CERVICAL CANCER SCREENING

THE CERVICAL CANCER SCREENING PROGRAMME IN FINLAND

ANNUAL REVIEW 2020

Effective screening has reduced the incidence of cervical cancer in our country by about 80%. The incidence of the disease has started to increase again, especially in women aged between 30 and 44. The numbers of precancerous lesions and cancers detected in screening have also increased. There is much variation in screening participation and findings according to region and population group. Research data is now needed on whether these differences can be reduced. The development of guidelines is also important.

SUMMARY

In 2018, 272,000 invitations were sent out under the cervical cancer screening programme and 191,000 women (70%) participated in screening. The screening programme detected 29 cervical cancers and 842 cases of precancerous lesions — a total of approximately 4.6 cases per one thousand women screened. Younger target age groups (under 45) are less likely to participate in screening than older age groups, although in recent years their participation has increased. The range of participation activity from 2014 to 2018 was 60–78% by hospital district and there was much variation in screening findings. Participation in screening was lower for people not in employment than for the rest of the population, and lower among people with the lowest level of education, as well as among those whose mother tongues are other than the domestic languages.

Finnish Cancer Registry

1. INTRODUCTION

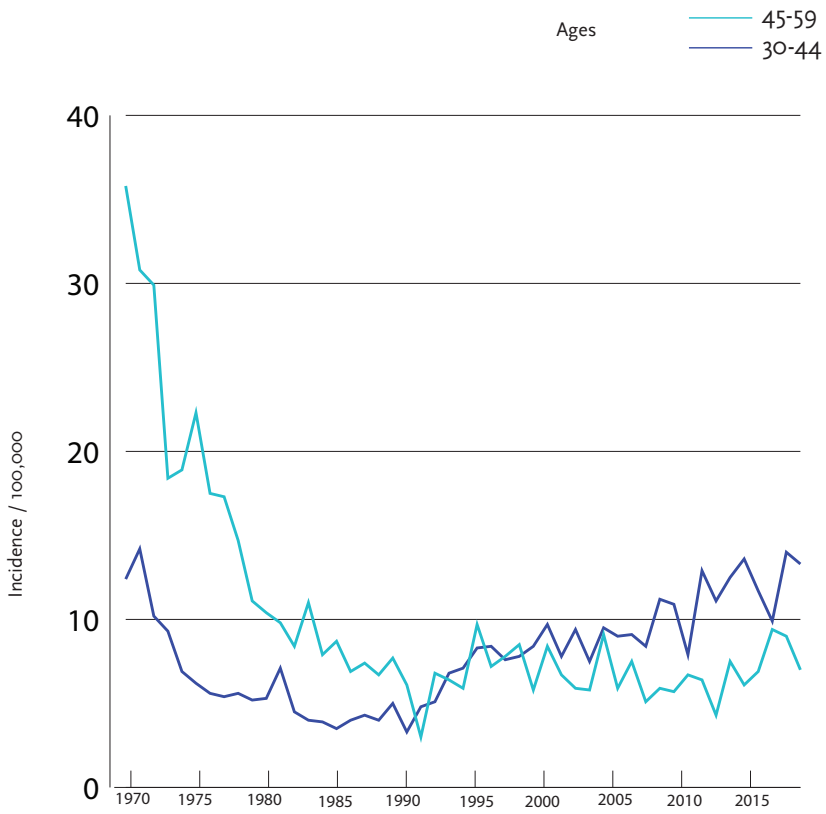
The nationwide cervical cancer prevention programme began in Finland in 1963 and expanded to become nationwide by the turn of the 1970s. Screening aims to detect developing cervical cancers at an early stage. The treatment of precancerous lesions is quite effective and innocuous compared to the invasive treatment of cancers, and treating precancerous lesions can prevent the development of cancer. The ultimate goal of screening is to reduce the incidence and mortality of cervical cancer.

The quality and effectiveness of the cervical cancer screening programme have been evaluated in Finland through follow-up studies throughout its nearly 60-year history. Both Finnish and international follow-up studies have shown that organised screening reduces the incidence and mortality of cervical cancer by about 80% (IARC, 2006; Lönnberg et al. 2012 & 2013). In Finland, the incidence of cervical cancer started to increase in the 2000s especially among the younger target age group of 30–44-year-olds (Figure 1). This increase is due, at least in part, to an increase in background risk, such as carcinogenic HPV infections. In coming years, the risk of disease is expected to decrease as the target groups of the HPV vaccination programme, which began in 2013, are included in screening.

ANNUAL REVIEW

This annual review includes age-standardised cervical cancer screening results from 2018, nationwide and by region. Screening indicators, such as participation and discovery percentages, are compared with previous years. Comparisons have been made since 1991,

FIGURE 1 Incidence of cervical cancer in Finland in women aged 30–44 and 45–59 1970–2018.



when most screening units had switched to using filing established for the electronic registry. The regional review is based on 21 hospital districts. Participation in screening and other screening results are also examined in population groups according to mother tongue, level of education and socio-economic status. Data on population groups has been obtained from the Population Information System and Statistics Finland. More detailed screening statistics are available on the Cancer Registry website. In addition to screening statistics, the review discusses current research on cervical cancer screening and considers the key development needs of screening.

