



Public Health
England



UNIVERSITY OF LEEDS



UNIVERSITY OF
OXFORD

ncras
National Cancer Registration and Analysis Service

The potential of the Primary Care Prescription Database to verify Hormonal Therapy use in Breast Cancer

Horgan K, Emanuel G, Henson K E, Broggio J, Lumley E, Charman J, Dodwell D, Darby S C

University of Leeds & Oxford, NCRAS, Public Health England

Endocrine therapy (ET) in breast cancer

- Standard adjuvant treatment for patients with oestrogen receptor positive (ER+ve) breast cancer
- Guidelines recommend prescribing for five years with consideration of extension
- Tamoxifen for pre-menopausal women
- Aromatase inhibitors for post-menopausal women
- Prescribing initiated in a hospital setting
- Repeat prescriptions issued in primary care

National Datasets

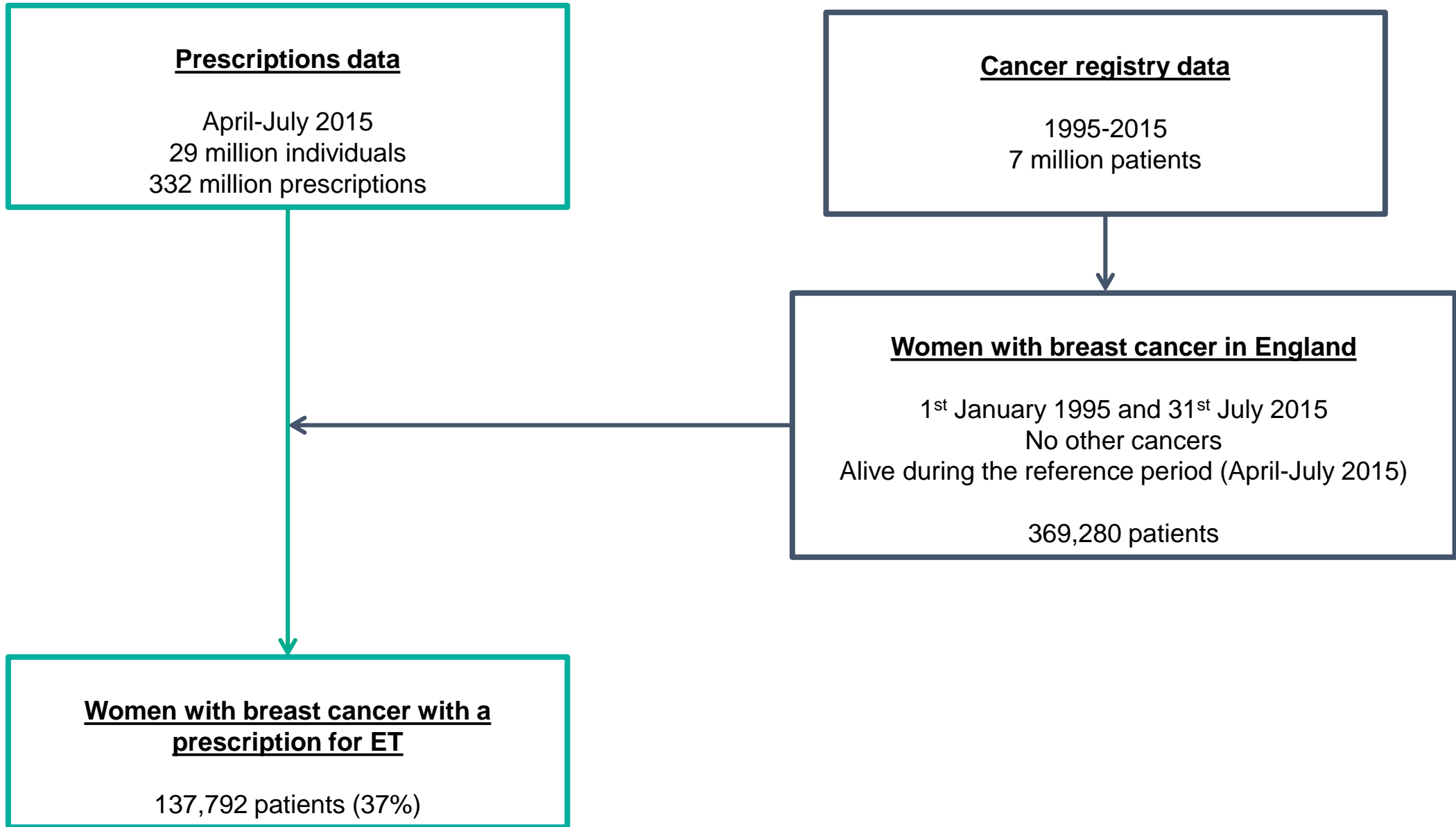
- Ever-increasing alignment under the auspices of National Cancer Registration and Analysis Service (NCRAS)
- Cancer registries, COSD, HES, SACT, RTDS, NHSBSP
- Poor capture of endocrine therapy prescription – many studies use ER/PR status as surrogate for prescription (receipt)

