

Conclusions from iPAAC screening reports

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Task on cancer screening: Scope

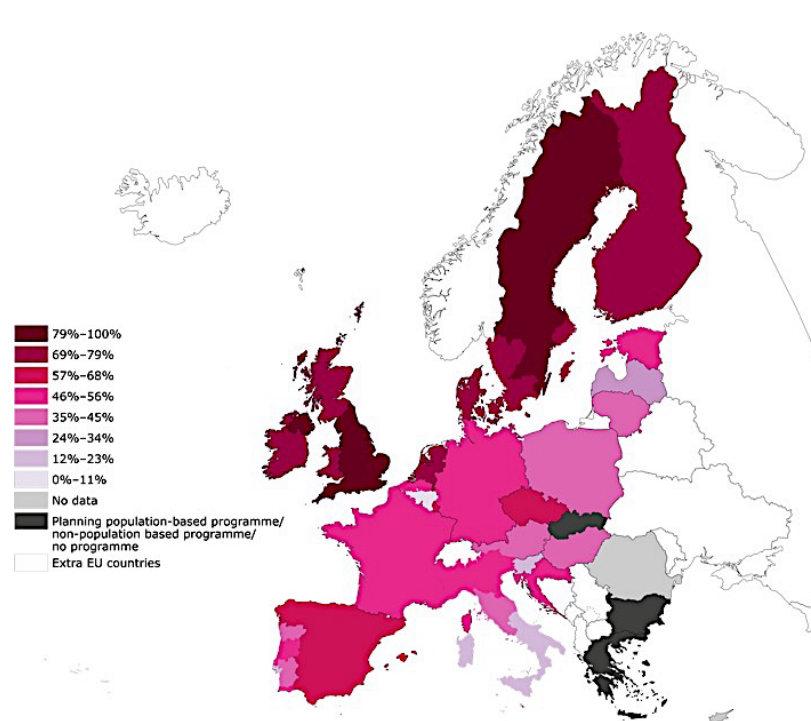
- The work of the task group has been largely built upon the EU Council recommendation on population-based cancer screening programmes (2003) and European quality assurance guidelines defining the concepts, elements and implementation criteria for cancer screening
- Recommendations for policy-making and governance for cancer screening programmes and how to reduce health inequalities have been laid down in the previous Joint Action on cancer, CANCON (Lönnberg et al., 2017; Peiro et al. 2017)
- In addition there are needs to develop criteria for implementing *risk-stratified screening*, i.e., selective screening by individuals in a population-based approach; and assess *the potential of new programmes* from the policy-making perspectives

Implementation of cancer screening in the EU

- Out of the 28 Member States (2017) population-based screening in its implementation, roll-out, piloting or planning phase on-going for
 - Breast cancer in 25, cervical cancer in 22, and colorectal cancer 20 Member States
Ponti et al, 2017 and subsequent EUSR reports; further details in Partha Basu's presentation
- There are still remarkable problems and barriers in many programmes
 - Sub-optimal attendance and coverage, and inequalities in attendance by and within MSs (*ibid.*, *Molina et al.*, 2016, *Peiro et al.*, 2017)
 - Lack of systematic monitoring and evaluation (*Ponti et al.*, 2017 & *EUSR reports*)
 - Lack of appropriate governance and legal frameworks to support evidence-based implementation and systematic quality assurance (*Lönnberg et al.*, 2017; *Majek et al.*, 2018)

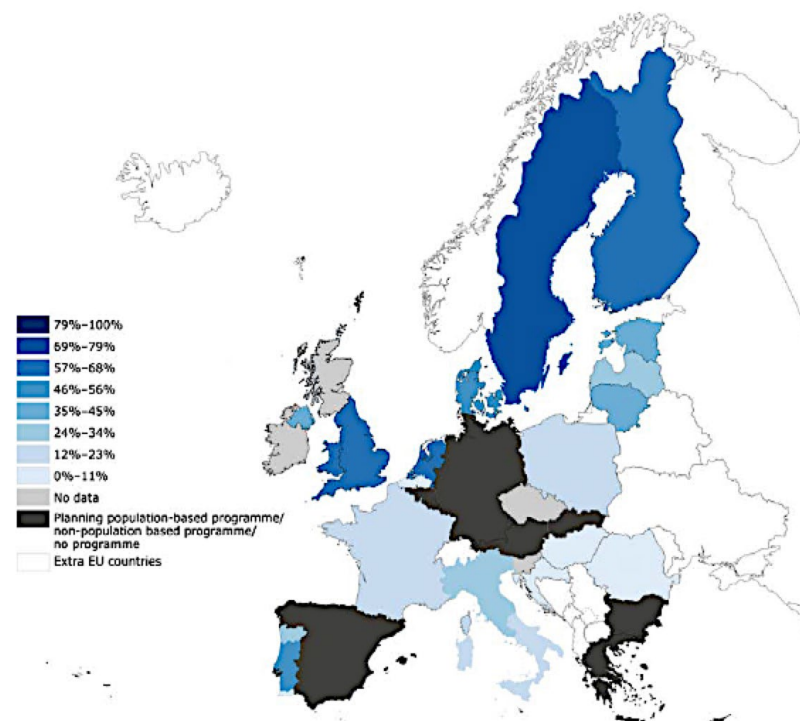
Cancer Screening in the EU – Exam Coverage in 2013/14

