

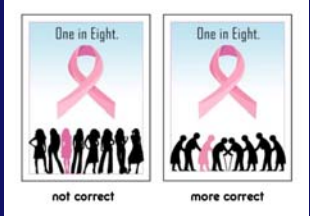
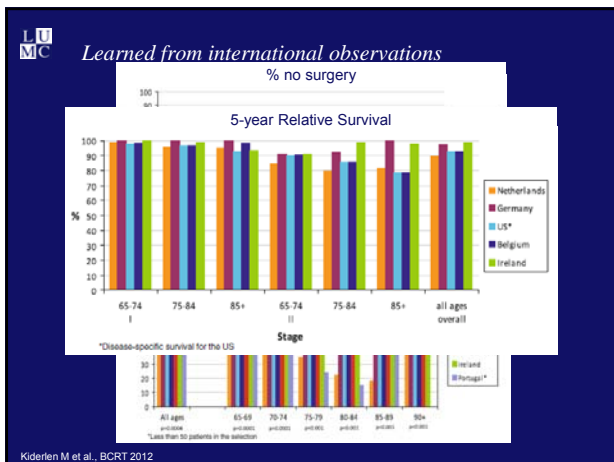
  
 LEIDS UNIVERSITAIR MEDISCH CENTRUM  
*Impact of differences in treatment strategy on relative survival of elderly patients with operable, hormone receptor positive breast cancer*  
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 *Breast cancer in elderly*

- 40% of all new cases among women > 65 years
- Minimally included in trials
- Strong selection bias
- In short: no EBM



Wildiers et al. SIOG recommendations Lancet 2007;  
<http://www.worldwidebreastcancer.com/learn/breast-cancer-statistics-worldwide/>



 *Aim*

1. To compare locoregional and endocrine treatment approach of elderly breast cancer patients between NL and IRL
2. To assess impact of treatment differences on estimated cancer-specific survival


 *Comparing The Netherlands and Ireland*

Leiden, The Netherlands



Cork, Ireland



 *Methods*

- Instrumental variable
  - Pseudo-randomization
  - No confounding by indication
- Comparing treatment strategy
  - Guideline-recommended locoregional therapy
    - Surgery (breast and axillary)
    - Radiotherapy
  - Endocrine therapy
- Comparing relative survival
  - Observed/Expected survival

**Methods**

- Inclusion:
  - All consecutive female breast cancer patients diagnosed between 2005-2009
  - Age ≥ 75 years
  - Estrogen and/or progesterone receptors positive
  - Operable (non-metastasized) breast cancer (stage I to III)

**Results – patient characteristics**

	The Netherlands		Ireland		
Mean age (years)	82.2	81.6			p <0.001
Median age (years)	82.0	80.7			
	N	%	N	%	p
Age					<0.001
75-80	2894	33.4	532	43.9	
80-85	3055	35.3	415	34.2	
85-90	1936	22.4	195	16.1	
90+	770	8.9	70	5.8	
Stage*					0.025
I	2755	31.8	345	28.5	
II	4517	52.2	646	53.3	
III	1583	16	221	18.2	
Grade					<0.001
1	1638	18.9	133	11.0	
2	3410	39.4	726	59.9	
3	1415	16.3	253	20.6	
missing	2192	25.3	100	8.3	
Morphology					0.003
Ductal	5547	64.1	806	66.5	
Lobular	1313	15.2	204	16.8	
Other/unknown	1795	20.7	202	16.7	
Total	8655	100	1215	100	

\*CT is used when pT was missing, cN is used when pN was missing cNX is considered as N0, mX is considered as M0

**Results – locoregional treatment**

Stage	Treatment	Multivariate OR (95% CI)
I	NL	0.10 (0.07-0.13)
	IRL	0.13 (0.10-0.16)
II	NL	0.07 (0.05-0.11)
	IRL	0.07 (0.05-0.11)
III	NL	0.07 (0.05-0.11)
	IRL	0.07 (0.05-0.11)

- OR's for IRL vs. NL.
- Adjusted for age, tumor grade and morphology

**Results - endocrine therapy**

Stage	Treatment	Multivariate OR (95% CI)
I	NL	27.76 (18.6-41.41)
	IRL	2.48 (1.80-3.42)
II	NL	1.14 (0.68-1.92)
	IRL	1.14 (0.68-1.92)
III	NL	1.14 (0.68-1.92)
	IRL	1.14 (0.68-1.92)

- OR's for IRL vs. NL.
- Adjusted for age, tumor grade and morphology


**Results – local + endocrine therapy**

Stage	Treatment	Multivariate OR (95% CI)
I	NL	2.97 (2.26-3.90)
	IRL	0.39 (0.32-0.47)
II	NL	0.39 (0.32-0.47)
	IRL	0.13 (0.09-0.19)
III	NL	0.13 (0.09-0.19)
	IRL	0.13 (0.09-0.19)


- OR's for IRL vs. NL.
- Adjusted for age, tumor grade and morphology

**Results – 5 year Relative Survival**


Stage	Treatment	Univariate RER (95% CI)	p-value
I	NL	N/A	p=0.999
	IRL	1.25 (0.57-2.74)	p=0.578
II	NL	1.34 (0.79-2.29)	p=0.282
	IRL	1.34 (0.79-2.29)	p=0.282
III	NL	1.34 (0.79-2.29)	p=0.282
	IRL	1.34 (0.79-2.29)	p=0.282

 *Conclusion*

- Large differences in treatment approach
  - Stage-specific
- No differences in relative survival!


 *Discussion*


- Possible explanations:
  - In elderly: no effect of type of treatment on outcome?
  - Specific treatment effects?
    - Surgery
    - Radiotherapy
    - Endocrine therapy

 *Discussion*


- Difference in healthcare system: private and public hospitals in Ireland
  - In NL, differences in treatment and survival between different socio-economic status (SES)\*
  - Treatment and survival also associated with SES in IRL\*\*
- Screening program
  - Ends at age 75 in NL, in IRL up to age 65
  - Explanation for higher staged patients in IRL?
- The role of chemotherapy
  - Small amounts, subject for future research.

\*M. Aarfs et al, BJC 2012. E. Bastiaannet et al, BCRT 2011. \*\*P.M. Walsh et al. (in prep)

 *Future*



- Focus on patient characteristics (i.e. comorbidity and medication)
- Large comparative cohort studies in elderly
  - Use of country as instrumental variable instead of randomized treatment trials



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