New Cancer Screening Programmes
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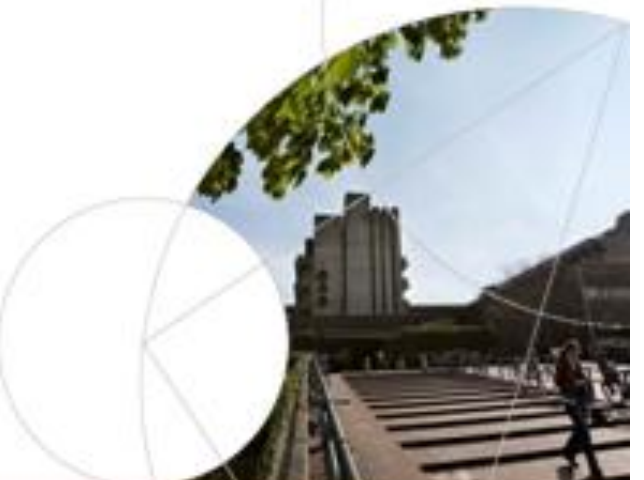
How to introduce and organise new screening programmes

Elsebeth Lynge, elsebeth@sund.ku.dk
University of Copenhagen



Conflicts of interest

- Meeting participation with Roche and Astra-Zeneca with fees paid to the University of Copenhagen
- Collaborate with Biomediq, no fees and/or stocks

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Determinants of successful implementation of population-based cancer screening programmes

Elsebeth Lynge [a,*], *Sven Törnberg* [b], *Lawrence von Karsa* [c], *Nereo Segnan* [d], *Johannes J.M. van Delden* [e]

Before planning

- Review literature, collect incidence data, etc.
- Info on availability and quality of cure offered
- Potential, added role of screening
- Building professional and public understanding
- Political will and decision on responsibility
- Assess capacity
- Economic impact and cost-effectiveness
- Decision, budget, organisation

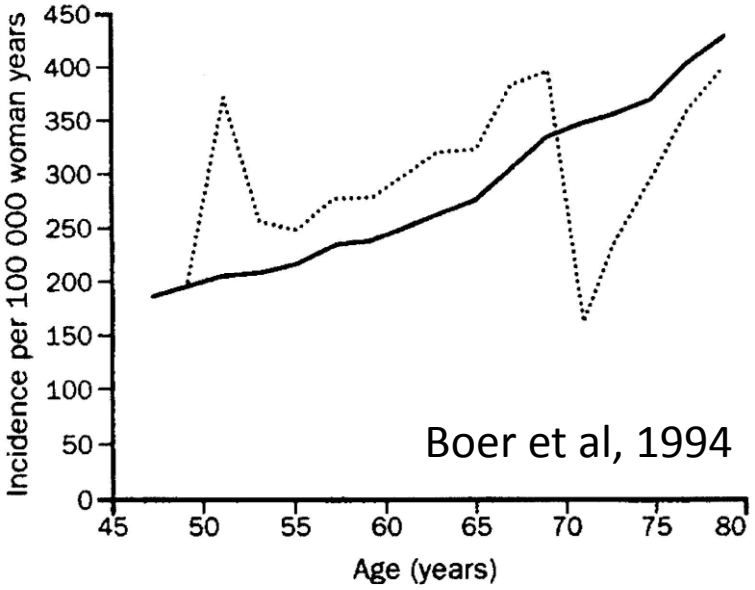
E. g. Benefits and harms

Breast cancer screening

IARC, 2016: “Sufficient evidence that screening women aged 70-74 years by mammography reduces breast cancer mortality”

Denmark present: Screening age 50-69 years

Question: Should we increase the upper age for screening?



