for ease of review:				
Audit title & aim:	The National Audit of Breast Cancer in Older Patients (NABCOP).				
	Evaluates the processes of care and outcomes for women aged 70+ years with a diagnosis of breast cancer, compared with those among women diagnosed with breast cancer aged 50-69 years.				
NHS organisation:					
Audit lead:					
Action plan lead:					

Note: Organisation-level data relating to each recommendation listed below can be found in the 'NABCOP Annual Report 2021 NHS Organisation Data Viewer' here: https://www.nabcop.org.uk/resources/nabcop-2021-annual-report-supplementary-materials

Key 1 (for the action status)	Key 2 (for the action priority)
1: Awaiting plan of action	HIGH: requires urgent action, and local audit
2: Action in progress	MEDIUM: requires prompt action, and consider local au
3: Action fully implemented	LOW: requires no immediate action or local audit
4: No plan to action recommendations (state reasons)	
5: Other (provide information)	

	Recommendation		Action activities			
	(Guidance available – Full detail on final				Status	Priority
	page)	Action required?	Responsible	Agreed	(see	(see
No.	[Related report section]	(Yes/No; state intended action OR reason for no action)	individual(s)	deadline	Key 1)	Key 2)
Rec 1	Recording of routine data items	Suggested actions:				
	Ensure information on endocrine therapy treatment started in secondary care is recorded within routine data submissions to NCRAS (COSD) and WCN databases. [Chapter 4]	Review the data completeness of this information for your organisation. NHS trusts in England can access CancerStats <sup>1</sup> to see their data uploads in real time.				

<sup>1</sup> https://www.nabcop.org.uk/resources/cancerstats-area











#### **Additional QI resources**

- NABCOP website
- Royal College of Surgeons of England QI guides:
  - Quality Improvement in Surgery Basic Principles
  - A Trainees Guide to a Quality Improvement Project
- Healthcare Quality Improvement Partnership
  - E-learning: QI for healthcare professionals













#### We want to hear from you!

- We welcome suggestions on what trainee specific QI products we could offer
- To stay updated with the latest NABCOP news:

www.nabcop.org.uk
nabcop@rcseng.ac.uk
@NABCOP\_news











## Tackling treatment variation in early breast

cancer

#### **Professor David Dodwell**







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#### **Breast cancer national audits**

Year	Provenance	Name	Focus
<2000	Audit	NHSBSP/ABS	Screen-detected cancer
2002	Audit	Sloane	Screen-detected DCIS
2004	Audit	BCCOM	Symptomatic cancer
2008	Audit	Mx. & Reconstruction	Reconstructive surgery
2012	Audit	Sloane	<b>Risk lesions and atypia</b>
2014	Audit	iBRA/ iBRA2	Reconstructive surgery
2016	Audit	NABCOP	Older patients
2017	Commissioning	GIRFT	Breast surgery





#### Mastectomy rate variability

In the BCCOM audit (2007) mastectomy rates varied from 36% to 53% at regional level, and between 19% and 92% at the level of individual surgeon.







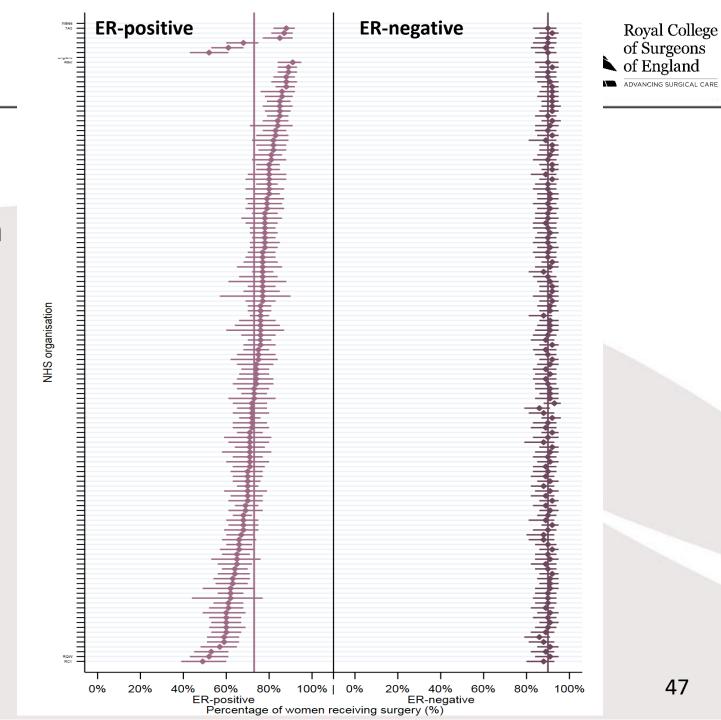
Increasing National Mastectomy Rates for the Treatment of Early Stage Breast Cancer