New Initiative

- Primary Care Prescription Database (PCPD) is used to administer reimbursement for prescriptions dispensed by community pharmacies
- PCPD can be linked to NCRAS datasets

Aim

- To test the potential utility of the primary care prescription database to inform on cancer therapies by evaluating ET prescribing in women with breast cancer in England



ET drugs included

- Anastrozole
- Letrozole
- Exemestane

Aromatase
inhibitors

- Tamoxifen Citrate
- Fulvestrant

- Toremifene Citrate
- Aminoglutethimide
- Goserelin Acetate
- Megestrol Acetate
- Medroxyprogesterone Acetate

Methods

Endocrine therapy prescribing was analysed by:

- **ER status:**

ER positive (ER+ve); ER negative (ER-ve); ER borderline; ER unknown

- **Time since diagnosis**

- **Age:**

Calculated as of April 2015

- **Co-prescribed drugs**

For early stage breast cancer patients diagnosed after July 2010

Co-prescribed defined as therapies prescribed within the same four months (April-July 2015).

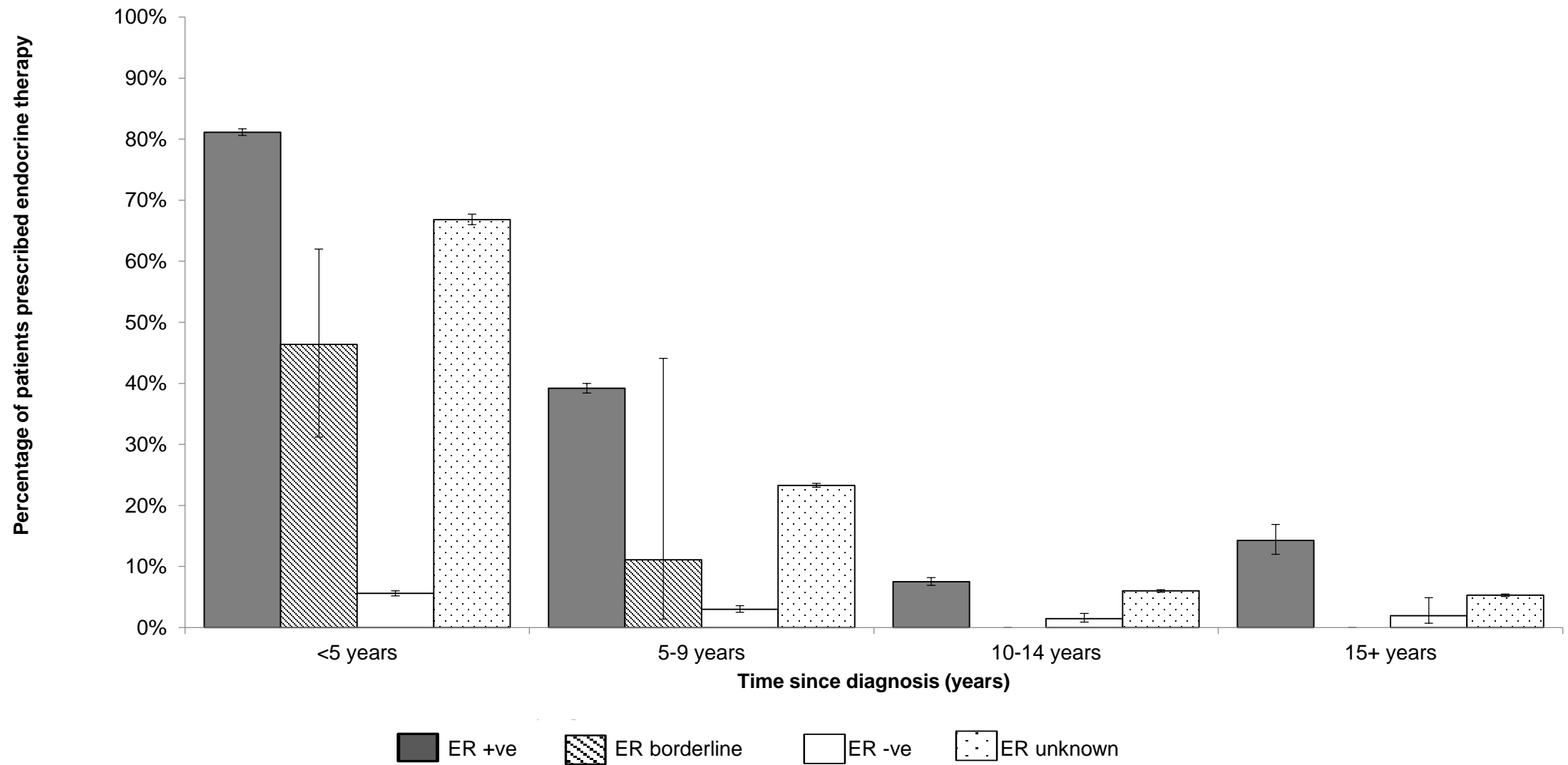
Cohort

- 369,280 women with breast cancer diagnosed during the years 1995-2015 and alive on 1st April 2015
- 34% ER+, 5% ER-, 0.02% ER borderline, 61% ER unknown
- 37% were prescribed ET during the reference period of April-July 2015
- Sex not specified on PCPD, 20% missing age

ET was prescribed to:

- 69% ER+ve (81% diagnosed after 31/7/2010)
- 42% ER borderline
- 23% ER unknown
- 5% ER-ve (6% diagnosed after 31/7/2010)
 - 25% ER-ve and progesterone receptor positive
- The highest proportions of prescriptions were for tamoxifen (34%) and aromatase inhibitors (64%)