Source: Partha Basu 14.1.2021



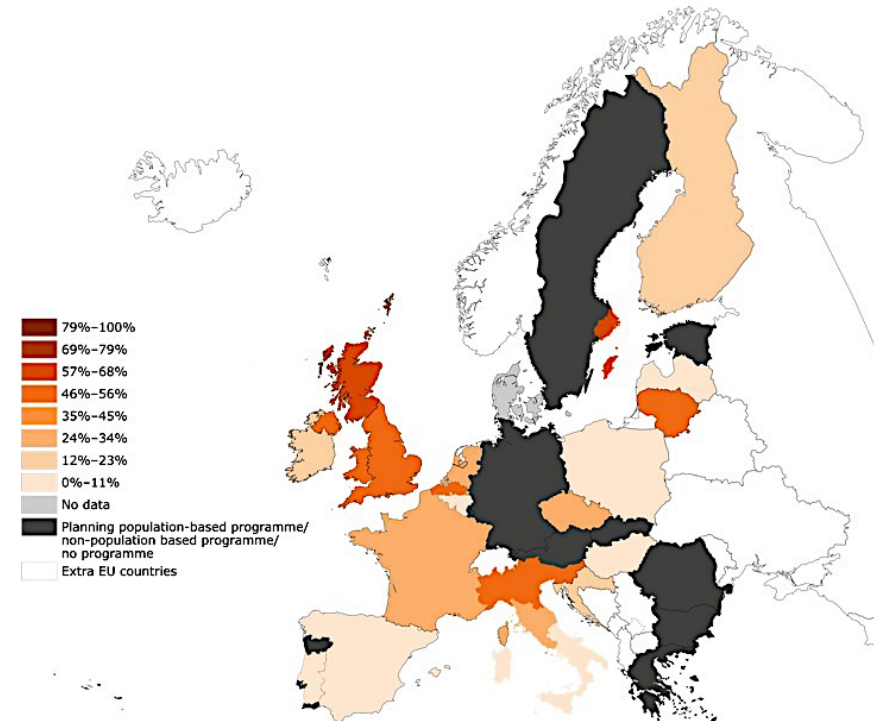
Breast ca screening (50-69 y)

Average: 49%



Cervix ca screening (program age)