2. CERVICAL CANCER SCREENING IN FINLAND

THE SCREENING PROCESS

In accordance with the government decree on screening, women aged between 30 and 60 years are invited to the cervical cancer screening programme at five-yearly intervals. Some municipalities also invite women aged 25 and/or 65 years. The screening test is done by invitation at a health centre or screening laboratory and is analysed by a pathology laboratory. The pathology laboratory also sends women a response on the test result and referrals for follow-up examinations, if required.

It is recommended that women with borderline test results (ASC-US, LSIL for women under 30 years, or a positive HPV test result without referral for further examinations) are invited to follow-up screening. Follow-up screening is performed 12–24 months after the previous screening invitation. Those with a more severe result are sent for cervical endoscopy, i.e., colposcopy and biopsy. The referral can also be given based on a slight change that has recurred 2-3 times. Further examinations, necessary surgical procedures, and treatments for cervical cancer precancerous lesions and cancers are performed in specialized medical care.

MAIN FINDINGS 2018

In 2018, 272,000 invitations were sent for screening and 191,000 women took part in the programme (participation rate 70%, Table 1). About 95% of those screened received a normal screening result. Of these screened, 4% received a recommendation for follow-up screening and about 1.3%, or just over 2,400 women, received a referral for further examinations (Table 2). The screening programme identified 29 cervical cancers and 842 cases of precancerous lesions (HSIL / AIS), which is approximately 4.6 cases per thousand women screened. The majority of screenings were done by traditional Pap test, but the use of the HPV test has increased. The HPV test was performed as the primary test on more than 34,000 women, some 18% of all those screened.

COMPARISON WITH PREVIOUS YEARS

Participation in screening has remained at almost the same level for several years. In practice, 100% coverage has been achieved in the invitations, meaning that the entire nationwide target population is invited for screening every five years in all municipalities (Figure 2). Participation in screening by younger age groups remains worse than with older ones, although their level of participation has increased in recent years (Figure 3).

The number of histologically confirmed HSILs has continued to increase for several years (Figure 4). The number of precancerous lesions discovered in 2018 was already one-and-a-half times higher than five years earlier. The number of cervical cancers detected in the screening program (29) was also high in 2018 compared to the previous year. The data shows that despite a long-running and successful screening programme, there is still a

need for screening.

3. CERVICAL CANCER SCREENING BY HOSPITAL DISTRICT

Participation in screening between hospital districts has differed over the most recent five-year period. Age-standardised participation in 2014–2018 varied between 60 and 78% by hospital district. (Table 3, Figure 5). Participation was weakest in Pohjois-Savo, where participation rates were clearly lower than in the rest of the country. The most active participation was in Åland, Etelä-Savo, Etelä-Pohjanmaa and Itä-Savo, where it exceeded 75%. Participation activity is primarily influenced by municipal invitation practices. The time and place of sampling should be provided in the invitation letter, and those not participating in the screening should be reminded by repeat invitations.

There are also regional differences in other screening results, which are largely explained by differences in laboratory diagnostic criteria and the use of the HPV test. Over the last five-year period, the age-standardised proportion of all screeners who received a follow-up screening recommendation varied between 1 and 12% by hospital district (Figure 6), between 0.6% and 3.4% for follow-up examinations (Figure 7), and between 0.1 and 0.8% for histologically confirmed HSIL+ findings (Figure 8).

The proportion of referrals and the most serious findings were highest in Pirkanmaa, where use of the HPV test has become the most prevalent in the last five years. In 2018, the HPV test was the primary screening test for virtually everyone screened in the Pirkanmaa hospital district. The HPV test was also the primary screening method for most of those screened in the hospital districts of Kanta-Häme and Central Finland. In the hospital district of Southwest Finland, about a third of the primary screenings are HPV tests, and in other hospital districts almost all of them were screened with a Pap test.

4. CERVICAL CANCER SCREENING BY POPULATION GROUP

Participation in screening and screening results in 2018 were examined for population groups by language, socioeconomic status, and level of education. The participation rate was also examined by population groups as time series from 2005 onwards. Because population groups are generally dissimilar in age structure, the figures are age-standardised, making comparisons between population groups more significant.

Mother tongue was classified as either domestic or non-domestic languages. Finnish, Swedish and Sámi were counted as domestic languages. Missing language data was not included in the comparison. At the time of writing, language information on those who died before 2015 was not available in the Mass Screening Registry.

Information on the socioeconomic status and educational level of women was collected from the end of the previous year. Socioeconomic status was divided into eight categories, and persons whose socioeconomic group could not be determined were defined as unknown by socioeconomic status. Level of education was defined as primary, secondary, or tertiary education on the basis of the highest qualification attained. Data on qualifications was only available from upper secondary level, so primary school and missing educational data were dealt with as the same group.

LANGUAGE GROUPS

In 2018, domestic language speakers participated in screening clearly more actively than those of other languages. There was also a difference between language groups in the screening results, where non-domestic speakers had more referrals for follow-up examinations than domestic speakers, as well as histologically confirmed precancerous lesions (Table 4).

The difference in participation activity between language groups has been practically the same throughout the period considered, from 2005 onward (Figure 9).

SOCIOECONOMIC STATUS

Participation in screening in 2018 was most active among white-collar employees and low among retirees and persons of unknown socio-economic background (Table 5).