- SEER data 2000-2018 256000 women:
  - Age, race, marital status, geographic location, involvement of multiple regions of the breast, lobular histology, increasing T stage, lymph node positivity, increasing grade, and negative hormone receptor status were independent predictors of mastectomy



National Audit of Breast Cancer in Older Patients

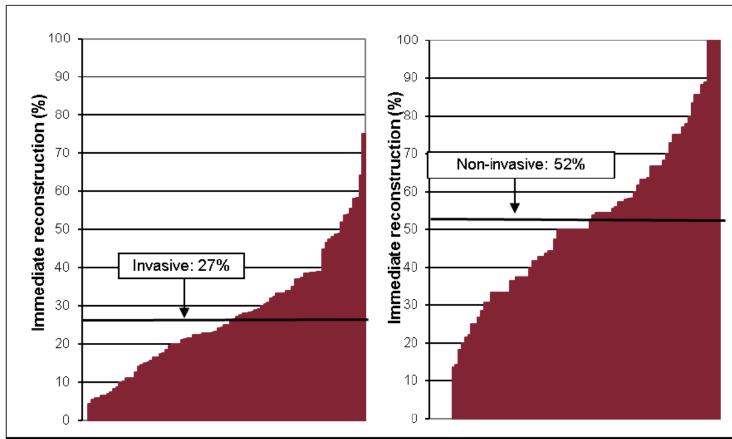
Risk-adjusted % of women aged 70+ years receiving surgery, by diagnosing NHS organisation and ER status →







# Rate of mastectomies with immediate reconstruction by invasive status NHSBSP/ABS audit 15/16











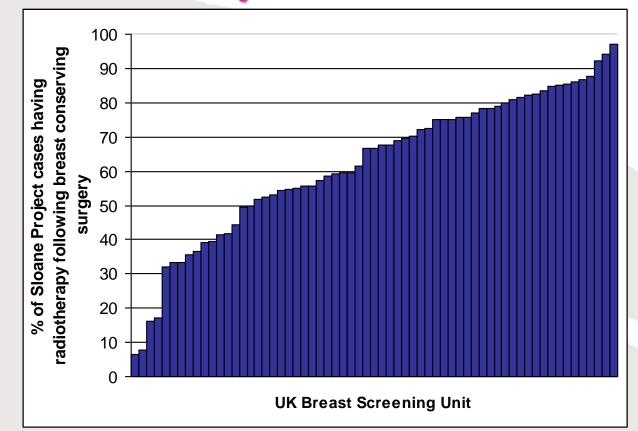
Royal College of Surgeons of England

## Radiotherapy (DCIS)



 Radiotherapy: % receiving radiotherapy after breast conserving surgery

62% BCS + RT









THE LANCET

#### Influence of clinician workload and patterns of treatment on survival from breast cancer

Year of diagnosis	Caseload (	Total			
	<10	10–29	30-49	≥50	
1979-80	219 (9)	1215 (50)	290 (12)	700 (29)	2424 (19)
1981-82	213 (8)	1252 (50)	335 (13)	715 (28)	2515 (20)
1983-84	233 (9)	1215 (48)	354 (14)	708 (28)	2510 (20)
1985-86	249 (10)	1127 (43)	430 (17)	794 (31)	2600 (20)
198788	337 (12)	1017 (36)	548 (19)	910 (32)	2812 (22)

Table 3: Number (%) of patients in each caseload category for each period







Royal College of Surgeons of England

However, a clear relation was established between caseload and survival with a threshold for better outcome of 30 new patients per year.