Average: 30%

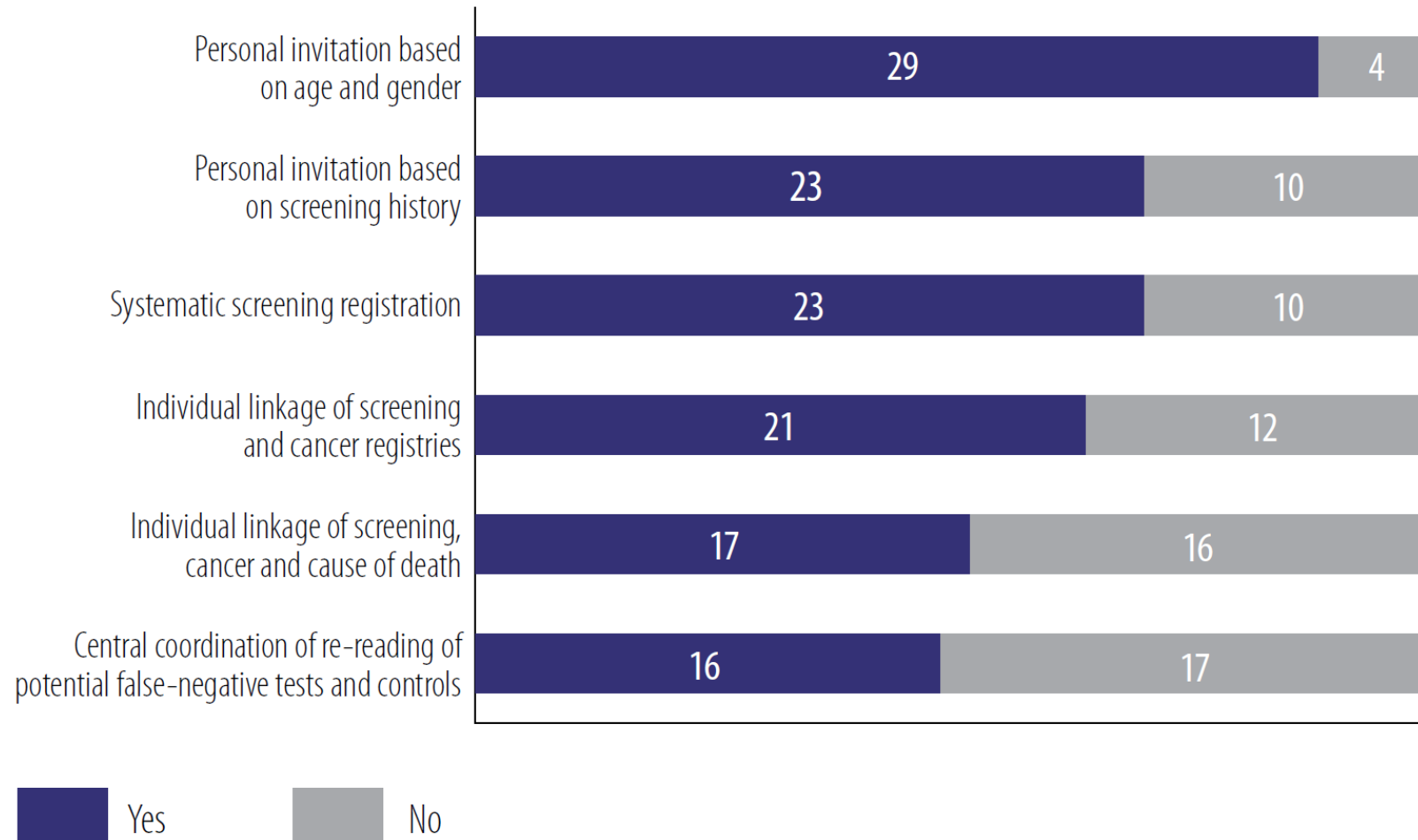


CRC screening (program age)

Average: 14%

International Agency for Research on Cancer

Legal frameworks for cervical cancer screening for 33 EU or EFTA countries (Lönnberg et al., 2017; Majek et al., 2018)



Modifications on risk-stratified screening (examples)

- Modify cervical cancer screening in HPV vaccinated birth cohorts (vs unvaccinated)
- Colorectal cancer screening has been proposed to be stratified with help of family history, lifestyle, environmental and genetic factors and screening history
- Improving breast cancer screening of women with high breast density
- How genetic susceptibility to breast cancer affects population-based breast cancer screening?
 - Of note, genetic predisposition to very high risk (e.g. BRCA1 or 2 for breast cancer, Lynch syndrome for colorectal cancer) are examples of surveillance programmes identified in clinical settings -- rather than forms for population-based cancer screening programmes

Cancer screening: Potential of new programmes (1)

- Three main criteria for potential new cancer screening programmes (Lönnberg et al., 2017)
 - Efficacy and effectiveness from RCTs
 - Balances of benefit outweigh harms
 - Cost-effectiveness

Additional aspects relate e.g. to

- Ethics, respect for autonomy, informed choice
- Resources available, affordability, feasibility
- Alternative or complementary strategies
- Tackling social inequalities