There have been similar differences in the participation activity in terms of socio-economic background in previous years (Figure 10). The involvement of upper and lower level white-collar employees has been more active for several years compared to other socio-economic backgrounds. The next most active participants are entrepreneurs and workers, and, slightly below them, students and unemployed people. The participation of retirees and those of unknown socio-economic background has been clearly lower.

In relative terms, precancerous lesions were detected most among employees and least in students, age-standardised (Table 5). Employees also had relatively the largest number of referrals for follow-up examinations. Differences in screening results between socio-economic backgrounds were not very large, however.

LEVEL OF EDUCATION

There were clear differences in screening participation rates between levels of education in 2018. Participation was more active the higher the education level (Table 6). There was a difference of up to twenty percentage points in the age-standardised participation rates for primary and tertiary education.

Differences in participation rates between levels of education have increased over time (Figure 11). This is particularly reflected in a clear decrease in the participation rate from 2005 onward of people with no more than primary education.

There was also a difference in screening results between educational levels, as those with higher education received fewer referrals for follow-up examinations than people without such education, and the former also had fewer precancerous lesions than the latter (Table 6). It is possible that people with higher education, in addition to active screening participation, more often undergo non-screening testing. This may influence the findings of the screening programme.

5. EFFECTIVENESS OF SCREENING OF 65-YEAR-OLDS

This study by the Mass Screening Registry aimed to assess the impact on cervical cancer mortality of inviting 65-year-old women for screening (Pankakoski et al., 2019). The study was based on data from the Mass Screening Registry and Finnish Cancer Registry from 1991–2014. The City of Helsinki invited 65-year-olds for screening throughout the study period, and elsewhere in Finland just a few municipalities did so. The mortality of those invited for screening in Helsinki was compared to those areas that did not invite this age group. Interregional background risk

was considered in terms of mortality from cervical cancers diagnosed at 55–64 years of age. The risk of death from cervical cancer at age 65 was reduced by 48% (confidence interval 6-71%) compared to the expected value, and correspondingly those who participated in the screening had a 72% reduction in risk (confidence interval 41% to 87%) (Table 7).

In Finland, most deaths from cervical cancer are caused by cancers diagnosed in people over 65 years of age, after the cut-off age for the national screening programme. According to the study, extending the screening programme from the current nationwide target age group to those aged 65–69 would have an impact. The change should be carried out nationwide by altering the screening regulation.

6. SYSTEMATIC REVIEW OF THE IMPACT OF SCREENING ON CERVICAL CANCER DEATHS

The aim of the systematic review was to examine the impact of population-based screening programmes on cervical cancer mortality in Europe (Jansen et al. 2020). The study is part of the EU-TOPIA project funded by the EU's Horizon 2020 programme, of which the Mass Screening Registry is a partner. There are differences between European countries in the conduct and quality of screening, and so far, programmes have been evaluated in just a few countries. By March 2018, a total of ten studies (seven cohort and three case-control studies) had been published, the quality and potential for bias of which were comprehensively assessed. According to the review, cervical cancer mortality was reduced by 41–92% in those who participated in screening, and by 17–79% in those who were invited to screening. Research shows that while evaluative work is not yet adequate in many countries, in those countries for which studies are available, screening has clearly had an impact on cancer mortality. There has, though, been some variation in the magnitude of the impact and the differences cannot yet be explained very well. Some differences in efficacy may be due to different study settings (target age group or duration of follow-up) and control groups (situation without any screening or extensive non-screening testing).

7. LIKELIHOOD OF DIFFERENT SCREENING RESULTS THROUGHOUT THE SCREENING PROGRAM

This study examined the probability of women receiving an abnormal screening result at least once during a cervical cancer screening program across the country and by region (Turunen et al., 2019). Examinations were conducted of women of screening age, mainly aged 30–60 years, who participated in the screening programme between 2000 and 2016. The City of Helsinki reported separately, as the screening age was 25–65 years throughout the follow-up period. The cumulative probability of an anomalous screening result was 34% nationwide. In other words, on average, one in three women receives an abnormal screening test result at least once in the target age of the national screening program. The probability varied significantly by special responsibility area (20–40%, Figure 12). In Helsinki, the cumulative probability was as high as 53%. Correspondingly, the probability of a screening result leading to a referral for colposcopy was 6.9% and varied regionally from 6.5% to 11%. The probability of a histological low-grade squamous epithelial lesion (LSIL) or more severe outcome was 3.4% and ranged from 2.7% to 5% by region.

The lifetime probability of a slightly abnormal outcome varied widely between regions and

was very high relative to the cancer precursors found. The prevalence of outliers in Helsinki at the age of 25 largely explained the higher cumulative probability than in the rest of the country. The result is problematic, because screening at a younger age than the general screening age does not prevent cervical cancer.

8. NORDIC SCREENING INDICATORS

The Nordscreen project, which started in 2016, has developed an openly available web-based service (www.nordscreen.org) that enables comparison of cervical cancer screening programmes between different Nordic countries and Estonia using several different indicators. The development of comparable indicators and public reporting will support the improvement of the quality of screening programmes. Nordic screening programmes differ from one another and a direct comparison between them is difficult without uniformly defined indicators.