Screening	End of “dip”	% Survivors
50-69 years	78 years	74%
50-74 years	83 years	60%

Denmark: Screening decision, The society

Denmark: Screening decision, The citizen

Information leaflet from National Board of Health

Planning

- Creation of professional dedication
- Infrastructure and supervision and process
- Organisation, mandate, ownership, budget
- Multidisciplinary case management
- Screening and treatment
- IT-system, QA-plan, contracts
- Performance parameters, exclusion criteria
- Accreditation system

E. g. Capacity

Colorectal screening

Denmark: iFOBT age 50-74 years

European guidelines: colonoscopy follow-up

Year	CRC	High risk polyp	Medium risk polyp	Low r.p.	Normal	Total
0	2.000	**3.100**	**6.400**	5.000	5.500	22.000
1	2.000	**3.100+3.100**	**6.400**	5.000	5.500	25.100
2	2.000	**3.100+3.100**	**6.400**	5.000	5.500	25.100
3	2.000	**3.100+3.100**	**6.400+6.400**	5.000	5.500	31.500
4	2.000	**3.100+3.100+3.100**	**6.400+6.400**	5.000	5.500	34.600
5	2.000	**3.100+3.100+3.100**	**6.400+6.400**	5.000	5.500	34.600
6	2.000	**3.100+3.100+3.100**	**6.400+6.400**	5.000	5.500	34.600
7	2.000	**3.100+3.100+3.100**	**6.400+6.400**	5.000	5.500	34.600
8	2.000	**3.100+3.100+3.100**	**6.400+6.400+6.400**	5.000	5.500	41.000
9	2.000	**3.100+3.100+3.100+3.100**	**6.400+6.400+6.400**	5.000	5.500	44.100

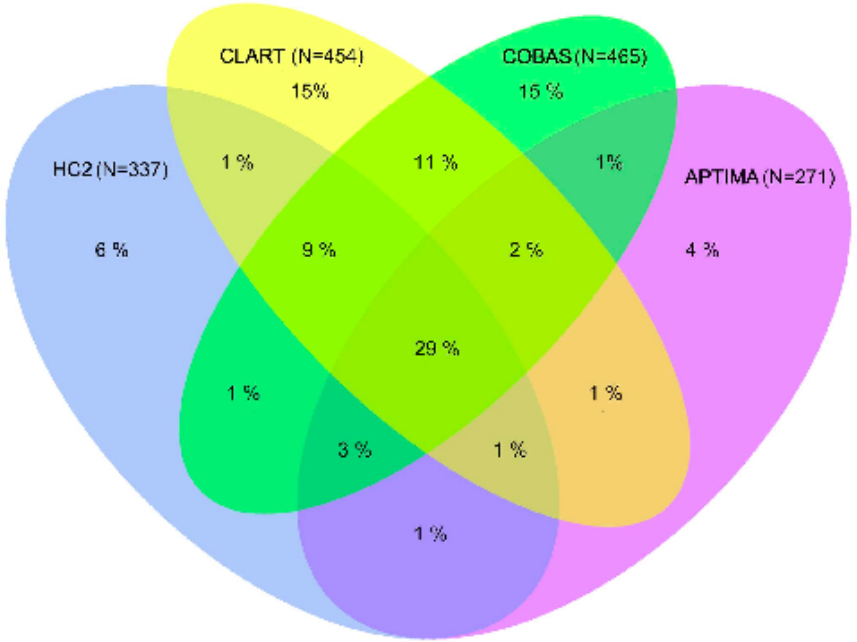
Sundhedsstyrelsen, 2012

Feasibility testing

- Review of feasibility protocol
- Info on benefits and harms
- Communication strategy
- Societal input, data protection and formal oversight
- Scientific publication of feasibility results

E. g. Cervical screening Denmark:
Split-sample testing of cervical screening samples with 4 HPV-assays

Rebolj et al, 2014



Piloting and modification

- Budgeting and financial commitment
- Supervision and coaching of staff
- Legal framework, ability to exclude bad performers
- Scientific publication of outcome
- E. g. Colorectal screening: Participation

Test	Denmark		Netherlands RCTs	
	Pilot: Vejle	P: København	Van Rossum	Hol
gFOBT	52%	45%	47%	48%
iFOBT	Denmark implent 64%		60%	60%

Sundhedsstyrelsen, 2012 + https://www.sundhed.dk/content/cms/45/61245_dtsårsrapport-2014_8-1-16_final_inklbilag.pdf

