Prioritising performance and outcome indicators for breast, cervical and colorectal cancer screening programs for the CanScreen-ECIS Project

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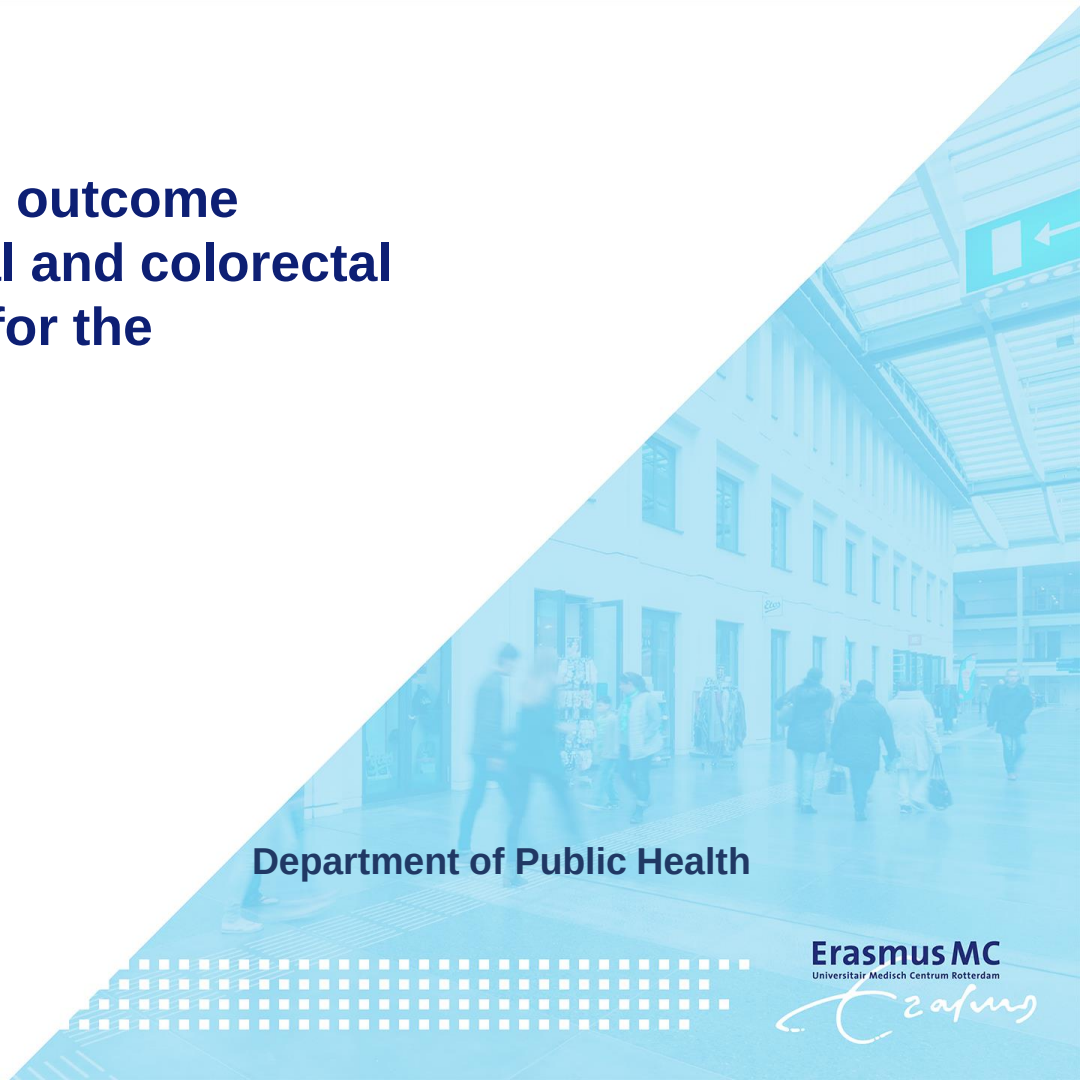