The individual-level screening data on which the tabular indicators are based are derived from national screening registries, which are comprehensive and of high quality by international standards. The project will initially focus on cervical cancer screening programmes, but will be expanded where possible to include breast and colorectal cancer screening programmes.

The key indicators for test coverage and test intensity are described in more detail in a separate research article (Partanen et al. 2019), and the key indicators for test results will also published in an article later. Finland's test coverage is lower than in other Nordic countries. This is due to the fact that in Finland the statutory mass screening registry thus far only contains data on the invitation-based screening programme, while in other Nordic countries the registries contain data on all tests. The proportion of positive test results in Finland is slightly lower than in the other Nordic countries and there are clearly fewer serious positive results (Table 8).

9. RECOMMENDATIONS AND CONCLUSIONS

The cervical cancer screening programme, which has been running for more than 50 years, has been very effective in Finland, including by international comparison. An evaluation of the pros and cons of screening is still needed to further verify the effectiveness of the programme and potential problems with its implementation, benefits and harms. Based on the results presented now, more detailed information is also needed, for instance on the cost-effectiveness of screening — including for different target age choices — the importance of new test methods or monitoring and treatment practices, and whether differences in screening rates between regions and populations can be reduced. The significance of regional and population differences should also be examined in terms of post-screening cancers and the effectiveness of screening, and the overall programme should be audited using post-screening cancer screening histories.

The number of histologically confirmed findings of precancerous lesions has long been on the increase in the screening programme, and in 2018 the number of cervical cancers detected under the programme was also fairly high. It seems that the background risk of cervical cancer has increased in Finland and there is therefore still a great need for screening. The effect of screening on cancer incidence is smaller in the youngest target age groups of screening than in older age groups (Lönnberg et al. 2012 & 2013; Makkonen et

al. 2017). An increase in background risk may therefore lead to an increase in the incidence of cancer more easily in young than in old age groups.

The introduction of the HPV test, through which more women are referred for follow-up colposcopic examinations, has also contributed to the increased number of findings. HPV screening practices will need to be carefully evaluated and more detailed guidelines developed in the future. The indicators of the screening programme can also be affected by the rather abundant use of screening-type tests outside the screening programme, which should be integrated into the screening program evaluation system. The number of external tests, in particular in the younger population than the programme's target age, needs to be reduced. In the coming years, screening practices for young women for birth cohorts included in the HPV vaccine programme will also need to be planned.

The participation rate in our screening programme is about 70%, corresponding to the lower acceptable guideline value in the EU-wide recommendations (Anttila et al. 2015). Efforts should be made to improve the participation of the screening program. A good level of participation is essentially influenced by good invitation practices (Virtanen et al. 2015). Adherence to these should be included in monitoring the quality of the screening programme. The national and regional minimum target for screening coverage should be at least 85%, which is a higher level than the EU target. Finland is likely to reach this level even if the coverage figures also include tests done outside the screening programme.

A particular concern is the inequality of population groups in screening participation. In the future, the integrity of the screening chain, treatment decisions and the effectiveness of screening should be examined in terms of inequality. The production of data on social and health equality, as well as the planning and evaluation of improvement measures, should be included within the scope of the ongoing operations of the Mass Screening Registry.

For a long time, there have been significant differences between regions in the national screening programme in terms of participation activity and indicators describing the quality of diagnostics, as we have noted in this annual review. The harmonisation of the national programme requires sufficiently detailed guidelines. A new, nationwide cancer screening steering group has recently started operating in the country. A goal of this control structure is to develop sufficiently reliable quality assurance for the screening programme. It must also be ensured that good practices are followed consistently in all areas. One of the tasks of the Cancer Registry is to use its data to monitor compliance with the practices developed by the steering group.

AUTHORS

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LINKS AND PUBLICATIONS

FINNISH CANCER REGISTRY
cancerregistry.fi

INTERACTIVE SCREENING STATISTICS 1992–2018
cancerregistry.fi/statistics/screening-statistics/

ANNUAL STATISTICS
cancerregistry.fi/statistics/screening-statistics/

KÄYPÄ HOITO 2019 - CURRENT CARE GUIDELINES 2019

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TERMINOLOGY

BIOPSY Tissue removed from the living body

CANCER INCIDENCE The number of new cancer cases per population at risk, or per person-time of the population at risk, during a given period.

COLPOSCOPY Cervical endoscopy

CYTOLOGY SAMPLE Cell sample

HISTOLOGY SAMPLE Tissue sample

HPV Human Papilloma Virus

HPV TEST An HPV test approved for screening detects high-risk HPV virus types from a gynaecological loose cell sample. Sampling is done in the same way as in the Pap test. If the HPV test is positive, a Pap test is also performed on the same sample.

MORTALITY The number of deaths per population at risk, or per person-time of the population at risk, during a given period.

OPPORTUNISTIC TESTING The testing of symptomless persons outside the organised screening programme (in private or public health care). Symptom-related testing and patient follow-up are also performed outside the screening programme.

OVERDIAGNOSIS The detection of latent cancers or precancerous lesions that, if left untreated, would not have affect a person's health during their lifetime.

PAP TEST Examination of a cytology sample.

SCREENING COVERAGE Proportion of target population invited to screening (call coverage) or share of screened target population (test coverage). Test coverage can also be assessed using the same calculation rules in activities outside the screening programme.

