

Policy recommendations on governance, organisation and evaluation of cancer screening

CANCON – European Guide on Quality Improvement in Comprehensive Cancer Control



CanCon
Cancer Control Joint Action

Stefan Lönnberg | Cancer Control in Europe Workshop | EPH conference | Vienna 9-12 November 2016



Background

- EU Council recommends population-based cancer screening with quality assurance at all appropriate levels for breast, cervix & colorectal cancer
 - **EU Quality Assurance Guidelines**
- Most EU countries are planning, piloting or implementing population-based screening for these cancer sites
- There are, however, barriers; e.g. lack of monitoring and evaluation, and very low attendance in many programs; indicating a need for quality improvement

Focus and main objective of WP9

- ✓ **Population-based cancer screening in the EU member states**
- ✓ **Guidance and principles for governance, organisation and integrated evaluation of population-based cancer screening as a part of national cancer control policies**

**“Good governance
is key to effective
cancer screening”**

1. Pre-planning

Synthesis of evidence
Assessment of baseline conditions
Prioritization
Setting policy objectives and targets
Creating communication strategy

2. Planning

Establishing governance structure and legislation
Establishing coordination & QA teams
Developing IT and information systems
Contracting local and regional teams
Training staff and reference centers
Establishing quality assurance protocols

3. Piloting

(Randomized) evaluation of performance, logistics and outcome
Training
Reducing barriers and social inequalities
Rollout, modification or stopping if indicated

