



HOWEVER:

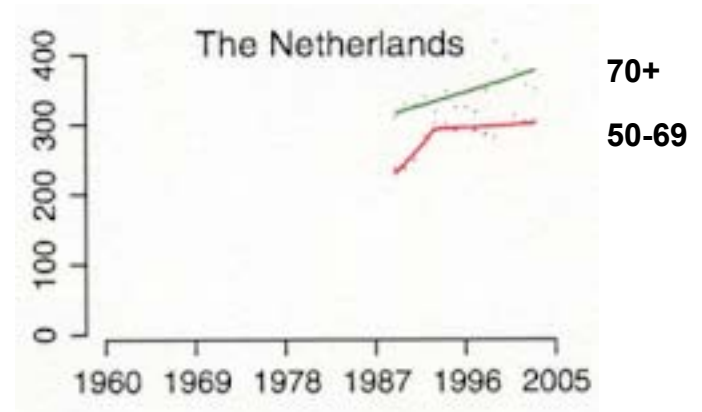
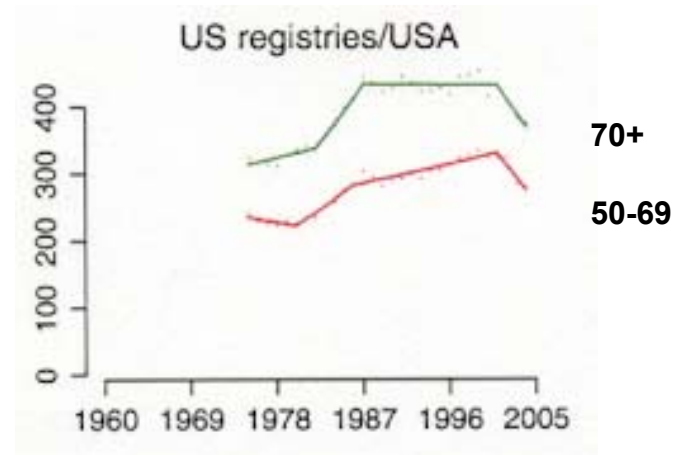
**Potential causes for the
remarkable increase
in breast cancer incidence
in the Netherlands**

