



CanScreen-ECIS:

Project Results and Outcomes



ABOUT CANSCREEN-ECIS

This leaflet provides insights and updates achieved throughout the CanScreen-ECIS project, “Strengthening cancer screening data collection to update *European Cancer Information System* and improve quality and coverage of cancer screening programmes in Europe.”

THE PROJECT

The *CanScreen-ECIS* project is about creating a smart system with new features to manage cancer screening data that can be integrated into the *European Cancer Information System (ECIS)* hosted by the *Joint Research Centre (JRC)*. The project has received co-funding from the EU4Health programme under Grant Agreement No 101056947.

The project is a collaboration with European experts involved in two other key projects on cancer screening data collection: the second European Screening Report (EUSR) and EU-TOPIA.

We identified key performance and outcome indicators for breast, cervical, colorectal and lung cancer screening through a combined process of systematic evidence review and expert consultation to keep up with the latest screening methods and potential new areas for cancer detection. We have also designed tools to collect data from various cancer screening programs and created a data warehouse where providers can access and submit data easily. Plus, we are developing a user-friendly web app that can analyse and presents the data visually. Making it easier to keep an eye on changes to screening data indicators, towards for example, identifying trends, shortcomings, inequalities, as well as improving decision-making.

OBJECTIVES

The CanScreen-ECIS project is strategically designed to achieve several key objectives:

- 1 Facilitate Program Comparison:** Develop performance indicators that allow for a meaningful comparison between diverse organizational setups within screening programs.
- 2 Capture Data Beyond Programs:** Enable the collection of data pertaining to testing activities conducted outside the established screening programs (opportunistic screening).
- 3 Address Inequalities:** Establish a robust monitoring system capable of identifying and quantifying information related to inequalities in cancer screening.
- 4 Anticipate Future Needs:** Propose indicators that cover emerging screening approaches and potential new cancer sites, ensuring the system remains adaptable to future developments.

CanScreen-ECIS aims to revamp cancer screening data management with a focus on efficiency, inclusivity, and future readiness. Here is how it makes a difference:

- 1 Tailored Data Collection Tools:** Aimed to design user-friendly data collection tools for breast, cervical, colorectal, and lung cancer screening programs, aligning them a new set of evidence-based indicators.
- 2 Accessible Database:** Creating a database will empower screening data providers, offering easy access to tools and simplified data submission.
- 3 Dynamic Data Analysis:** Our goal is to automatically analyse data and present it through interactive graphs, tables, and more, ensuring a visually engaging and insightful experience.
- 4 Pilot Program Involvement:** We have organised a pilot program, inviting European screening programs to submit data using our new system, using their valuable feedback to improve the system.
- 5 Seamless Integration:** Aim to develop a new data management system for seamless integration into ECIS, ensuring a cohesive and efficient platform.

MAKING IT HAPPEN – THE ACTION PLAN

Our project was structured into 6 Work Packages (WPs), each led by an expert collaborator:

WP1

Project Management and Coordination

(IARC, France): Ensuring smooth operations and coordination.

WP2

Refining Performance Indicators

(Erasmus MC, Netherlands): Fine-tuning indicators for optimal performance.

WP3

Developing a Data Submission Portal

(CPO, Italy & IARC, France): Developing data collection templates, creating a data a secure portal for uploading qualitative and quantitative data and implementing a data analysis tool and a web application for data reporting and dissemination.

WP4

Pilot Testing Functionalities

(IARC, France & CPO, Italy): Testing the new data warehouse and web application through a pilot program.

WP5

Supporting Capacity-Building

(CSF, Finland): Facilitating capacity-building in European states for effective data contribution.

WP6

Continued Engagement

(ECL, Belgium): Maintaining active collaboration to report on the implementation and performance of the new functionalities of ECIS, contributing towards the third EU Screening Report.

With CanScreen-ECIS, we are not just managing data, we are transforming the landscape of cancer screening information in pursuit of our common goal of a Europe free of cancer.

IDENTIFYING KEY PERFORMANCE INDICATORS

WP2 - Refining Performance Indicators (Erasmus MC, Netherlands): Fine-tuning indicators for optimal performance.

To ensure the collection of relevant and comprehensive data, we identified key performance indicators for the monitoring of cancer screening for breast, cervix, colorectal and lung cancer. The final list of performance indicators is based on a systematic process of evidence synthesis and European expert consultation. The new indicators are aimed to assess equity and to adapt to new screening approaches and new cancer screening programmes.

Table 1. Key performance indicators

Indicator Categories	Indicators
1. Invitation & risk assessment	1. Invitation Coverage 2. Risk assessment
2. Screening	3. Examination Coverage 4. Participation Rate 5. Retention Rate 6. Test result 7. Positive Predictive Value Screening Test 8. False Positive Rate 9. Episode Sensitivity
3. Further Assessment	10. Compliance with triage 11. Compliance with further assessment 12. Detection rate
4. Treatment	13. Compliance with treatment
5. Harms	14. Complications Screening Test 15. Complications further assessment
7. Opportunistic Testing	16. Opportunistic testing
9. Impact Indicators	17. Cause-Specific Mortality 18. Crude Incidence Rate 19. Interval Cancer Rate
Lung cancer-specific indicators	1. Smoking Cessation Participation 2. Percentage of Ex-Smokers who quit since their previous screen 3. Non-malignant surgical biopsy/resection rate 4. Incidence of Significant Incidental Findings (Lung Cancer Screening) 5. Compliance with Early Rescreening

NEW PORTAL - DATA MANAGEMENT













WP3 - Developing a Data Submission Portal (CPO, Italy & IARC, France):
 Creating a secure portal for compliant data reporting and dissemination.