## Surgeon and Breast Unit Volume-Outcome Relationships in Breast Cancer Surgery and Treatment

Ailbhe M. McDermott, MD,\* Deirdre M. Wall, BSc,\* Peadar S. Waters, MD,\* Shan Cheung, MPhil,† Mark Sibbering, FRCS,‡ Kieran Horgan, MCh,§ Olive Kearins, MCh,† Gill Lawrence, MD,† Julietta Patnick, FFPH,¶ Michael J. Kerin, MD,\* and on behalf of The ABS Audit Committee

This study demonstrates that surgeon caseload is associated with differences in the index KPIs; surgical procedure of choice; sentinel node biopsy; and the administration of hormonal therapy, adjuvant chemotherapy and radiotherapy.





#### Evidence is mixed

Effect of surgeon's caseload on the quality of surgery and breast cancer recurrence

Päivi Peltoniemi<sup>a,\*</sup>, Heini Huhtala<sup>b</sup>, Kaija Holli<sup>c</sup>, Liisa Pylkkänen<sup>a,c</sup>

<sup>a</sup> Department of Palliative Medicine, Tampere University Hospital and Medical School, University of Tampere, 33014 Tampere, Finland
<sup>b</sup> School of Health Sciences, University of Tampere, Finland
<sup>c</sup> Department of Oncology, University of Turku, Finland

Even though there were no significant differences in the rate of local recurrences during this follow-up, quality of axillary surgery and the choice of surgical modality of the primary tumour should not depend on who the patient is treated by.





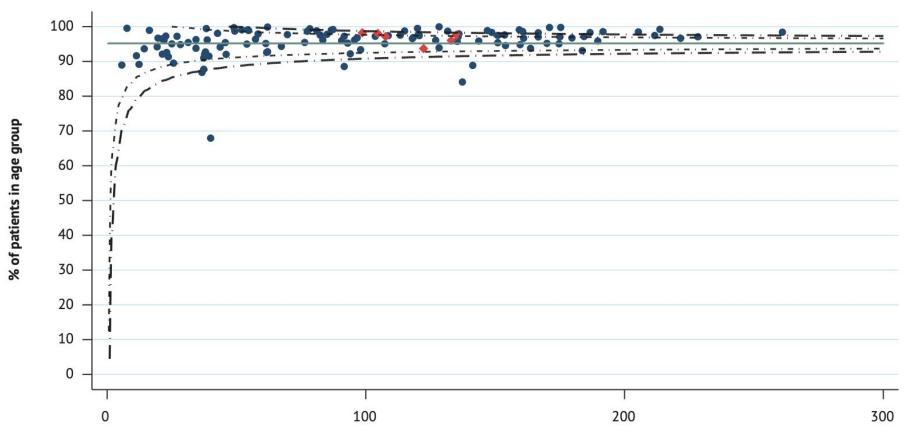
## From NHSBSP audit 17/18

 323 surgeons had an average annual caseload of less than 10 screen detected cancers





Figure 7.5: Funnel plot of adjusted rate of sentinel node biopsy in women aged 50–69 who had surgery for pathologically negative nodes in early invasive breast cancer, by diagnosing NHS trust and local health board



Number of patients per year

55









## No shortage of guidelines!

Early and locally advanced breast cancer: diagnosis and management



Estimating the benefits of therapy for early-stage breast cancer: the St. Gallen International Consensus Guidelines for the primary therapy of early breast cancer 2019

NICE guideline Published: 18 July 2018 www.nice.org.uk/guidance/ng101

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®)

#### **Breast Cancer**

Version 6.2020 — September 8, 2020

Early breast cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up<sup>†</sup>





#### SIGN 134 • Treatment of primary breast cancer

A national clinical guideline

#### **ASCO Special Articles**

Postmastectomy Radiotherapy: An American Society of Clinical Oncology, American Society for Radiation Oncology, and Society of Surgical Oncology Focused Guideline Update







#### **Treatment variation - common responses**

- The data are wrong!
- Its patient choice!
- Tell me what good care looks like
- Its all down to case mix!
- Why does it matter?





## **Further observations**

- Evidence into practice and treatment variation are difficult
- Causality is hard to prove
- Case volume relationships particularly so
- Deprivation = higher breast mortality
- But cancer datasets are improving
- Scrutiny of practice will increase
- Identifying benefits in RCTs is not enough
- More prescriptive national guidelines??











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# Thank-you

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