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Erasmus MC
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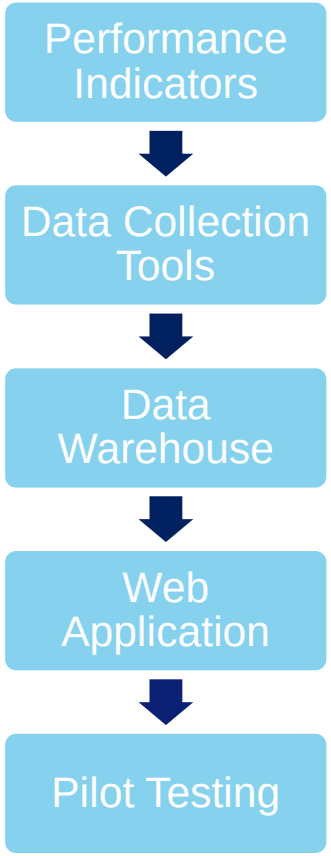
Introduction

1. CanScreen Project
2. Methodology
    1. Indicator Categories
    2. Systematic Search
    3. Refinement Process
    4. Delphi Study
3. Results of Delphi Study
4. Conclusion and Next Steps

CanScreen ECIS

Develop and pilot a new cancer screening data management system to be integrated into the European Cancer Information System (ECIS)



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Indicator Categories: WP2 Goals and Objectives

1. Be optimised to make **screening settings comparable**
2. Be able to include settings with testing outside the invitational population based programs (**opportunistic**)
3. Be able to capture **inequalities**
4. Be adapted to be used in settings with **risk based screening** protocols
5. Identify **barriers** to optimal screening
6. Enable impact assessment include the **harms** of screening
7. Be categorised by **importance and/ or priority**
8. Be able to include possible **future cancer sites** under consideration (lung and prostate)
9. Accommodate monitoring and evaluation of **new screening approaches**
10. Identify **red flags**, for governance, policy and clinical guideline changes

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Methodology

1. Indicator Categories
2. Systematic Search
3. Refined Indicator List
4. Delphi Study

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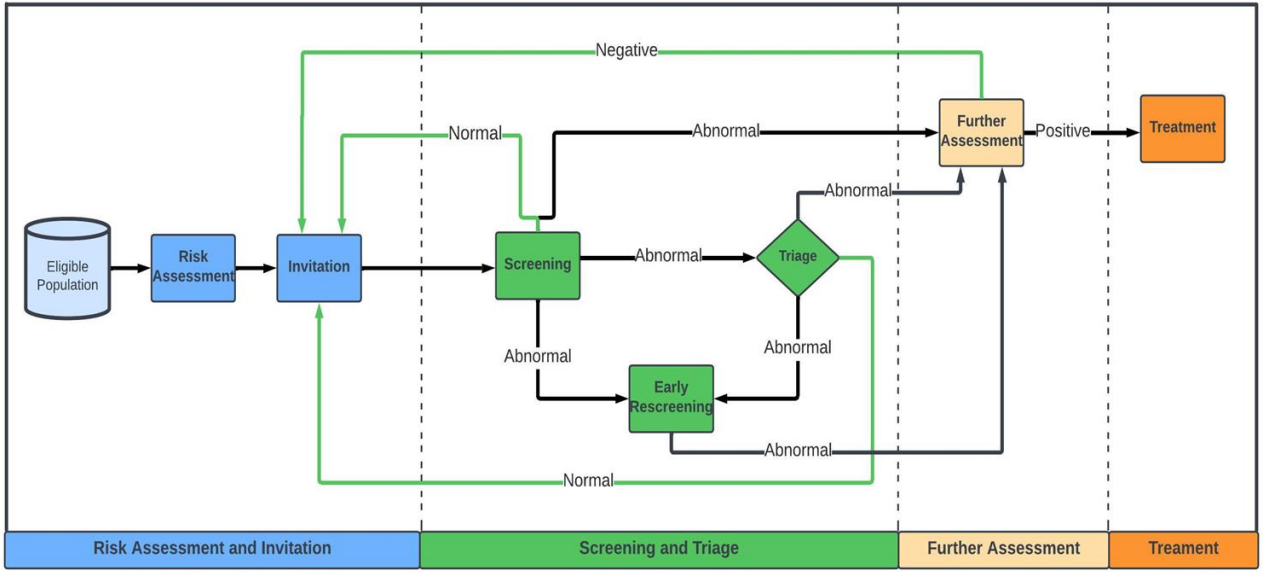
Indicator Categories

1. Risk assessment and Invitation
2. Screening and Triage
3. Further Assessment
4. Treatment
5. Harms
6. Barriers and Inequalities
7. Opportunistic Testing
8. Program Functioning
9. Impact indicators



Delphi Study

Consensus building process

2 rounds online survey/ feedback session

33 cancer screening experts

- Round 1
  - 20 Participants (60% response rate)
- Round 2
  - 17 Participants (85% retention rate)

Delphi Study: Online Survey

Importance was defined as necessary to quantify the long-term outcomes of screening, including equity, benefits and harms.