SCREENING PROCESS Sequence of the screening process from the definition of the target population and sending out invitations through to testing, possible follow-up examinations, treatments, and patient follow-up.

SCREENING RESULTS

ASC-US Atypical squamous cells of undetermined significance.

AGC-NOS Atypical glandular cells not otherwise specified.

LSIL Low-grade squamous intraepithelial lesion.

HSIL High-grade squamous intraepithelial lesion.

AIS Adenocarcinoma in situ.

LSIL+ LSIL+ includes LSIL- and stronger changes (LSIL, HSIL, AIS, cancer)

HSIL+ HSIL + includes HSIL- and stronger changes (HSIL, AIS, cancer). Precursors of cervical cancer include histological HSIL and histological AIS.

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FIGURE 2 Coverage (%) and participation (%) of cervical cancer screening invitations in screening among 30–64-year-olds 1991–2018, age group invitations.

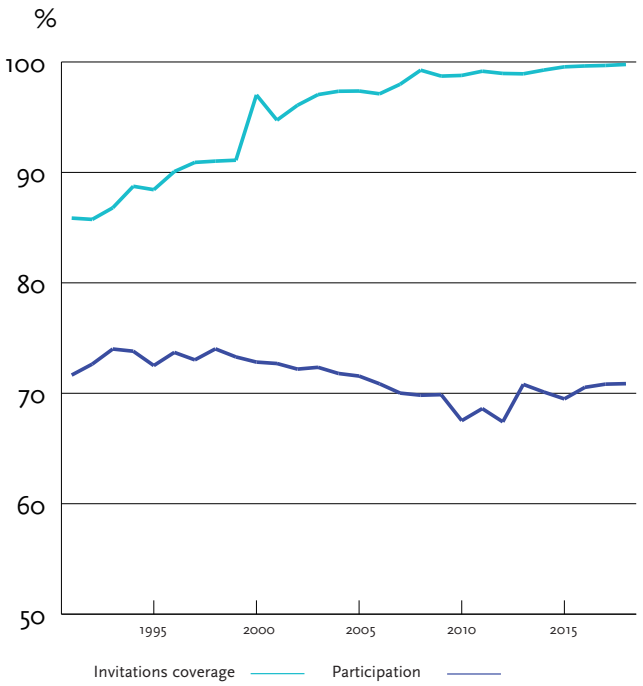

FIGURE 3 Participation in cervical cancer screening (%) by age groups 1991–2018, invitations by age group.

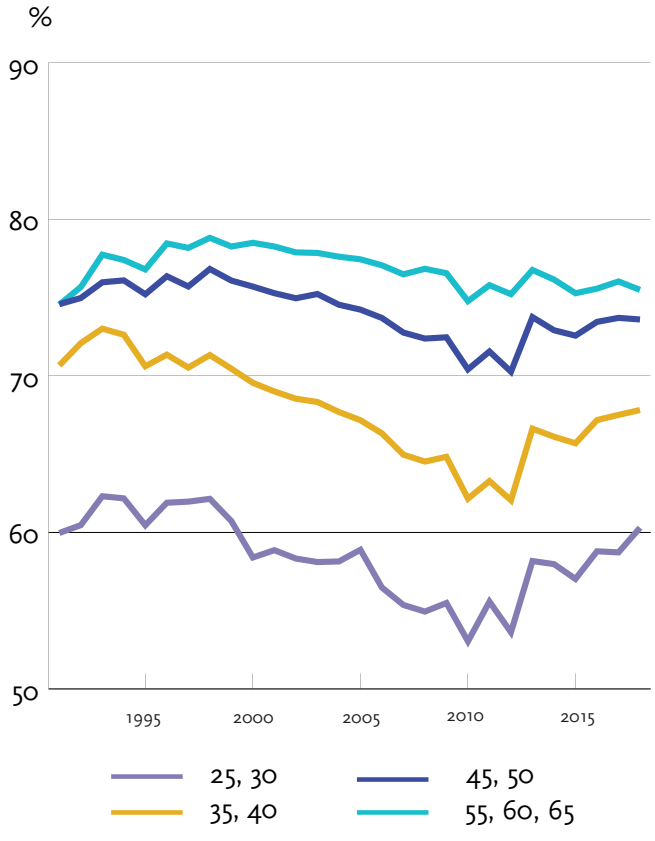

FIGURE 4 Histologically confirmed HSIL precursor or more severe result (%) in women aged 25–69 years 1991–2018.