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Background

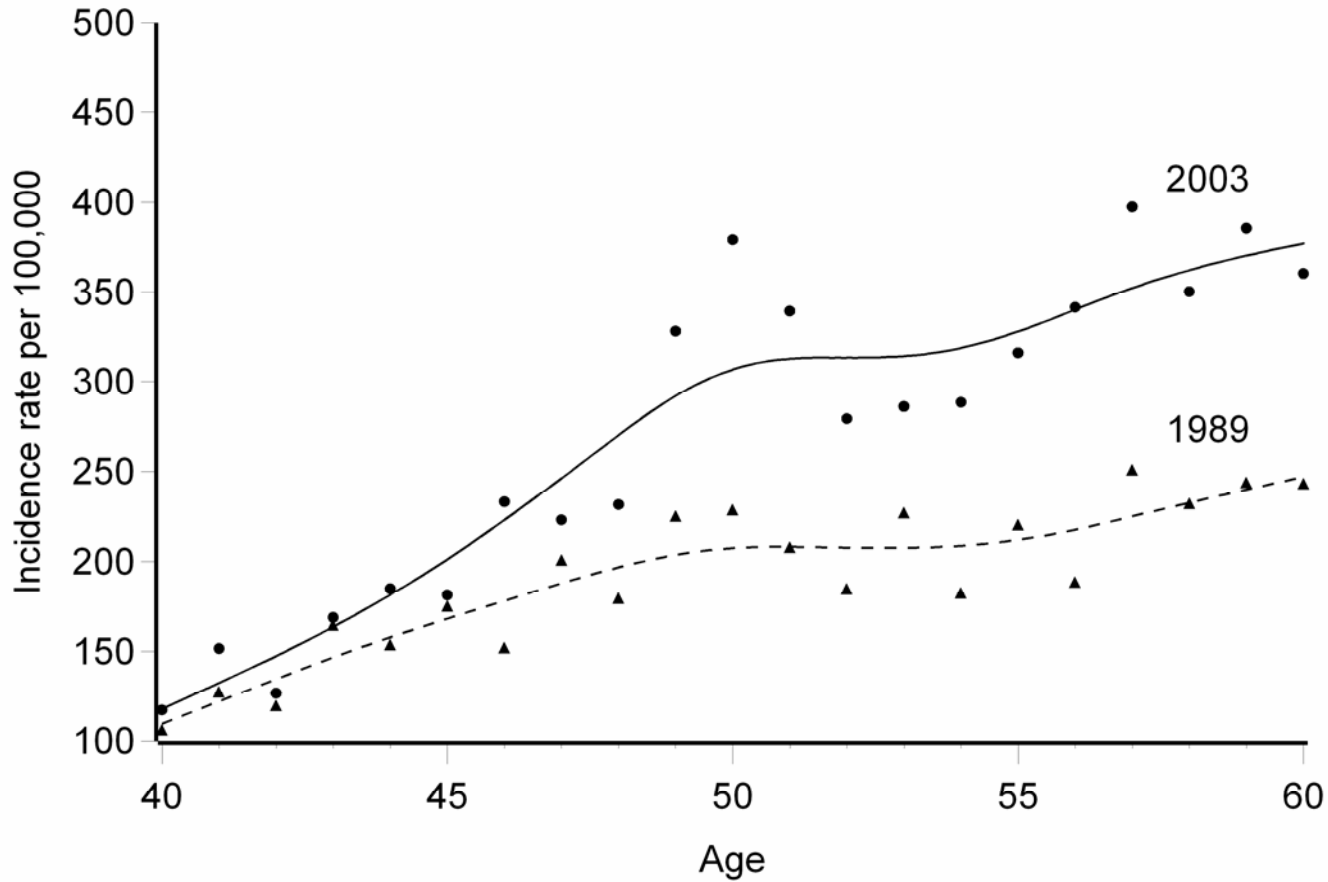
- Changes in breast cancer incidence world-wide
- Netherlands: remarkable increase
- Current life-time risk (2003): 1 in 7 women