An indicator was considered **feasible** if the data required to assess the indicator is available and accessible.

5-point Likert scale.

1. *Strongly Disagree*
2. *Disagree*
3. *Neutral*
4. *Agree*
5. *Strongly Agree*

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Delphi Study: Feedback Session

Discussed indicators where consensus was not reached

- Total mean score between 3.5 and 4
- 16 indicators

Positive consensus

- Total mean score of over 4 points
- 13 indicators

Negative consensus (lowest priority)

- Total mean score of less than 3.5
- 9 indicators

Results Round 1

1. Detection Rate
2. Participation Rate
3. Invitation Coverage
4. Interval Cancer Rate (after negative screening test)
5. Examination Coverage
6. Test Result
7. Cause-Specific Mortality
8. False Positive Rate
9. Positive Predictive Value Screening Test
10. Interval Cancer Rate (after screening test and workup and diagnostics procedures)
11. Episode Sensitivity
12. Time from Positive Screen to First Diagnostic Procedure
13. Opportunistic Testing
14. Compliance with Further Assessment
15. Complications Screening Test
16. Further Assessment Referral Rate
17. Time from Definitive Diagnosis to First Treatment
18. Specificity
19. Risk Assessment
20. Complications Further Assessment
21. Crude Incidence Rate
22. Triage Referral Rate
23. Negative Predictive Value Screening Test
24. Retention Rate
25. Time from Screen Test to Notification of Result
26. Compliance with Triage

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23. Negative Predictive Value Screening Test
24. Retention Rate
25. Time from Screen Test to Notification of Result
26. Compliance with Triage

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Results Round 2

1. Examination Coverage
2. Detection Rate
3. Interval Cancer Rate (after screening test and workup and diagnostics procedures)
4. Test Result
5. Compliance with Further Assessment
6. Participation Rate
7. Time from Positive Screen to First Diagnostic Procedure
8. Opportunistic Testing
9. Interval Cancer Rate (after negative screening test)
10. Invitation Coverage
11. Positive Predictive Value Screening Test
12. False Positive Rate
13. Complications Screening Test
14. Complications Further Assessment
15. Cause-Specific Mortality
16. Episode Sensitivity
17. Retention Rate
18. Time from Screen Test to Notification of Result
19. Crude Incidence Rate

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Indicator Mapping

Categories	Indicators
1. Risk assessment and Invitation	1. Risk Assessment 2. Invitation Coverage
2. Screening and Triage	3. Participation Rate 4. Examination Coverage 5. Retention Rate 6. Test result 7. Positive Predictive Value Screening Test 8. False Positive Rate 9. Episode Sensitivity 10. Compliance with Triage
3. Further Assessment	11. Compliance with Further Assessment 12. Detection rate
4. Treatment	13. Compliance with treatment
5. Harms	14. Complications Screening Test 15. Complications Further Assessment
6. Barriers and Inequalities	16. Participants Satisfaction with the Program
7. Opportunistic Testing	17. Opportunistic testing
8. Program Functioning	18. Time from Screen Test to Notification of Result 19. Time from Positive Screen to First Diagnostic Procedure
9. Impact indicators	20. Cause-Specific Mortality 21. Crude Incidence Rate 22. Interval Cancer Rate

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Conclusion

- Strengths
  - Transparent systematic methodology
- Limitations
  - Quantifying harms of screening
  - Feasibility inequalities and barriers
- This set of indicators will be adopted by the CanScreen Project
  - Data collection tables reflecting these indicators are currently being developed
  - Piloting of the CanScreen project June-November 2023
  - Further indicator covering lung and prostate will be added

Thank you!

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