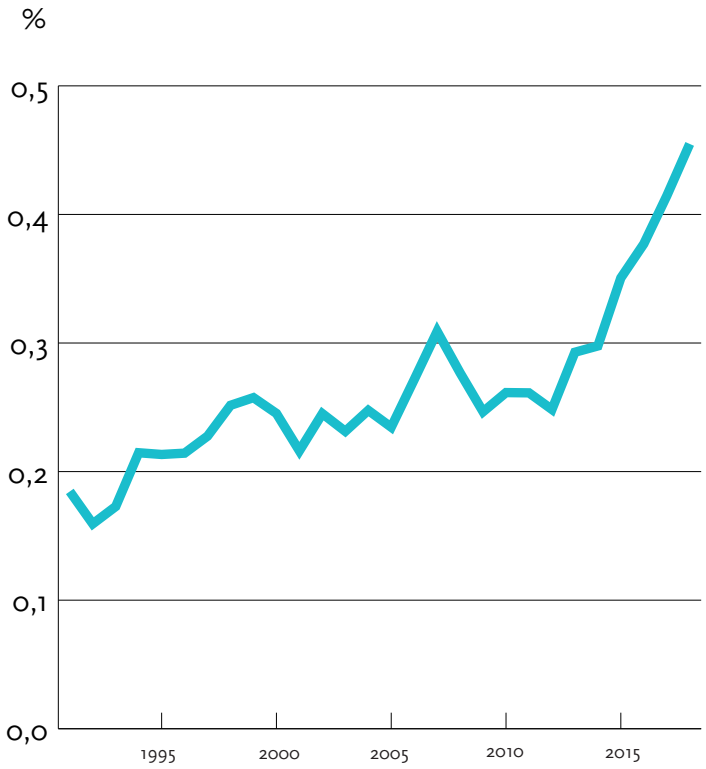

FIGURE 5 Screening coverage in women aged 30–60 years 2014–2018 by hospital district, age group invitations (age-standardised, Finland 2014).

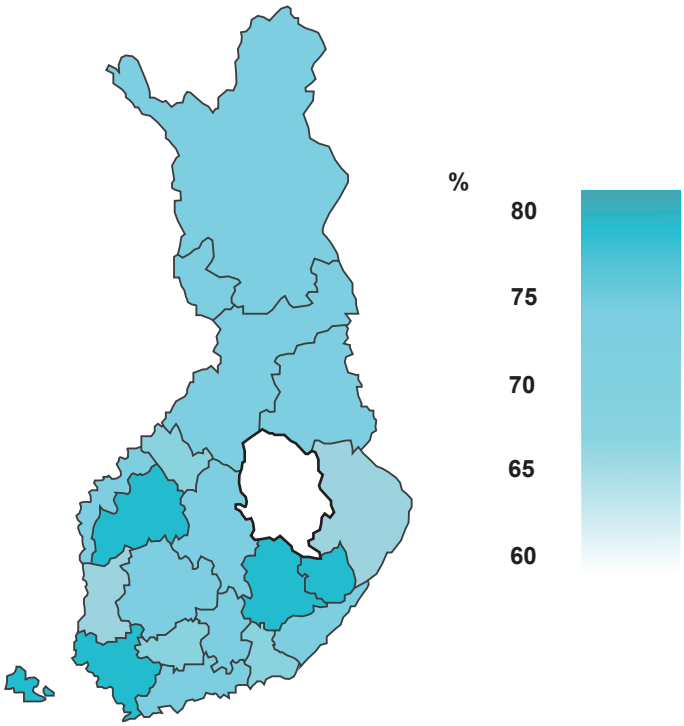

FIGURE 6 **Borderline (%) in women aged 25–69 by hospital district 2014–2018 (age-standardised, Finland 2014).**

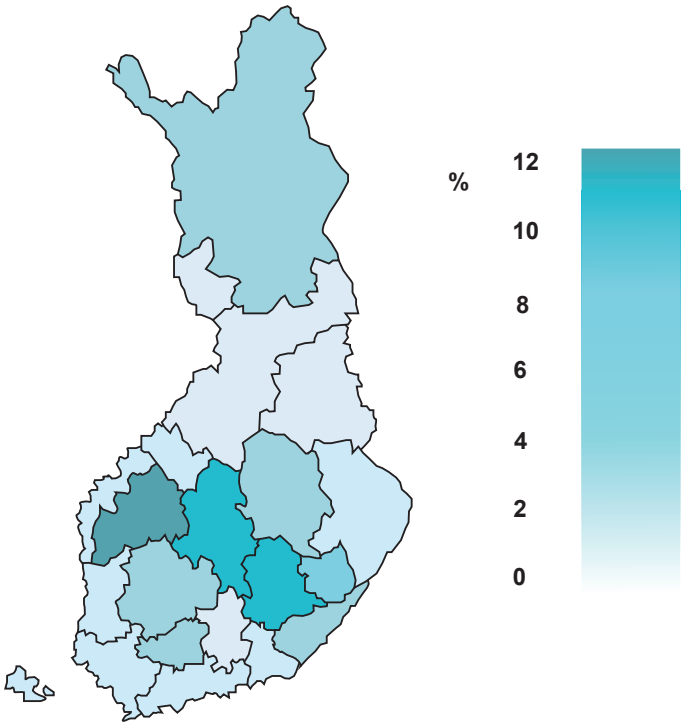

FIGURE 7 **Referral (%) for women aged 25–69 by hospital district 2014–2018 (age-standardised, Finland 2014).**