WP4 - Pilot Testing Functionalities (IARC, France): Testing the new data warehouse and web application through a pilot program.



CanScreen-ECIS

Data Submission platform - Finland (national level)

	Landscape survey	Quantitative tools	Indicators calculated
Breast cancer 	<p>Fill out & submit form (Completed)</p> <p>Review status: Validated with consent of data providers</p>	<p>Fill out & submit form (Completed)</p> <p> Template  Guide</p> <p>Review status: Under check, revision</p>	Breast cancer indicators: [1]
Cervical cancer 	<p>Fill out & submit form (Completed)</p> <p>Review status: <input type="text"/></p>	<p><i>If you have datasets for multiple primary screening tests, please fill out different form for each test:</i></p> <ul style="list-style-type: none"> • Fill out & submit form (Completed) • Fill out & submit a 2nd form (Completed) <p> Template  Guide</p> <p>Review status: 1: <input type="text"/>, 2: <input type="text"/></p>	Cervical cancer indicators: [1] [2]
Colorectal cancer 	<p>Fill out & submit form (Completed)</p> <p>Review status: <input type="text"/></p>	<p><i>If you have datasets stratified by sex please use separate form for each sex and each primary screening test. Otherwise use a single form for each primary screening test:</i></p> <ul style="list-style-type: none"> • Fill out & submit form (<input type="text"/>) • Fill out & submit a 2nd form (<input type="text"/>) • Fill out & submit a 3rd form (<input type="text"/>) • Fill out & submit a 4th form (<input type="text"/>) • Fill out & submit a 5th form (<input type="text"/>) <p> Template  Guide</p> <p>Review status: 1: <input type="text"/>, 2: <input type="text"/>, 3: <input type="text"/>, 4: <input type="text"/>, 5: <input type="text"/></p>	Colorectal cancer indicators: [1] [2] [3] [4] [5]
Lung cancer 	<p>Fill out & submit form (<input type="text"/>)</p> <p>Review status: <input type="text"/></p>	<p><i>If you have datasets stratified by sex please use separate form for each sex and each primary screening test. Otherwise use a single form for each primary screening test:</i></p> <ul style="list-style-type: none"> • Fill out & submit form (<input type="text"/>) • Fill out & submit a 2nd form (<input type="text"/>) • Fill out & submit a 3rd form (<input type="text"/>) <p> Template  Guide</p> <p>Review status: 1: <input type="text"/>, 2: <input type="text"/>, 3: <input type="text"/></p>	Lung cancer indicators: [1] [2] [3]

[Access to the CanScreen-ECIS analytic platform](#)

A new data submission portal was developed for the collection and visualisation of results of key quality indicators of established screening programmes (breast, cervical, colorectal and lung cancer screening).

The new portal provides the collection tools to monitor screening programmes across Europe, as well as provides a clear overview of the available data.

33 countries (23 of them are EU member states) were invited to participate in the pilot, 27 countries (34 screening programmes) responded to the invitation and 22 countries (of which 18 are EU member states) submitted data and took part in the pilot testing of the data warehouse functionalities and tools

The final goal is to integrate the piloted portal into ECIS.

Image 1. Data collection portal – The example of Finland.

CAPACITY BUILDING

WP5 - Supporting Capacity-Building (CSF, Finland): Facilitating capacity-building in European states for effective data contribution

To ensure successful and continuous data collection, webinars were organised for data providers participating in the pilot phase. Two learning programmes were also produced. The first one is aimed at promoting systematic evaluation for quality improvement of screening programs (Table 2). The programme consists of recorded lectures which can be found on the project website. The second learning programme covers the new indicators, data collection tools, data submission, validation process.

Table 2. Overview of learning programme on monitoring and evaluation of cancer screening

Module 1: General principles	Module 2: Monitoring of screening	Module 3: Special considerations
1.1 Principles of screening 1.2 Necessary legal framework and governance structure	2.1 Indicator approaches 2.2 Different dimensions of monitoring and evaluation 2.3 Registration of data 2.4 Details on monitoring by targeted cancer site 2.5 Monitoring in every phase of screening programme implementation 2.6 How to use monitoring data in quality improvement	3.1 Scientific evaluation of screening effectiveness 3.2 European steering on cancer screening

STAYING UP TO DATE WITH THE CANSCREEN-ECIS PROJECT AND CANCER SCREENING UPDATES

WP6 - Continued Engagement (ECL, Belgium): Maintaining active collaboration to report on the implementation and performance of the new functionalities of ECIS, contributing towards the third EU Screening Report

Visit the project website with more detailed information about the project, consortium partners achievements, and deliverable materials: www.canscreen-ecis.iarc.who.int



PROJECT INFORMATION

Project Name: Strengthening cancer screening data collection to update European Cancer Information System and improve quality and coverage of cancer screening programmes in Europe

Project Acronym: CanScreen-ECIS

Grant number: 101056947

Start - End: 01 September 2022 - 29 February 2024

Duration: 18 months

Budget: EUR 2,767,051.03

Project website: <https://canscreen-ecis.iarc.who.int/>

Number of Consortium Partners: 8

Partner Countries: France, Belgium, Netherlands, Italy, Norway, Finland

International Agency for Research on Cancer



World Health
Organization



European Cancer Information System (ECIS): <https://ecis.jrc.ec.europa.eu/>

The ECIS web application is managed by the European Commission's Joint Research Center.



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