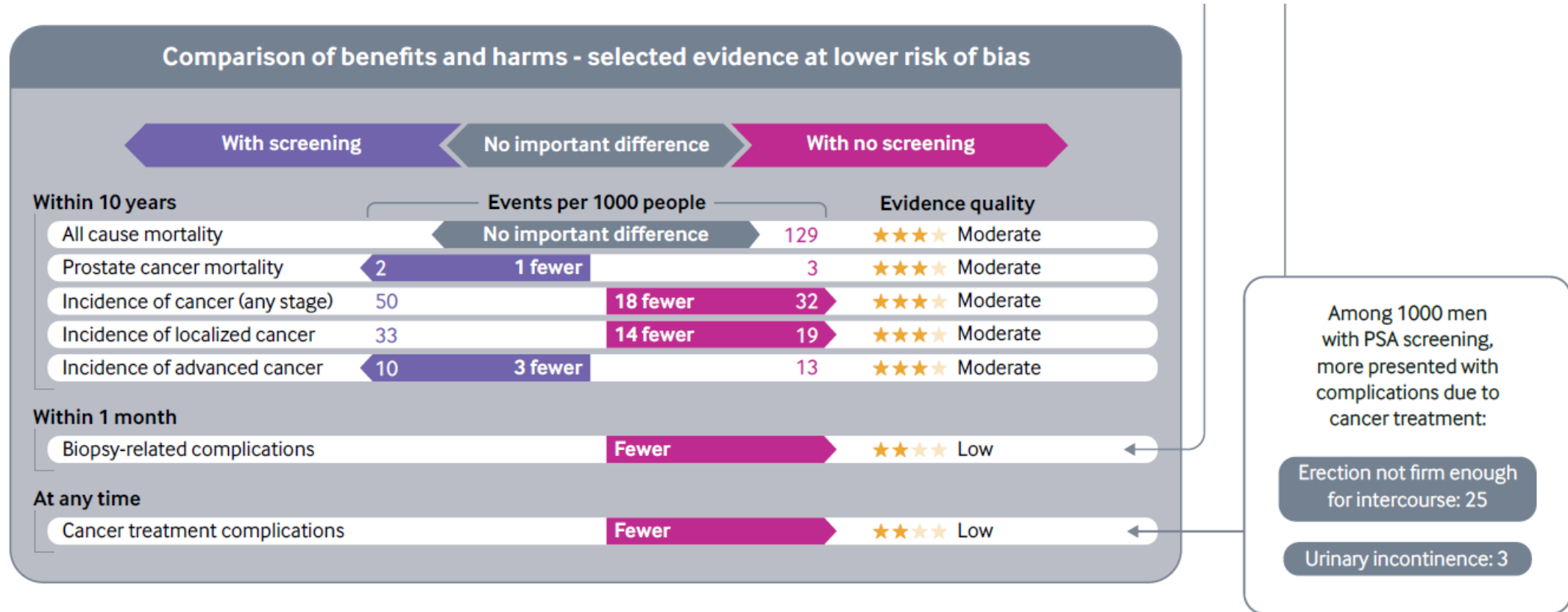
- Information on screening for prostate and lung cancers from randomized trials and available implementation studies were used in the background materials of the tasks

Consensus-building on potential new screenings

- If controversy/no consensus about a potential new screening program
 - Acquiring evidence – focus (from basic research) through systematic clinical validation studies to appropriate longitudinal trials
 - Synthesis of evidence – interpretation and translation of trials results
 - Assessments of health economic dimensions
 - Policy objectives and prioritization
- Implementation research, feasibility, validation, training, testing organization models and further planning steps can occur if decision criteria are not yet satisfied within the national governance structure

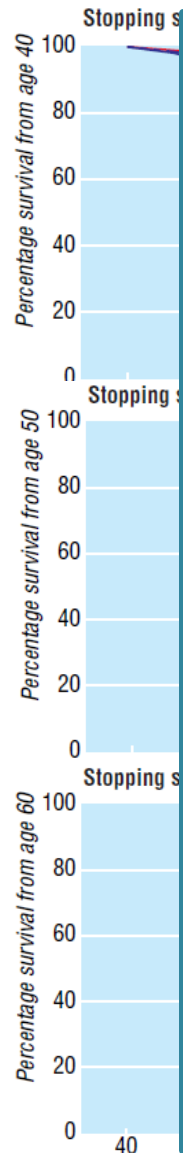
Summary of benefits and harm of PSA screening

Tikkinen et al., 2018



Mortality results of randomized lung cancer screening studies using low-dose spiral tomography (LDCT)

Study	HR Lung cancer mortality	95% CI	HR Overall mortality	95% CI
NLST (NLST 2011)	0.80	0.73-0.93	0.93	0.86-0.99
MILD (Pastorino 2019)	0.61	0.39-0.95	0.80	0.62-1.02
ITALUNG (Paci 2017)	0.70	0.47-1.03	0.83	0.67-1.03
DANTE (Infante 2015)	0.99	0.69-1.43	0.95	0.77-1.17
LUSI (Becker 2019)	0.74	0.46-1.19	0.99	0.79-1.25
DLCST (Wille 2016)	1.03	0.66-1.60	1.02	0.82-1.27
UKLS (Field 2016)	Not reported		Not reported	
NELSON (de Koning 2020)	0.76 (men)	0.61-0.94	1.01 (men)	0.92-1.11



LC risk in the potential screening target groups

- **8-30 –fold increase** in lung cancer incidence and mortality, along with increased risks in a number of other diseases and causes-of-death (*Doll 2004; Jha 2013 & 2014; U.S. Dept of Health and Human Services 2020*)
- LC screening with low-dose CT has decreased lung mortality **on average by 17% among the screened** study group and overall mortality by 4 % (seven trials; *Sadate et al. 2020*)

→Efficacy of LDCT screening for lung cancer has been demonstrated

→Primary prevention still in the priority for the governmental tobacco control policies, covered in the iPAAC task 5.3.