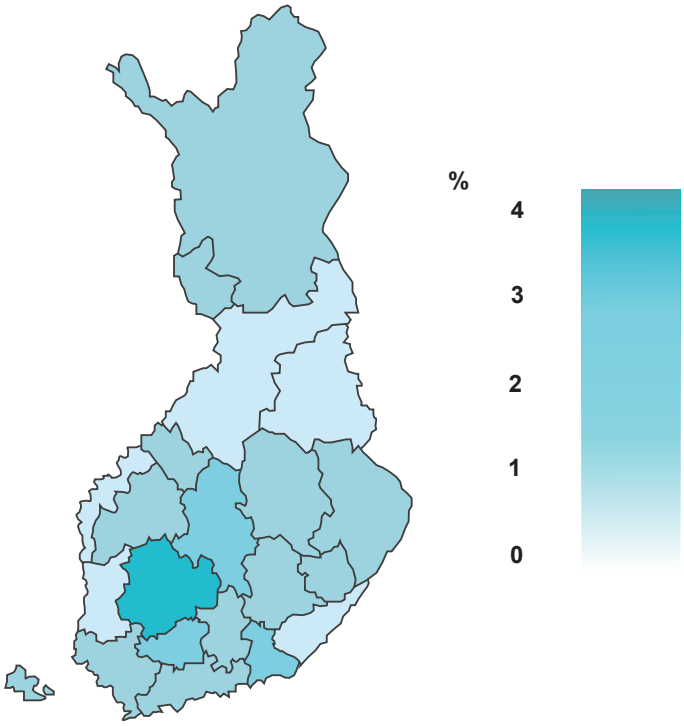

FIGURE 8 **Histological HSIL+ (%) in women aged 25–69 years by hospital district 2014–2018 (age-standardised, Finland 2014).**

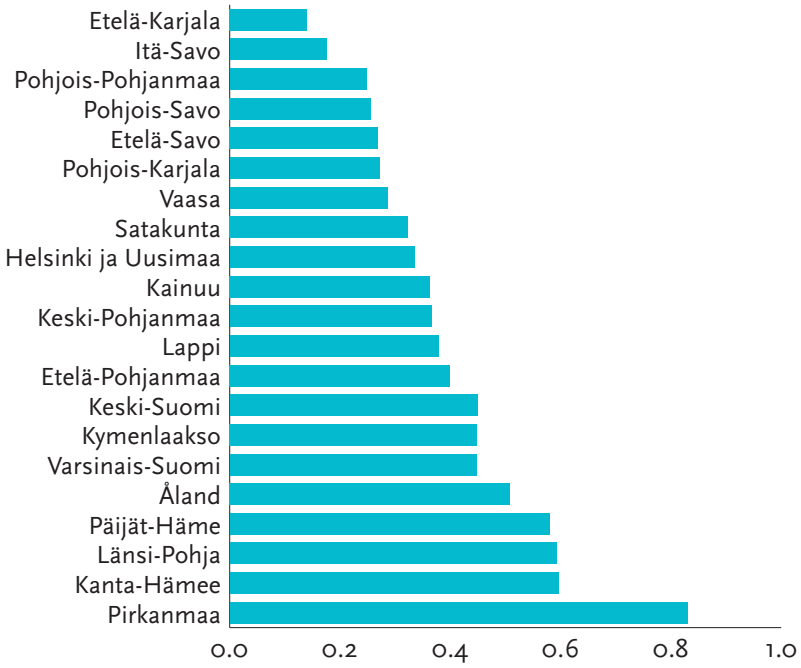

FIGURE 9 **Participation in cervical cancer screening (%) by language group 2005–2018 (age-standardised, Finland 2014).**

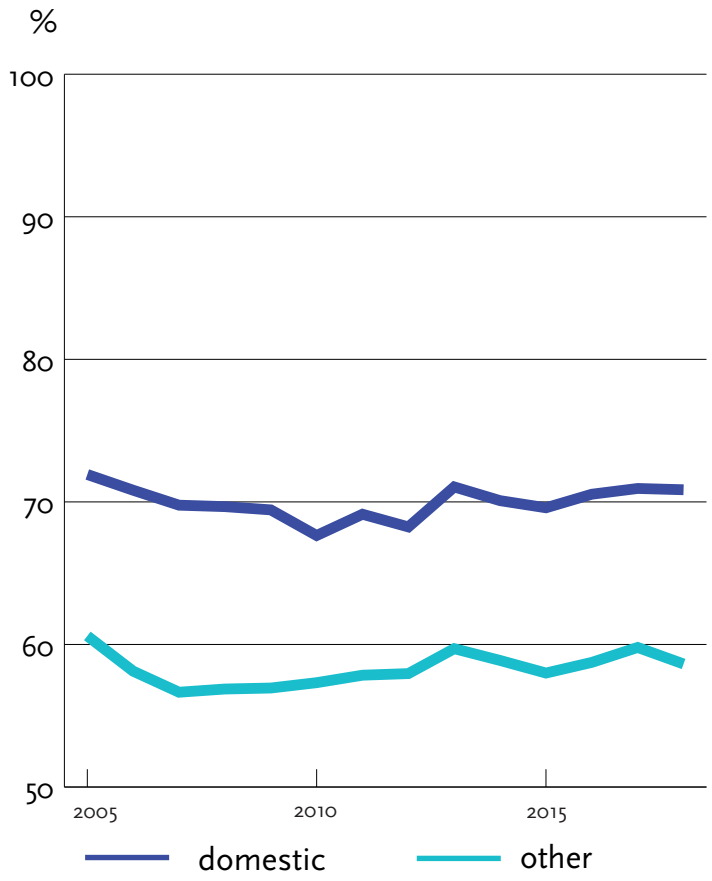

FIGURE 10 **Participation in cervical cancer screening (%) by socioeconomic status 2005–2018 (age-standardised, Finland 2014).**