Paap E et al. Eur J Cancer 2008, May 12
[Epub ahead of print]



Héry C et al. Ann Oncol 2008;19:1009-18

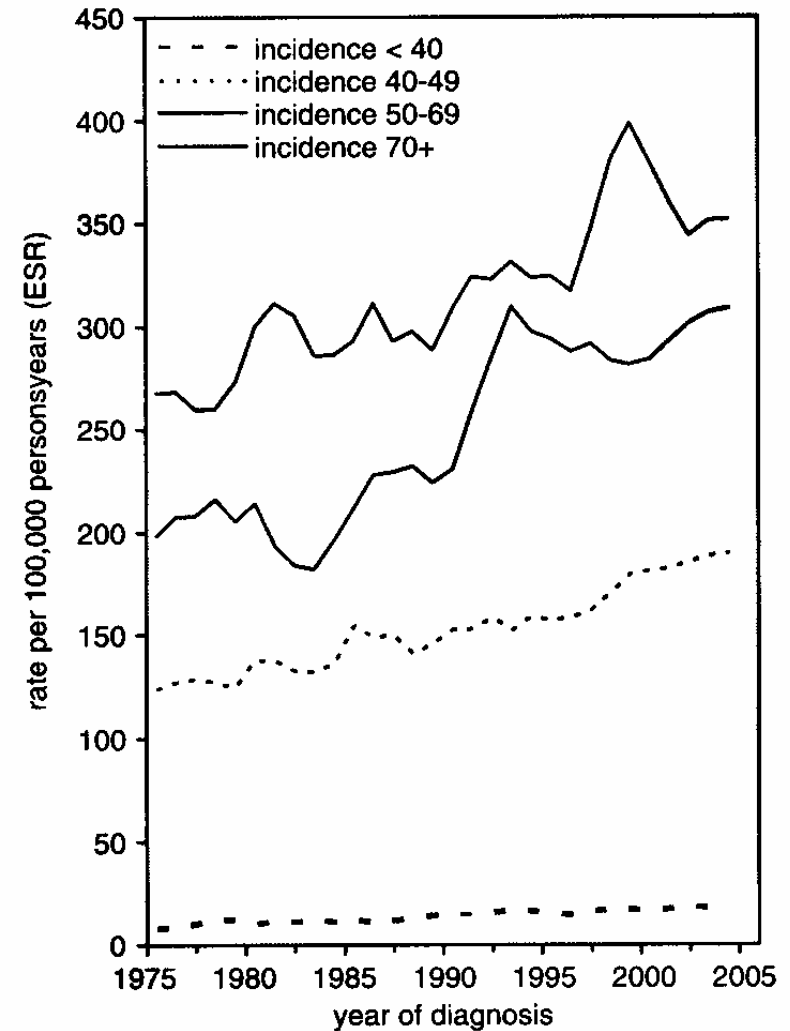
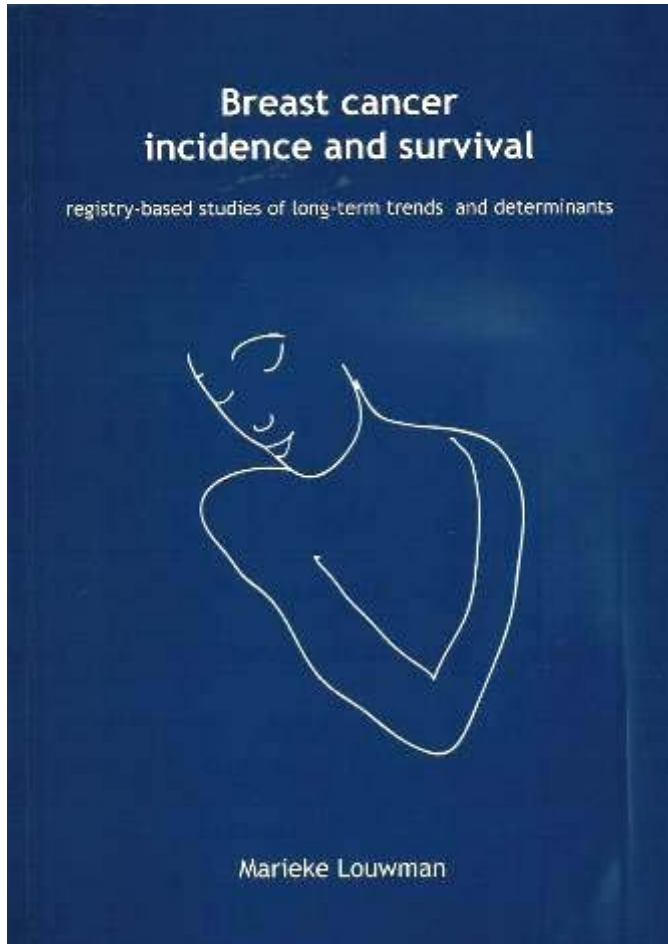
Breast cancer incidence



Van Schoor G et al. Ann Oncol 2008, Apr 29 [Epub ahead of print]

Breast cancer incidence

Louwman WJ et al. Cancer Causes Control 2008;19:97-106



Study objective

- To identify the potential causes for the increase in breast cancer incidence in the Netherlands
- Potential causes:
 - Screening
 - Increased awareness
 - Risk factors



Established risk factors

- Menses: age at menarche, age at menopause
- Pregnancy: age at first birth, (nulli)parity, breast feeding
- Lifestyle: alcohol, smoking, physical activity, (over)weight, nutrition
- Mammographic density
- Use of hormones
- Genetic factors, family history
- Benign breast disease, previous breast cancer
-

