

# Powerful linkage of screening registry with other data sources to tackle social inequalities by population-based cancer screening



## STATUS

Pilot ongoing Program

## LAST UPDATE

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FINLAND • NATION-WIDE  
Cancer screening

## PROBLEM & OBJECTIVE

**PROBLEM** Research from different settings show that health disparities between socioeconomic groups exist also within population-based screening programs. Current monitoring and evaluation practices in the European cancer screening programs fail to include information of these differences.

**OBJECTIVE** Finnish Cancer Registry has piloted the reporting of cancer screening indicators related to socioeconomic factors by linking screening registry with other data sources. This information can be used to focus and tailor interventions on areas with most pressing needs.

## REFERENCES & DOCUMENTATION

- [Annual review of cervical cancer screening program 2021](#)
- [Annual review of breast cancer screening programme 2021](#)
- [Statistical application on cancer burden that includes socioeconomic variables](#)
- [Definition of equity in the EU-TOPIA project](#)

## CONTACT

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## KEY CONTEXTUAL FACTORS

- Breast cancer screening is run for women aged 50–69 years every two years, and cervical cancer screening for women aged 30–60 years every five years.
- Municipalities (~300) are responsible for screening organisation, all resident population is invited personally, screening is free of charge except for diagnostic confirmation.
- Finnish Cancer Registry has a legislated responsibility to evaluate and monitor cancer screening.
- Health equity can be defined as absence of avoidable differences in health Utilization of socioeconomic variables in monitoring can make potential differences visible. Current screening programs do not take characteristics or needs of different population groups into account.

## KEY COMPONENTS / STEPS

- The Finnish Cancer Registry maintains registers for both cancer screening programs. The registers contain individual data on invitations, screening tests and histological results from diagnostic confirmations. Opportunistic testing is not yet included in routine registration.
- Legislation in Finland permits individual linkage of certain socioeconomic data (level of education, socioeconomic status, employment status) from annual census records with screening registry data. The Statistics Act from 2004 permits the use of these variables in the monitoring and evaluation of cancer screening.
- Digital and Population Data Services Agency also provides individual data on country of birth, mother tongue, marital status, and home municipality which can be linked with other data sources using unique personal identifiers. In recent years, the Finnish Cancer Registry has started to incorporate socioeconomic data in statistics and reports on cancer and cancer screening.
- Indicators related to socioeconomic groups are essential to address health inequalities in various steps of the screening program:
  - Eligibility for screening (e.g., requiring health insurance).
  - Adherence to invitation (e.g., out-of-pocket payments).
  - Differences in background risk of cancer and therefore differences in screening test results.
  - Diagnostic confirmation of test positives.
  - Treatment.
  - Effectiveness.
- The development of inequity-related indicators to be produced on annual basis is ongoing and currently for screening these are reported in annual reviews of programs. The statistical application of Finnish Cancer Registry includes aggregated data on cancer burden stratified by socioeconomic variables.

## MAIN IMPACTS / ADDED VALUE

- The screening and other registers cover the whole eligible target population with approximately 650,000 women annually invited to screening and the linkage to socioeconomic variables has been performed with all those invited to screening.
- Substantial differences between socioeconomic groups have been reported in annual reviews of screening programs. Participation to both cervical cancer and breast cancer screening is higher in the working population compared to population outside employment. Higher level of education and speaking the native language are also associated with more active participation.
- Identification of differences between socioeconomic groups enables the planning of interventions to reduce these differences. Political decision-makers are also better equipped to allocate resources based on apparent needs.
- As the first step to reduce disparities in attendance to screening, invitational material has been translated to English and Russian in addition to official languages (Finnish and Swedish).

## LESSONS LEARNED

- Large differences between socioeconomic groups have been identified but goal setting to reduce these differences is lacking.
- Tailored interventions for specific groups to achieve optimal effectiveness and context-specific barriers should be considered, e.g., one-size-fits-all invitations are not optimal.
- There is a need for routine reporting of screening results by socioeconomic groups. Also, the effectiveness and cost-effectiveness need to be evaluated by population groups.
- Additional socioeconomic variables (e.g. income) and incorporation of opportunistic testing into routine registration are warranted. These may, however, require changes in legislation.
- Comprehensive monitoring of socioeconomic differences needs sufficient funding to be sustainable.