ET prescriptions by ER status and time since diagnosis



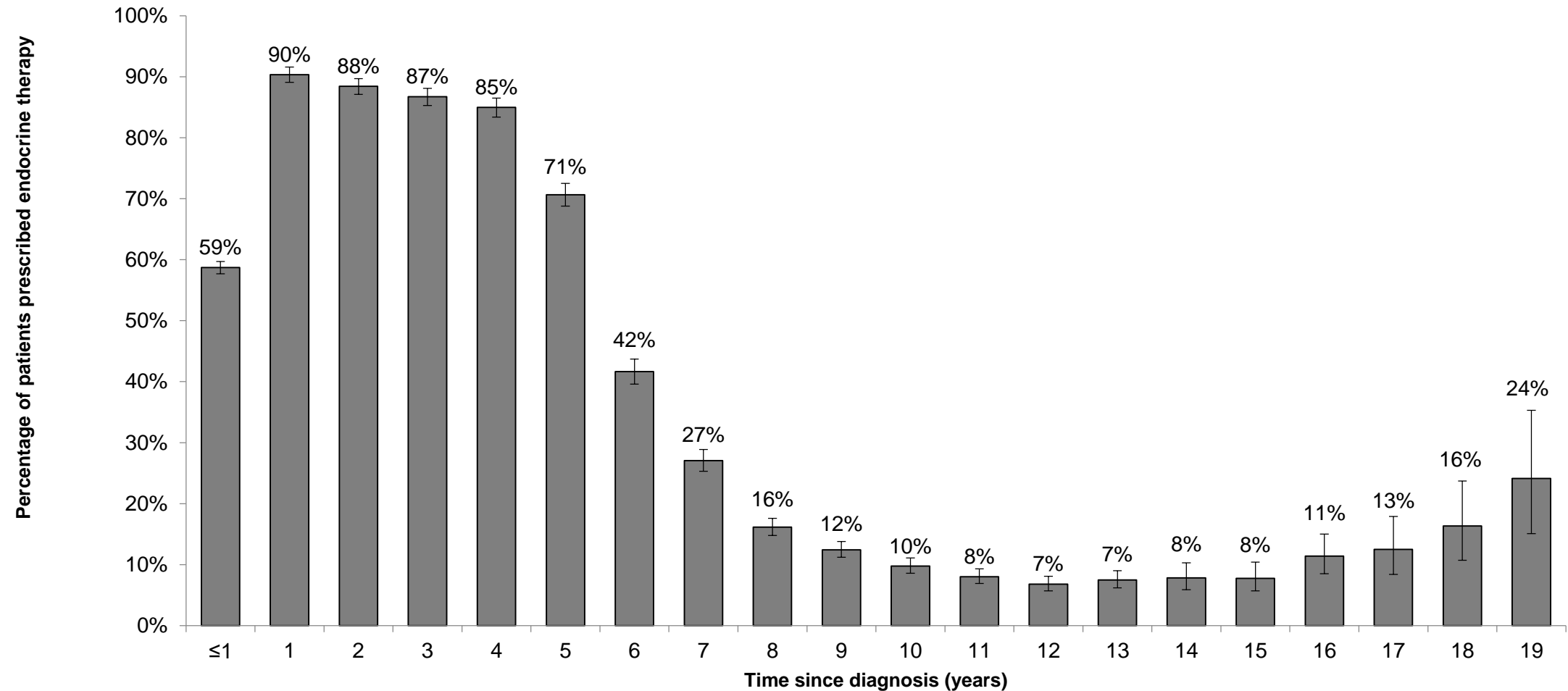
ER+ Cohort

Years since diagnosis

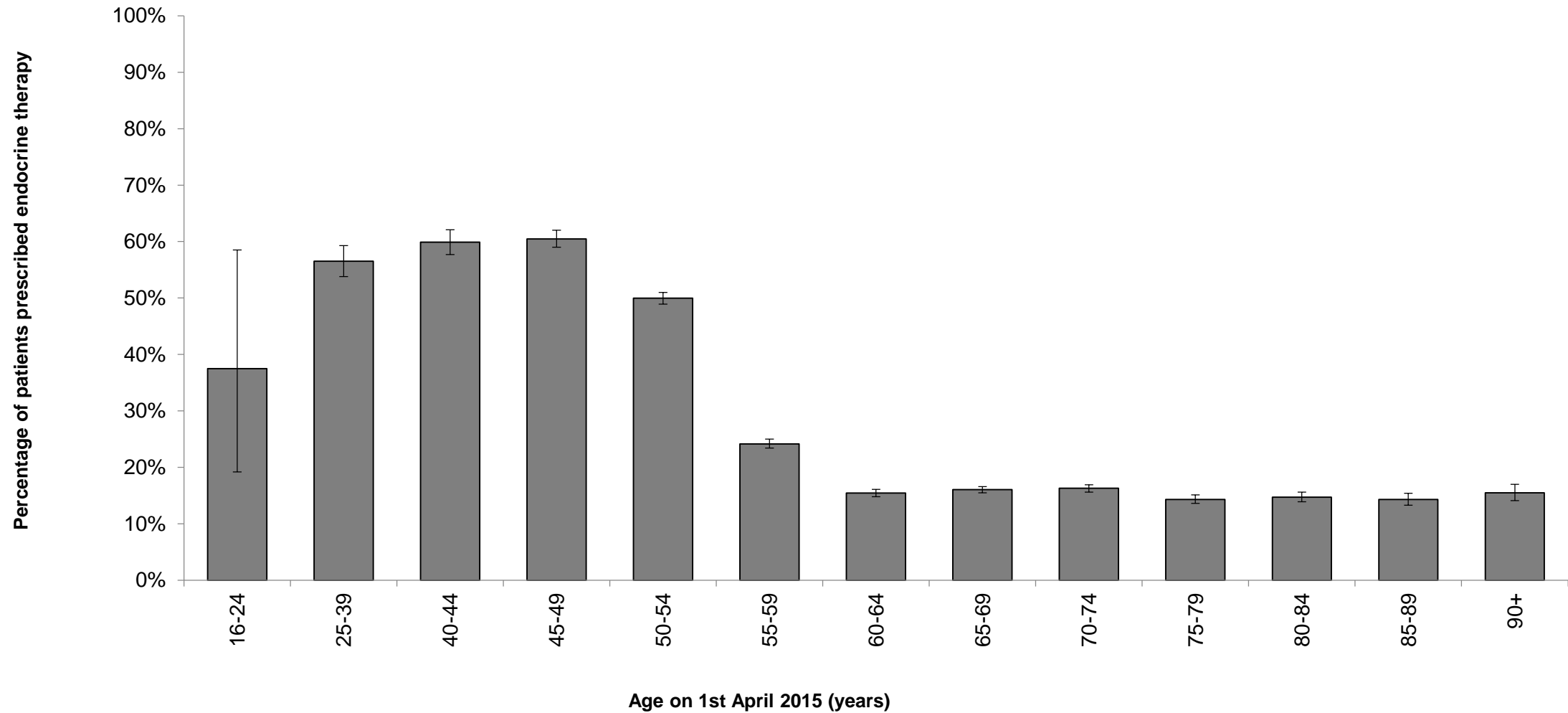
% prescribed ET

1	59
2	90
3	88
4	87
5	85

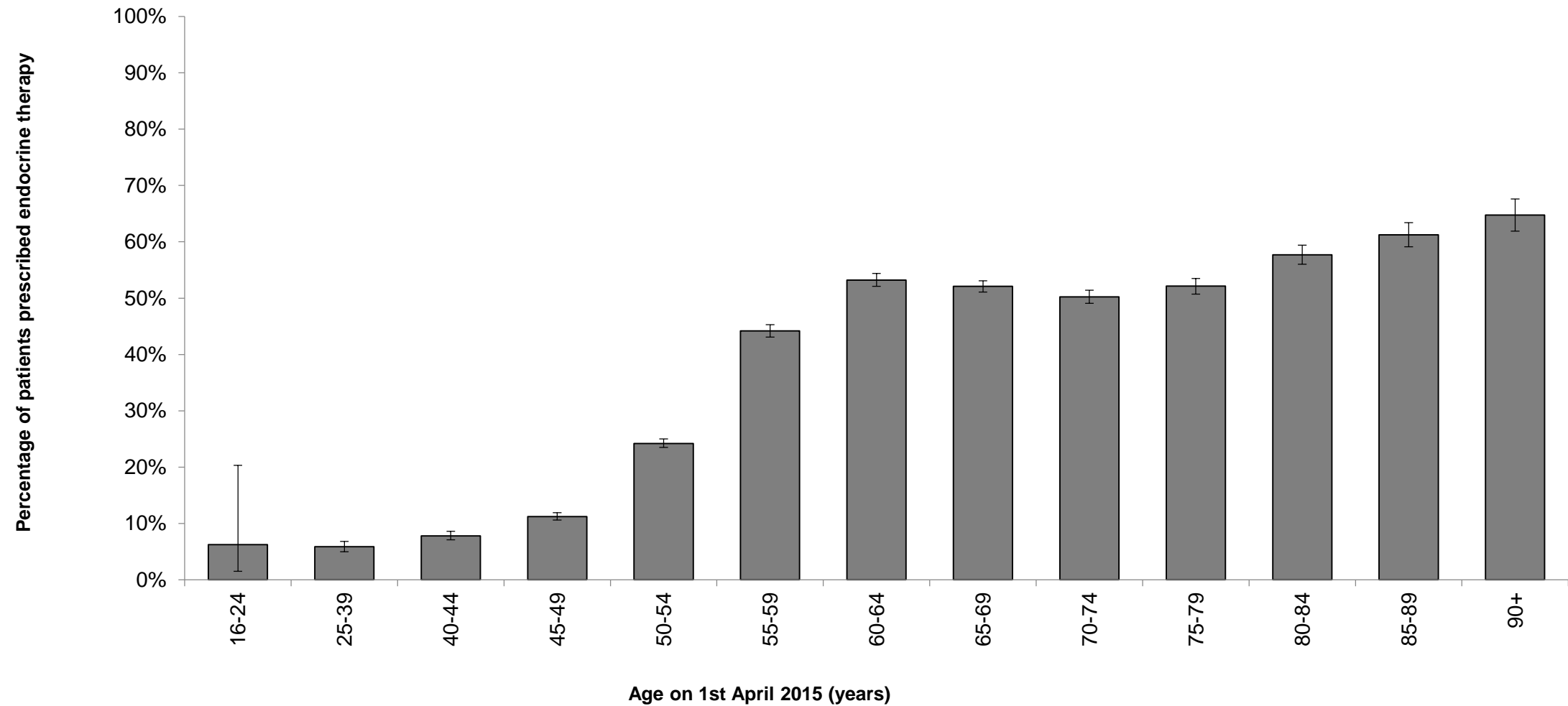
ET prescriptions by time since diagnosis – ER+ve patients



Tamoxifen prescriptions by age – ER+ve patients



Aromatase inhibitor prescriptions by age – ER+ve patients



Co-prescribed drugs

In early stage ER+ve women diagnosed between 2010 and 2015

Co-prescribed with aromatase inhibitors

- Oral bisphosphonates – 22% of patients

Co-prescribed with ET

- Analgesics (opioid and non-opioid) – 27% of patients
- Statins – 24% of patients
- Aspirin – 9% of patients
- Oral hypoglycaemics – 7% of patients
- Anticoagulants – 4% of patients

Conclusions 1)

- Guidelines recommend adjuvant ET is prescribed for five years for ER+ cancer and in accordance with a woman's menopausal status.
- 90% received ET prescriptions during the second year after diagnosis.
- ET prescribing decreased after 5 years since diagnosis.
- The majority of younger women (under 55) received tamoxifen.
- The majority of older women (55+) received aromatase inhibitors.
- Oral bisphosphonates and analgesics were not unusual co-prescriptions

Conclusions 2)

- Traditionally ET prescribing in women with breast cancer in England could not be reliably captured.
- Prescribing was as expected.
- This study provides confidence in the use of the primary care prescriptions database for epidemiological purposes.

Acknowledgements

- We are grateful to all the patients whose data contributed to this study