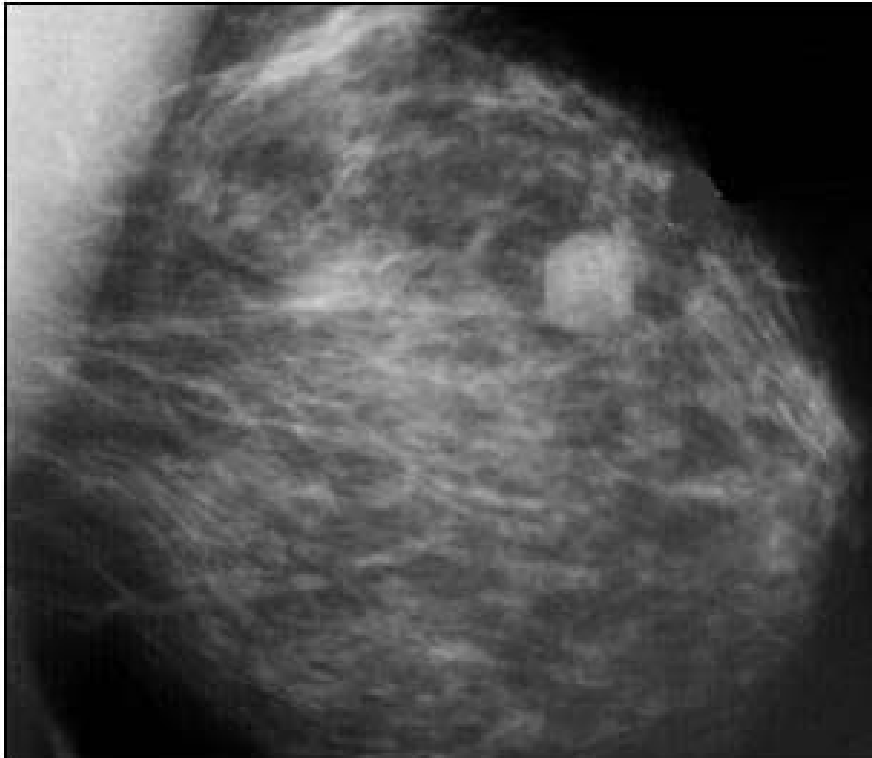
Data collection

- Information from different sources on:
 - Mammographic density
 - Age at first birth
 - Use of hormone replacement therapy

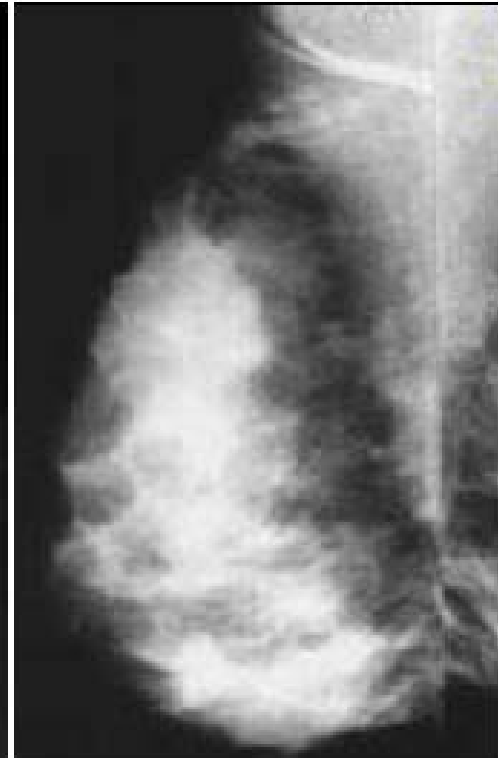
Lucent and dense breast pattern

Relative amount of dense tissue

$\leq 25\%$



$>25\%$

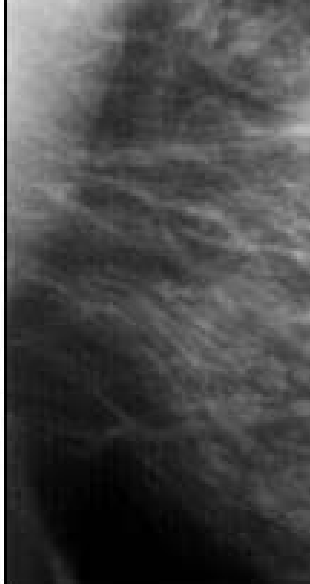
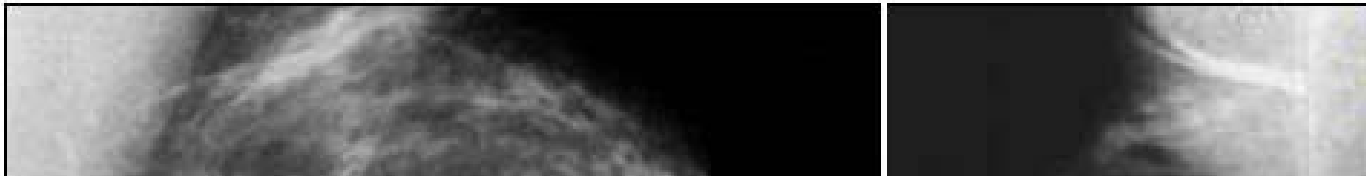


Lucent and dense breast pattern

Relative amount of dense tissue

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The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

