Avoiding overdiagnosis and overtreatment in cancer screening: Assessing the role of personalised screening

Personalised versus organised approaches to screening of cervical cancer: Can we fit both?

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Saturday, 09/27/2014,

04:00 PM - 05:00 PM

Room: **Salamanca**

Organized

- All target women are invited
- Screening characteristics are pre-defined, regulated and consented

Opportunistic

- Requested by women
- Screening criteria may vary by provider

Personalised

- Based on higher risk
  - HPV, Sexual behaviour
  - Screening uptake

Potential markers

- HPV detected in 6-10% of women over age 30
- **No clear markers of persistence yet**
- Lack of screening in the previous 5 years (40-50 y.o)
- High promiscuity? Oh whom? What is high?

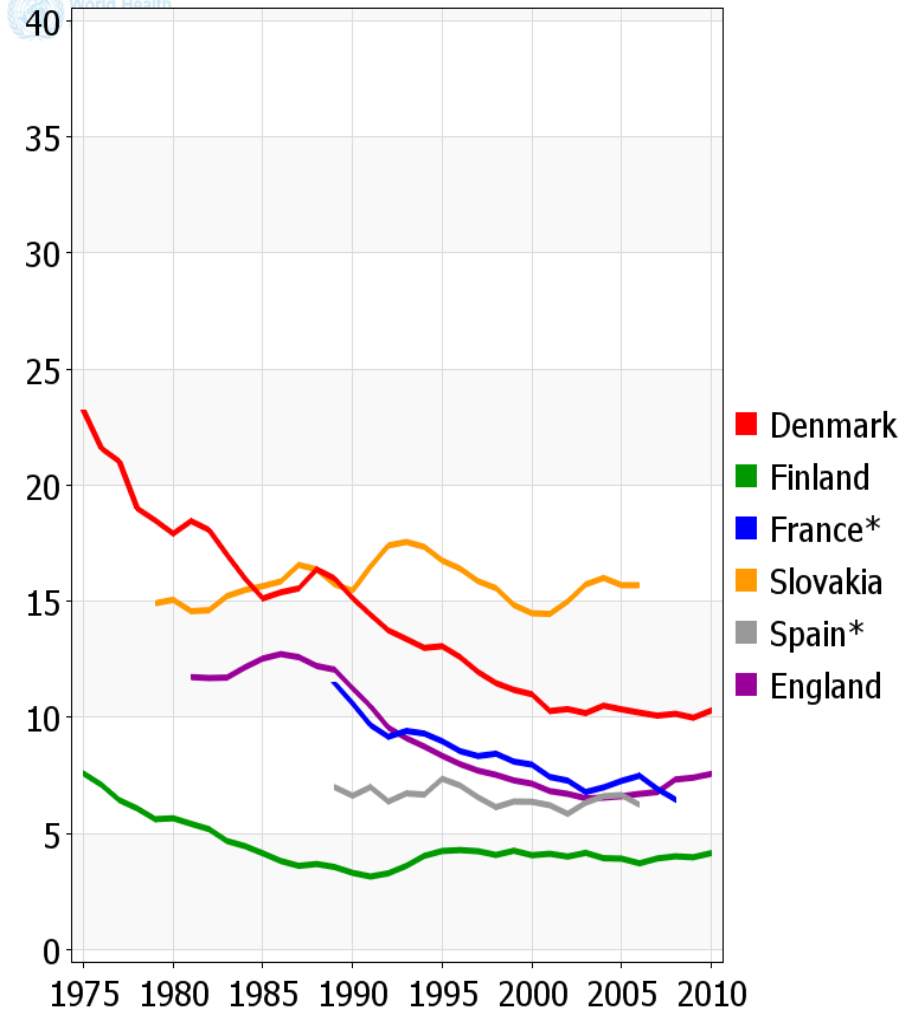