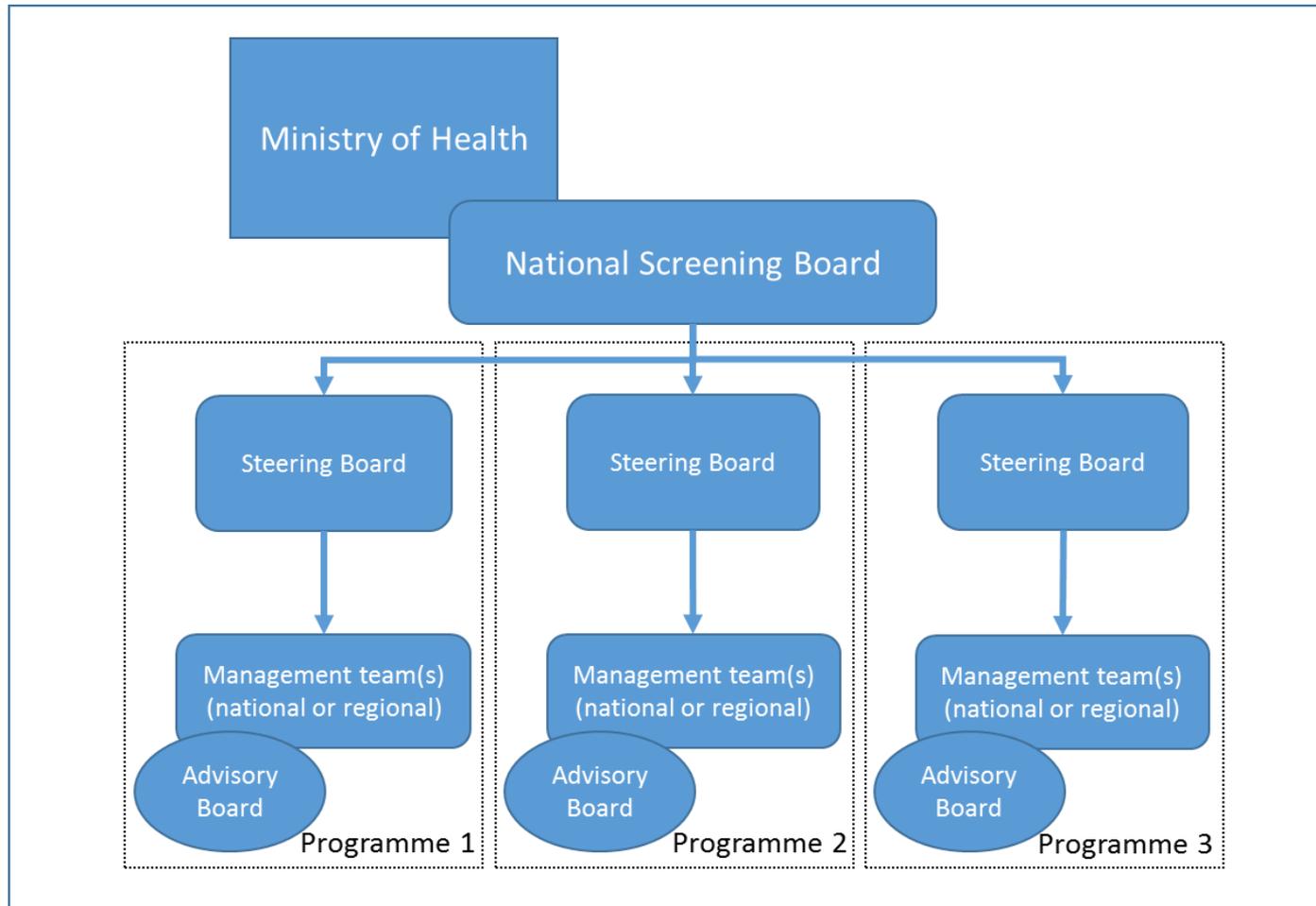
4. National implementation

Enlargement of organization
Early evaluation of performance and outcome
Communication
Training
Reducing barriers and social inequalities
Modification or stopping if indicated

5. Running a full-scale program

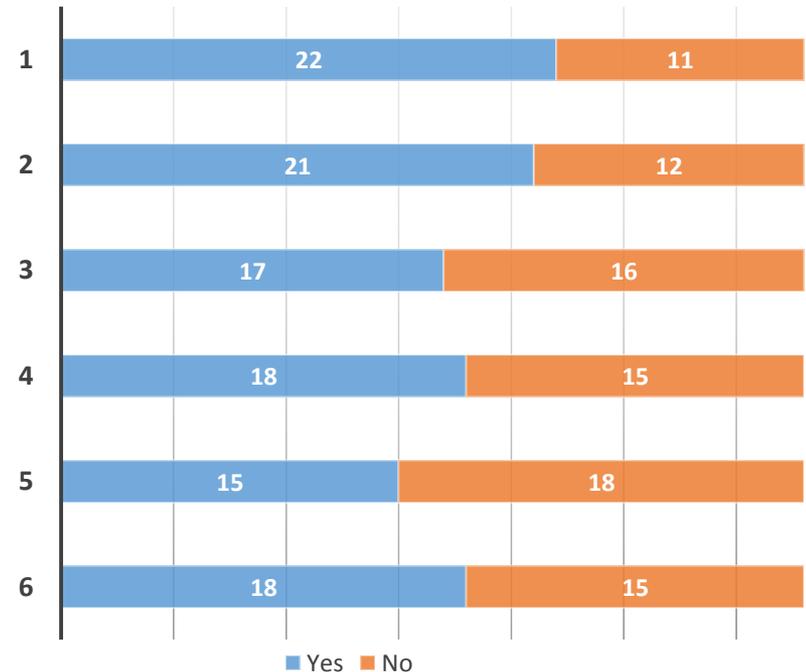
Long-term evaluation of performance and outcome
Continuous communication
Continuous training and quality improvement
Prospective evaluation of new methods
Stopping if no more effective

Example of governance structure for population-based cancer screening



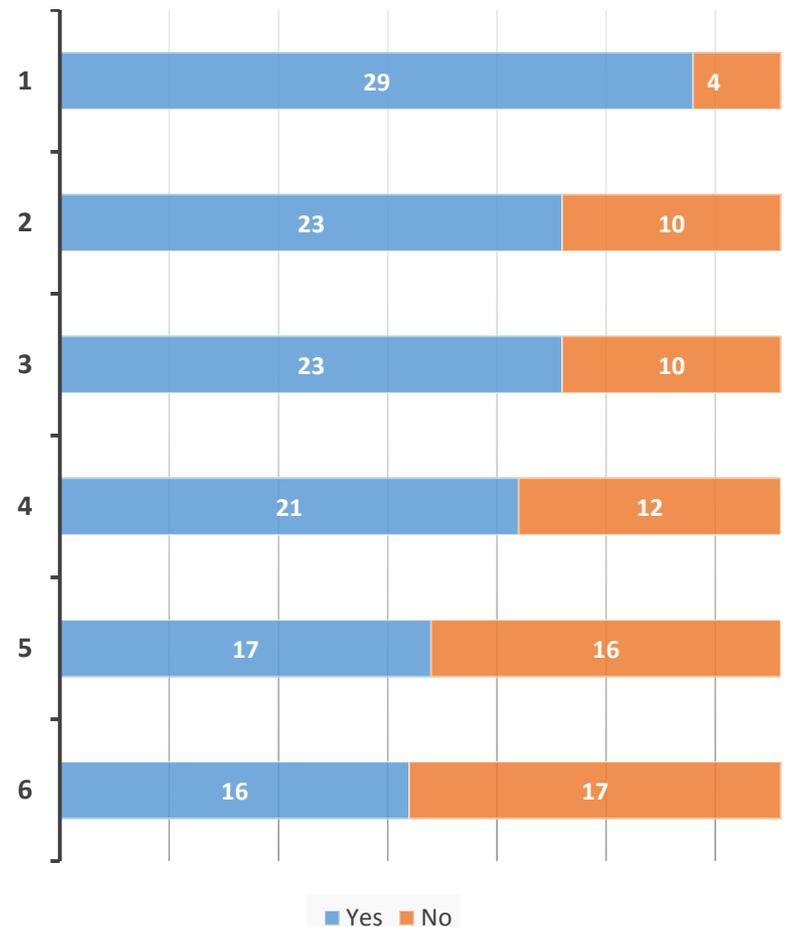
Governance – Cervical cancer screening programmes