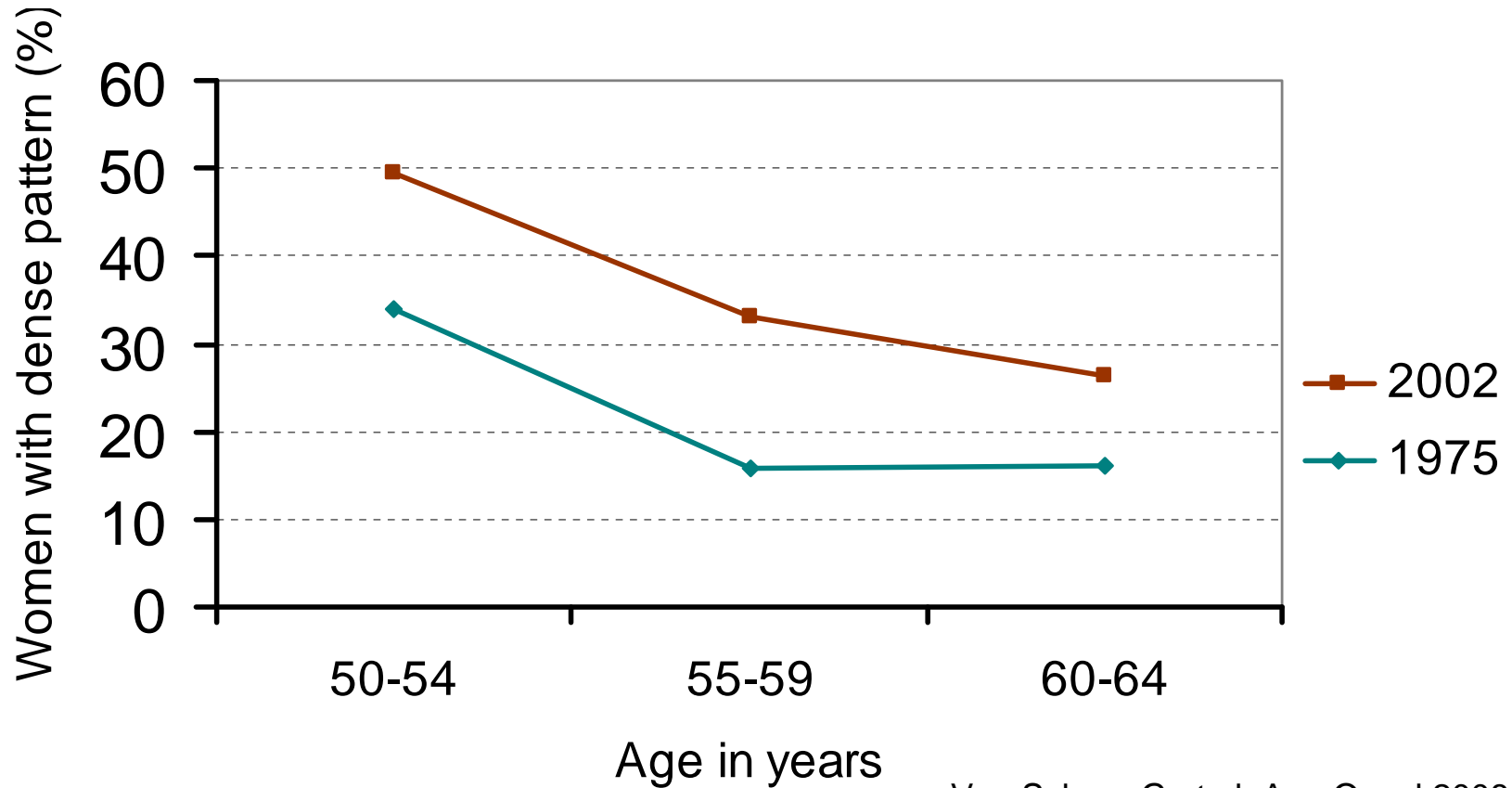
Mammographic Density and the Risk and Detection of Breast Cancer

Norman F. Boyd, M.D., D.Sc., Helen Guo, M.Sc., Lisa J. Martin, Ph.D., Limei Sun, M.Sc., Jennifer Stone, M.Sc., Eve Fishell, M.D., F.R.C.P.C., Roberta A. Jong, M.D., F.R.C.P.C., Greg Hislop, M.D., F.R.C.P.C., Anna Chiarelli, Ph.D., Salomon Minkin, Ph.D., and Martin J. Yaffe, Ph.D.