Screen positives => Personalized triage

- Need to be followed based on underlying risk.
- Equal risk, equal follow up

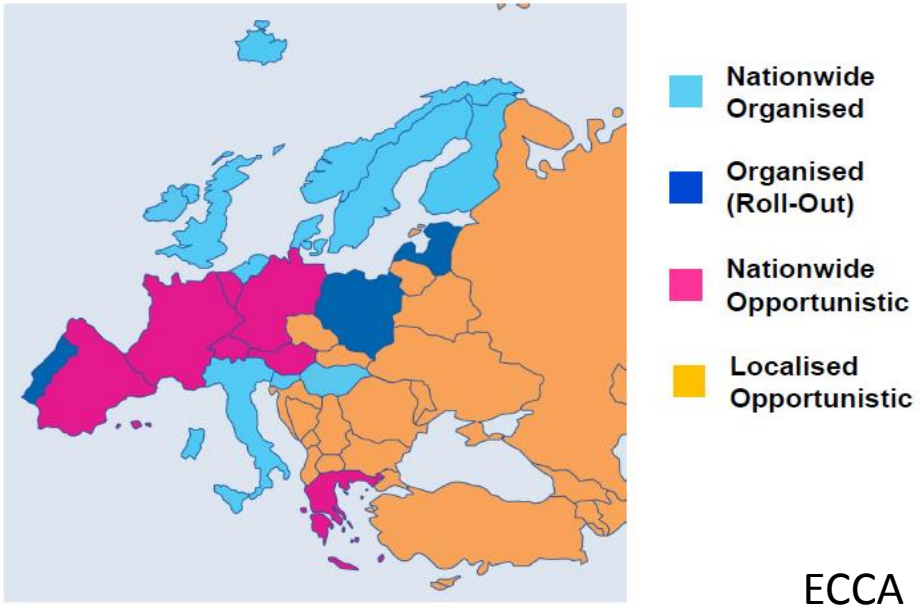
- Negatives are not always followed as negatives!

THE FINAL ENDPOINT IS:
REDUCED INVASIVE CANCER IN THE POPULATION

Time trends invasive cervical cancer



Cervical Cancer Screening in Europe



ECCA

Why should we care to organize screening?

Organized screening:

- Is more complex (call, recall, audits...)
- It promotes a protectionist attitude towards health related behaviour
- It disrupts the private/public market
- It may react slowly to new developments. Modifications need to be administratively approved, to bring stakeholders into agreement and to be affordable within the system.

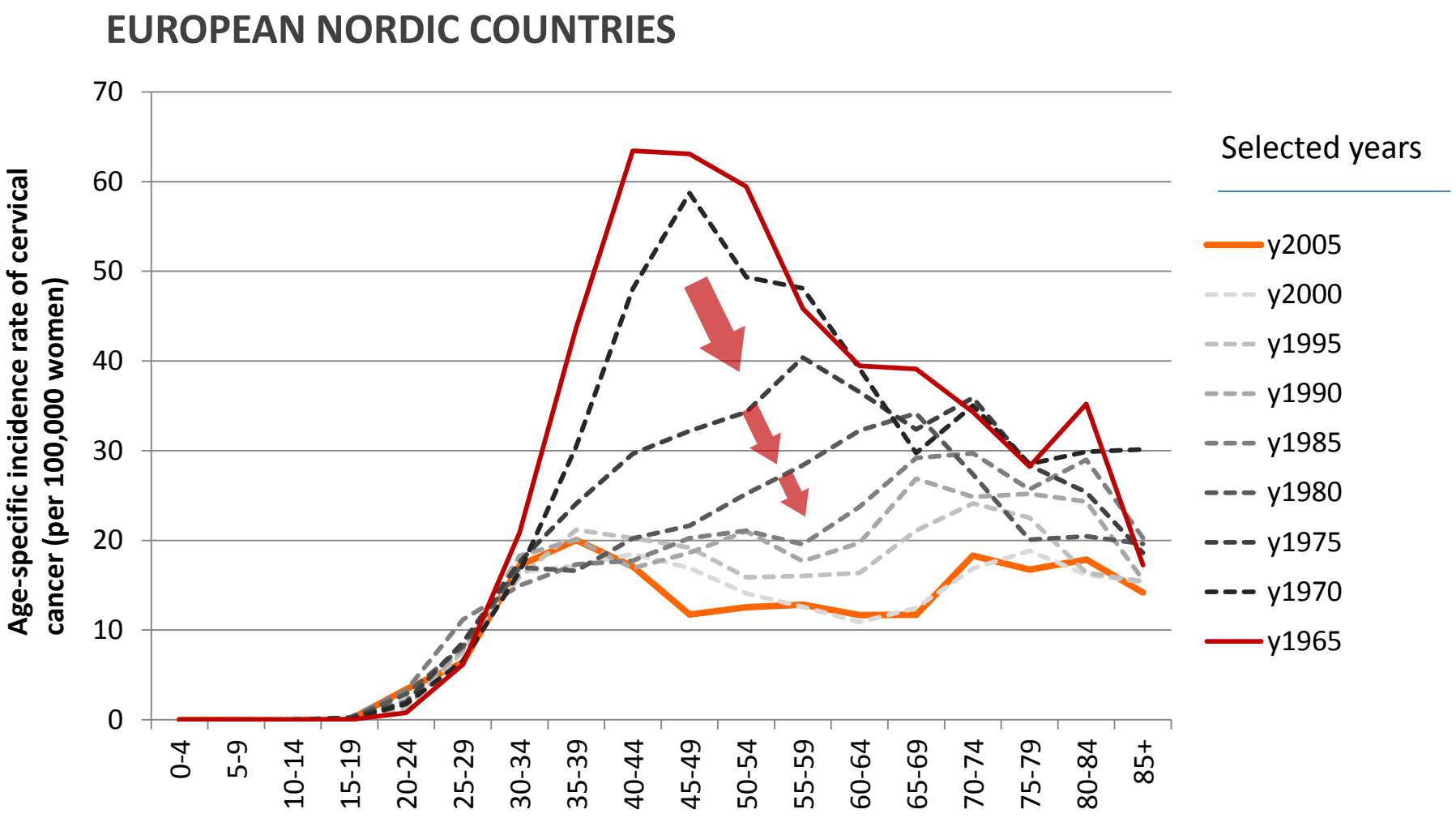
Why should we care to organize screening? Positive aspects