Scaling up from pilot

- Defining responsibilities at all levels
- Infrastructure, Availability of staff, Obstracles
- Training
- Info system – all steps, Evaluation plan, technical QA
- Reduction of barriers to participation
- Tools to encourage participation
- Advocacy, population confidence

E. g. Cervical screening

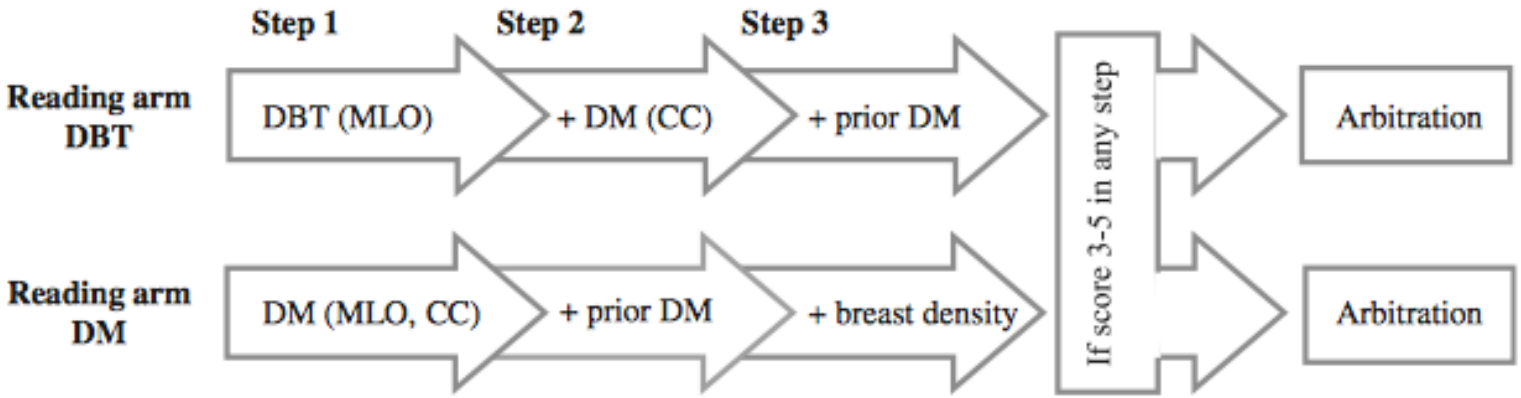
"Invitations for cervical screening are information poor and biased in favour of participation. This means that an informed choice is not enabled, which is in conflict with modern requirements for personal involvement in medical decisions."

Kolthoff et al, 2016

Running full scale

- Supervision of all steps
- Ability to exclude bad performers
- Testing ground for new technologies
- Monitoring benefits and harms
- Scientific publication of outcome

E. g. Breast screening: Tomosynthesis vs mammography



Lång et al, 2016

Sustainability

- Communication of screening outcome
- Population confidence
- Organisational anchoring
- Financial resources and political commitment

E. g. Cervical screening

Denmark: Timely follow-up

- Lack of timely follow-up:
- Target <2% of all abnormal (and unsatisfactory) samples not followed up within recommended time interval
- Actual: 15%
- Severe abnormalities (HSIL, AIS, ASCH, AG):
- 2014 report: 4.7% not followed up within 90 days as recommended
- 2015 report: 2.2% not followed up within 180 days
- Reminder lists from patolabs to GPs (from 20% to 15%)
- Direct info to woman (awaiting safe e-mail solution)

E. g. Financial resources

- Breast screening:
- Aim: ≥98% of all eligible women should be invited for re-screening within 2 years +/- 3 months
- Actual: 70% with variation from 26% to 89%

Conclusion

- Points to add for an eventual update of the determinants paper:
- - difference between society decision and citizen decision
- - control for follow-up of non-normal tests
- - ensure sufficient budget
- - how to reach low-users groups
- - accessibility: reminders, self-tests, tests out-side office hours
- - routine monitoring and scientific reporting

Thank you for your attention

Copenhagen Old Municipality Hospital, now part of University of Copenhagen