ABSTRACT

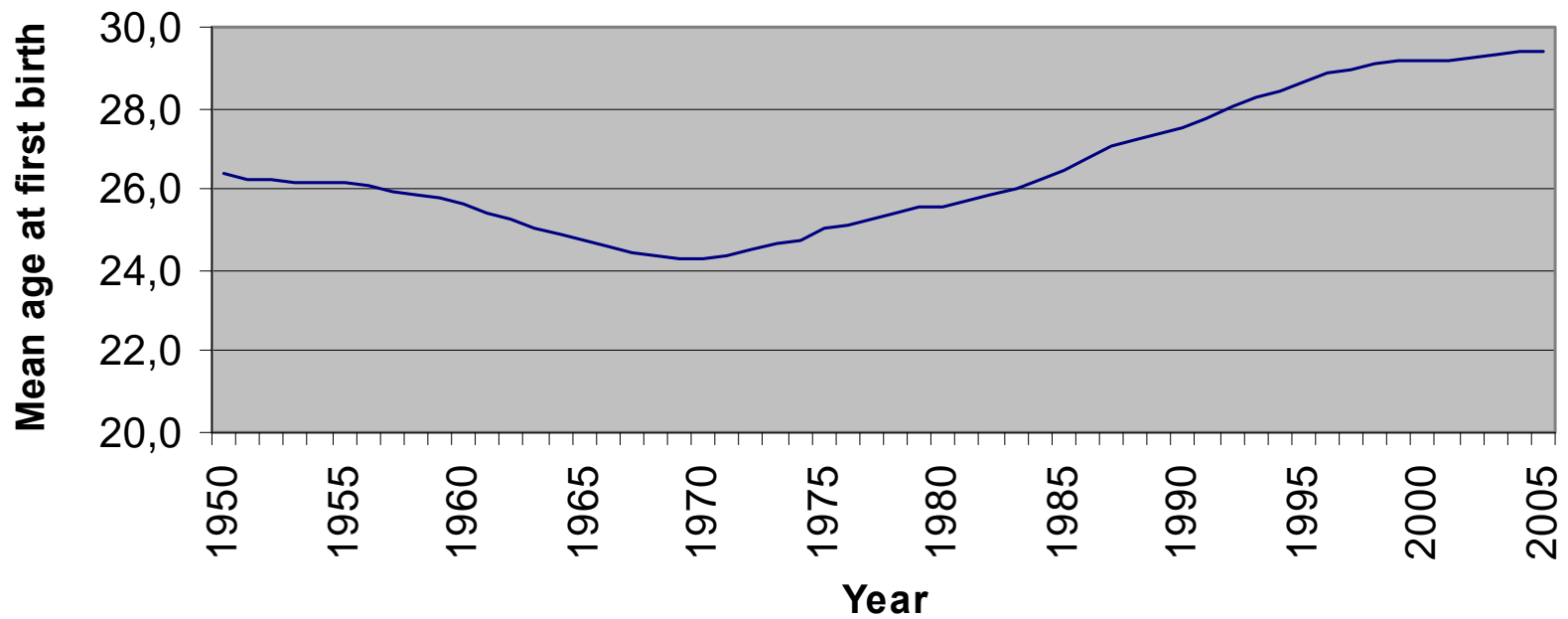
N Engl J Med. 2007 Jan 18;356(3):227-36.