Organized screening:

- Improves the use of **society resources** by regulating the number of tests and definition of target population. Prevent over-screening
- Provides a framework of **equal** access to all
- **Quality control** data in all steps are requested
- **Scientific evidence** is mandatory

Provides a larger population **impact**

INCIDENCE TRENDS BY AGE: SCREENING EFFECT



Data Source: The NORDCAN database (Version 4.0, 06.2011)

THE CASE OF FINDLAND

Salo et al. 2014

What is recommended (by law) in the organized screening program

Screening starting at age 30 and ending at 60 with 5 years screening interval (30:5:60)

Modelled annual costs*:

14.4 M€

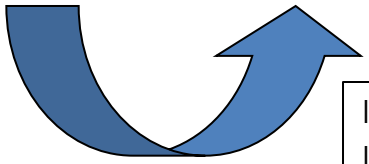
Modelled annual effects*:

187
948
1562
1507

*If only recommended screening would be practised

RESULTS

Number of cervical cancers
Years of life lost (LY)
Precancer treatments (PCT)
Quality adjusted life years lost (QALY)



What is happening: A mix of organised *and* opportunistic screening

Variations with higher number of screening events

Observed costs:

34.0 M€

Observed effects:

135
797
2297
1375

Incremental cost per gained QALY 148.485€
Incremental PCT per prevented cancer 14,1