- National screening board
- Structured decision-making
- Steering board for programme
- Management team
- Advisory board
- Quality manual



Legal framework for invitation, registration and linkage in Cx screening programmes

- 1) **personal invitation** based on age and gender?
- 2) **invitation** based on **screening history**?
- 3) **systematic screening registration** in an electronic screening registry?
- 4) **individual linkage** between **screening and cancer** registries?
- 5) individual linkage of **screening, cancer and cause of death** registries?
- 6) coordination of quality assurance by **re-reading** of potential false negative tests and controls?



Recommendations: Governance

- Effective cancer screening requires a competent, multidisciplinary **governance structure** for sustainable implementation, modification (and cessation) of new and existing cancer screening programs
- Effective cancer screening requires **legal framework**, which enables mandatory notification and central registration of screening and outcome data, individual linkage to cancer and cause of death registers, and quality assurance including clinical and program audits
- ✓ **Effective cancer screening requires resources for quality assurance 10–20% of total expenditure**

Recommendations: organization and evaluation

- ✓ Implementation of cancer screening should be done in multiple steps through **coordinated planning, piloting and roll-out**
- ✓ **Adequate mandate and resources** are required for screening coordination, supervision and training, and computerised information systems for quality assurance and improvement
- ✓ **Benefits and harms** of screening need to be presented and clearly communicated to the general public
- ✓ **Cost-effectiveness** of screening should be evaluated prior to making any substantial changes or modifications
- ✓ Evaluation of **equity** should be integrated in the screening programme
- ✓ **Transition research** should be launched "on spot" in programmes where poor attendance or other serious barriers have been identified

POTENTIAL NEW CANCER SCREENING PROGRAMMES

- Three key policy-making criteria:

- *Effectiveness*
- *Benefits outweigh harms*
- *Health-economic evaluation*

based on efficacy and adverse effects data from RCTs

POTENTIAL NEW SCREENING PROGRAMMES

Prostate cancer screening

- The ERSPC has showed that PSA-based screening resulted in a 21% prostate cancer mortality reduction (Schröder et al. 2009, 2012 and 2014)
- The point estimates varied between participating countries
- No mortality difference was found in the US trial, likely due to contamination of the control arm (Andriole et al., 2009)
- Concerns on the harms of overdiagnosis and overtreatment
- QALY cost estimates vary from 31,500 USD (single screen at age 55) to 92,000 USD (4-yearly screening at age 55-67), or more (Heijnsdijk et al. JNCI 2015)

POTENTIAL NEW SCREENING PROGRAMMES

Lung cancer screening in smokers/ex-smokers

- 15-20% decrease in lung cancer mortality reported in annual LDCT screening trial in the US (NLST 2011; Pinsky et al. 2013)
- No impact in a small-size Italian trial (Infante et al. 2015)
- Other European RCTs still in the follow-up phase, important to wait for their results
- QALY cost has been estimated to vary at about 57,000-81,000 USD from the US trials (Black, 2015; Goffin et al. 2015)

Ovarian cancer screening

- No clear evidence yet on efficacy (Buyss et al. 2011, Jacobs et al. 2016)

POTENTIAL NEW SCREENING PROGRAMMES

Gastric cancer screening

- Evidence from RCTs suggest that *H. pylori* eradication lowers gastric cancer risk by 30–40% (IARC 2014; Ford et al. 2015). Potential of adverse effects not investigated sufficiently.
- Endoscopy screening has been suggested to be cost-effective only in high-risk areas of Asia
- Investments in evaluation needed in order to run appropriate RCTs in Europe such as the GISTAR trial

RECOMMENDATIONS: NEW CANCER SCREENING PROGRAMMES

- **Quantitative estimates** of the benefits, harms and cost-effectiveness of new cancer screening programmes are needed to decide on implementation.
- It is essential that EU Member States finance appropriate **randomized trials on potential new cancer screening programmes**
- Active **European research collaboration** and pooling of results from RCTs and related health-economic assessments are necessary to obtain evidence relevant for the different settings with potential variations in the burden of disease, health priorities, effectiveness, resources and affordability

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Thank You