Mammographic breast density



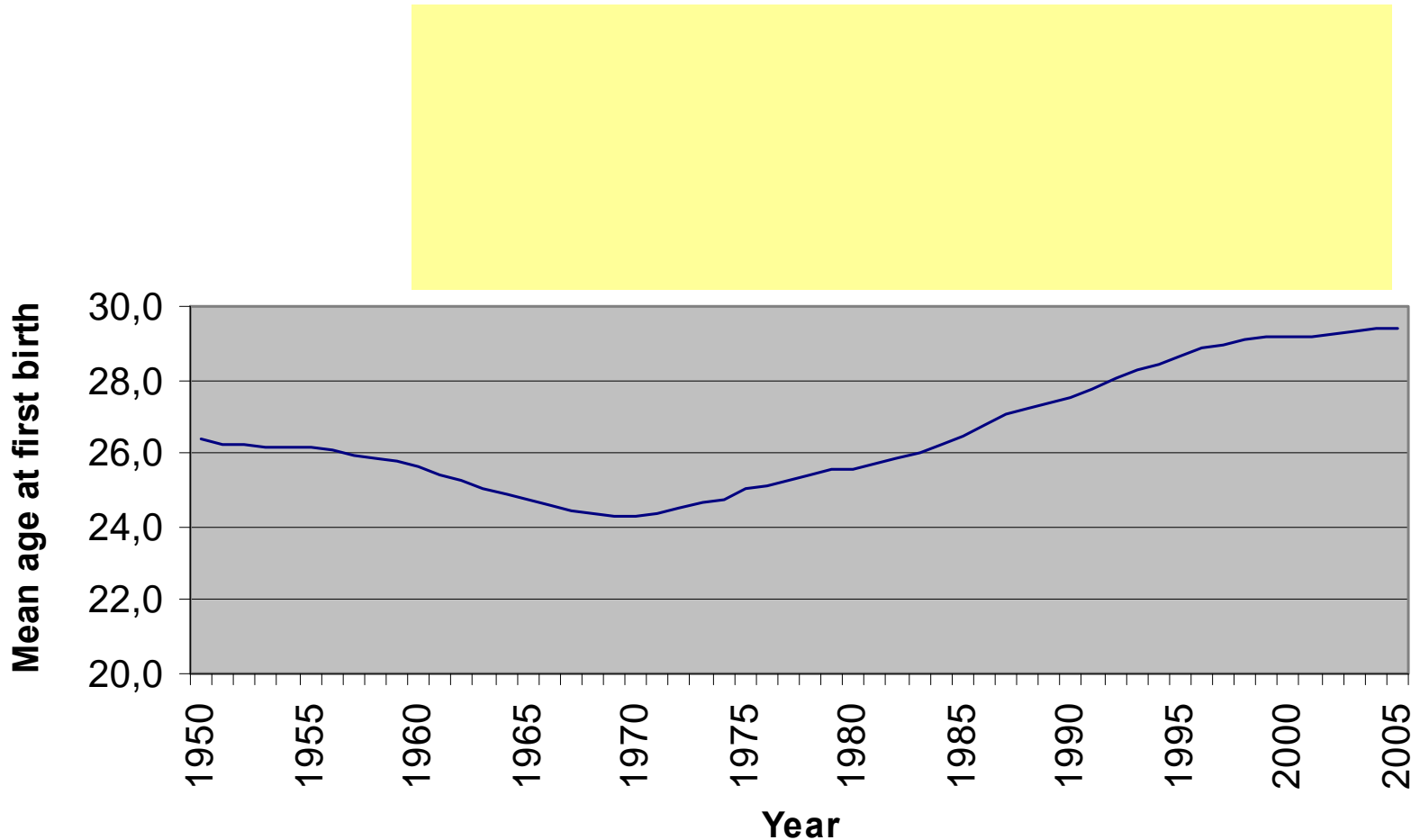
Van Schoor G et al. Ann Oncol 2008, Apr 29 [Epub ahead of print]

Mean age at first birth, Netherlands



Source: Statistics Netherlands

Mean age at first birth, Netherlands



Source: Statistics Netherlands

Hormone replacement therapy

- Sharp decrease in incidence in US attributed to decrease in HRT use
- European populations: generally lower prevalence and shorter duration of use

- Netherlands: use of HRT decreased from 6% to 3% after publication of the WHI trial and the MWS

De Jong-van den Berg et al. HRT use in 2001 and 2004 in The Netherlands – A world of difference. *Maturitas* 2006;54:193-7.

Soerjomataram I et al. Does the decrease in hormone replacement therapy also affect breast cancer risk in the Netherlands? *J Clin Oncol* 2007;25:5038-9.

Summary

- Changing profile of risk factors ties in with observed increase in incidence
- Integrated data needed to study potential causes in more detail
- Grant application → population survey on risk factors, linked to national screening and cancer registry

**International Breast Screening
Network, Helsingør, Denmark**

June 4-6, 2008



**Thank you for your
attention!**