Recomended option and theoretical results obtained from models

Non cost-effective option as observed in real life practice

New recommendation

+ 25-30
New HPV

PAP & HPV by age groups

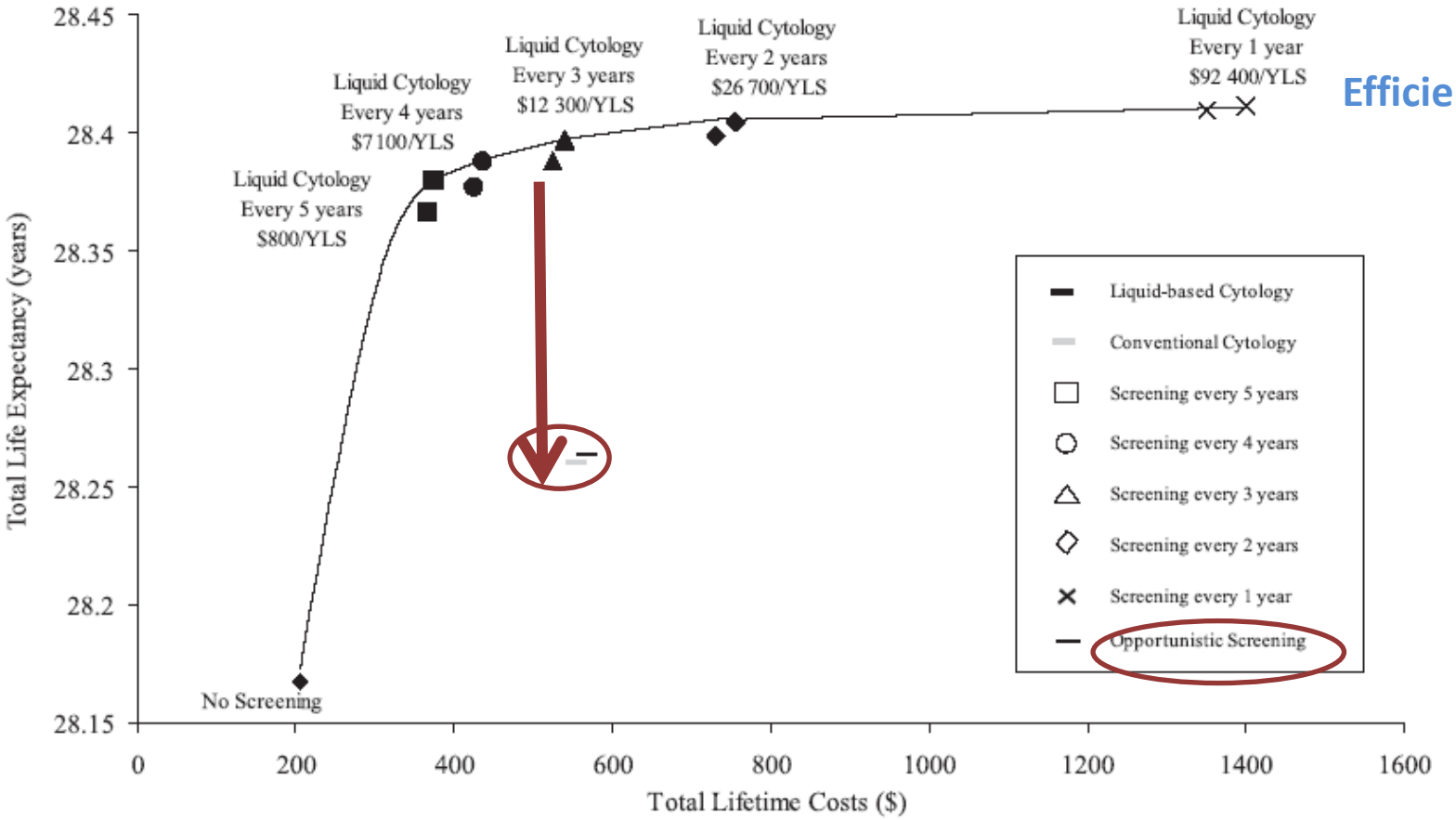
25,30 Pap-35:5:65 HPV-test 17,9 M€

98 ICC 509 LY

2169 treatment 985 QALY LOST

ORGANIZED VS OPPORTUNISTIC SCREENING

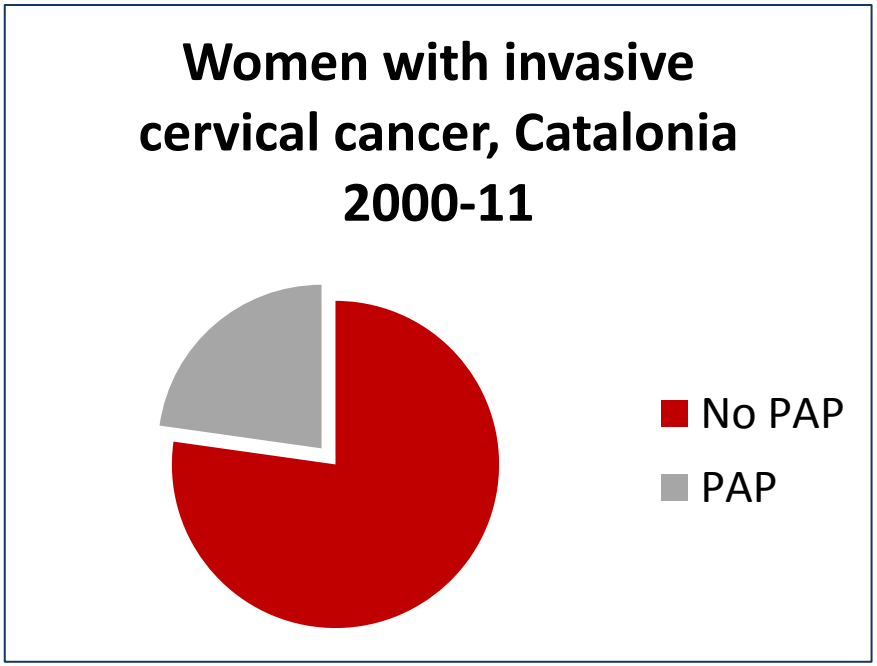
The strategies below the curve are less effective as being more expensive or with lower impact



Hong Kong, Kim et al 2004

CAN WE FIT BOTH?

- **Major risk factors for cervical cancer are persistent HPV infection (target of modern screening) and lack of screening (higher in non organized)**



Thank you for your attention!