Key conclusions from the iPAAC task on cancer screening

- Even though considerable developments during the last 15 years in the implementation of **current population-based screening programmes for cancer** within the EU MSs; still many of the Member States lack systematic, comprehensive policy-making protocols and structures for well-functioning cancer screening programmes
- The iPAAC WP5 calls for social innovations and tools for improved implementation in three EU council recommended screening programmes
 - Improved organization models and quality assurance protocols adopted through appropriate governance of cancer screening
 - Reducing inequality
 - Risk-adjusted screening approaches to modify current programmes – have been started already!

Key conclusions from the iPAAC task on cancer screening

- Focus on finding binding solutions for better coverage, legal frameworks, governance structures and standardized data at the pan-European level
- Quality improvement through regular screening performance data using standardized data collection tools, protocols and outputs at the European level on a continuous basis. This includes developing acceptable standards for the core indicators
- Autonomous networks of cancer screening coordinators and evaluators need to be re-activated to develop effective solutions in settings that do not have a well-functioning programme. This could develop training and capacity-building, novel data collection structures, and assist in evidence-assessments required for the Europe-wide recommendations

Key conclusions from the iPAAC task on cancer screening: effectiveness of risk-adjusted screening

- To adopt validated surrogate/early indicators of effectiveness of current programme modification, as rate of advanced cancers, survival and quality of life after treatment should be considered. This can enable gradual, well-controlled timely modifications to the screening policy with integrated profound evaluation of effectiveness of the programme in long term
- Still, even if evidence-base will become available from such studies and from efficacy trials, there will be challenges on how to reliably assess the lifetime benefits and harms of the various options
- Feasibility and challenges due to demanding logistics and organizational requirements has also to be taken into account

Key conclusions from the iPAAC task on cancer screening: potential of new programmes

- Updating evidence on the potential of new cancer screening programmes is permanently needed
- There are particular challenges also in developing reliable health economic assessments across Member States, respectively, taking into account the huge variation in resources, affordability, and alternative (competing) or complementary prevention strategies

Key conclusions from the iPAAC task on cancer screening: potential of new programmes

- Lung cancer screening trials have reported an average 17% decrease in LC mortality for LDCT screening. Analyses of benefits and harm, health economic aspects, and further implementation research are required. Challenges involve, e.g. integrating interventions on smoking cessation in the possible target age; and/or also younger age than that age; and dealing with protocols adopted in the trials on possible other ‘incidental’ findings
- Prostate cancer screening challenges involve evidence criteria required for the modifications to the testing, further assessments and cancer management protocols; and building bridges and links with other areas of early detection of cancer where the evidence-base is not yet developed well enough (the iPAAC WP5 task 5.1. on early diagnosis)

Priority list for cancer screening in Europe

1. Quality assurance

Solutions for better coverage of services, legal frameworks, governance and standardized data, minimizing consequences of Covid-19

2. Solving disparities

HPV vaccination and cancer screening coverage

3. Controlled modifications

Gradual, well-controlled risk- stratified modifications with evaluation of effectiveness

4. Updates

Social and health inequalities, and risk-stratified screening in the European screening recommendations and quality assurance guidelines

5. Implementation

Programme to training and capacity-building for cancer screening and early detection. Professional networks

6. Comprehensiveness

Better integration between primary and secondary preventive strategies

7. New programmes

Updating evidence -base. In addition to harms and benefits balance, economic and resource assessments are needed, given the huge variation within EU regions

BREAKING NEWS • Kremlin critic Alexei Navalny says he will return to Russia on January 17

**WALTER RICCIARDI**

CHAIR OF THE BOARD, MISSION CANCER

FUTURIS

"We want to make sure that each EU citizen has a right to access these services, so their conditions are diagnosed on time". - Euronews

Walter Ricciardi, Chair of the Board of the Cancer Mission, says a priority is guaranteeing that each European citizen has access to cancer screening:

"Back in 2003, the [Council of Europe](#) adopted the guidelines for the use of screenings in the prevention of breast, colon and cervical cancers.

"But even today, not all European citizens have access to these services. There are still patients in certain countries who don't have access to preventative actions and who subsequently die because of this lack of access.

aquaculture

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5

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Thank you for your attention!