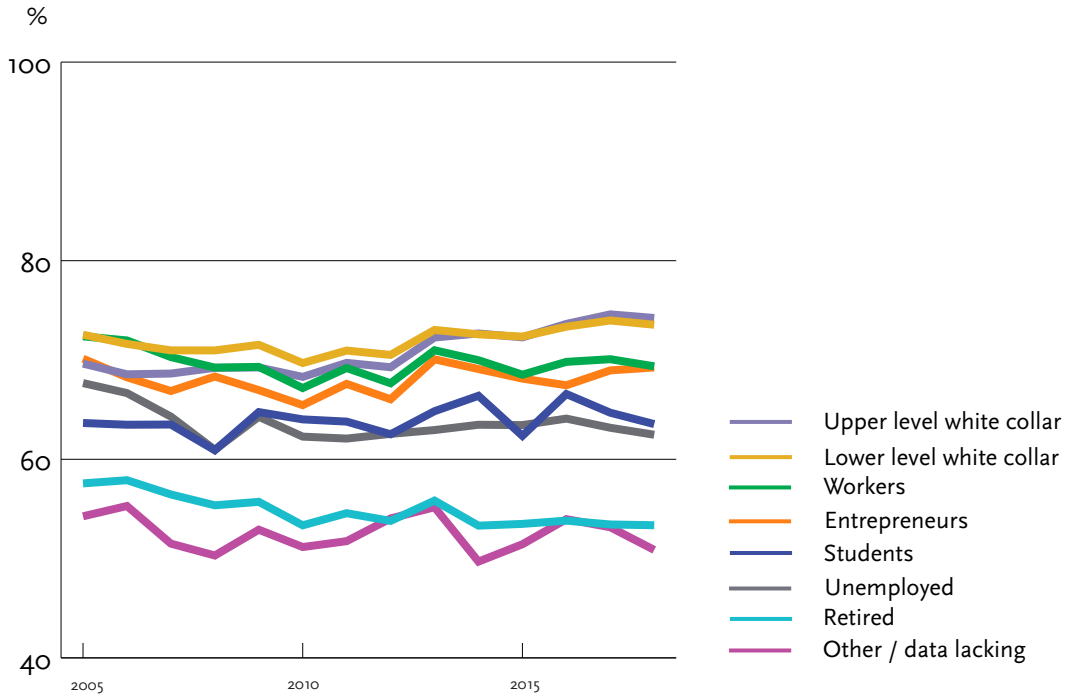

FIGURE 11 **Participation in cervical cancer screening (%) by level of education 2005–2018 (age-standardised, Finland 2014).**

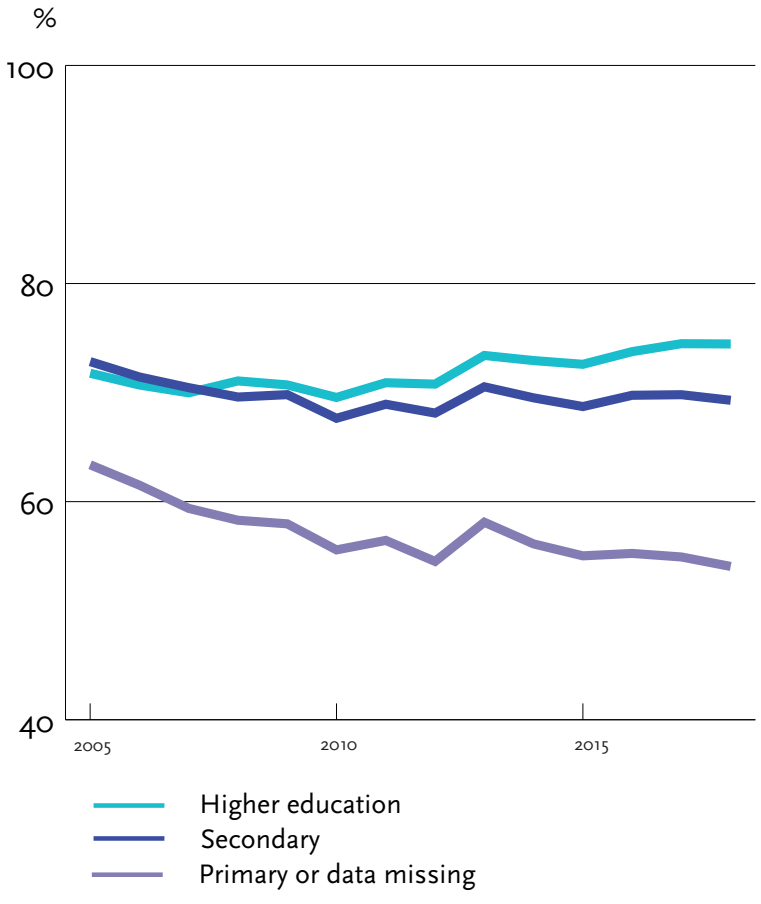

FIGURE 12 **Cumulative probabilities of an abnormal test result by region in 2000–2016. In Helsinki, 25–65-year-olds were examined, and in the rest of the country, 30–60-year-olds. (Turunen et al., 2019.).**

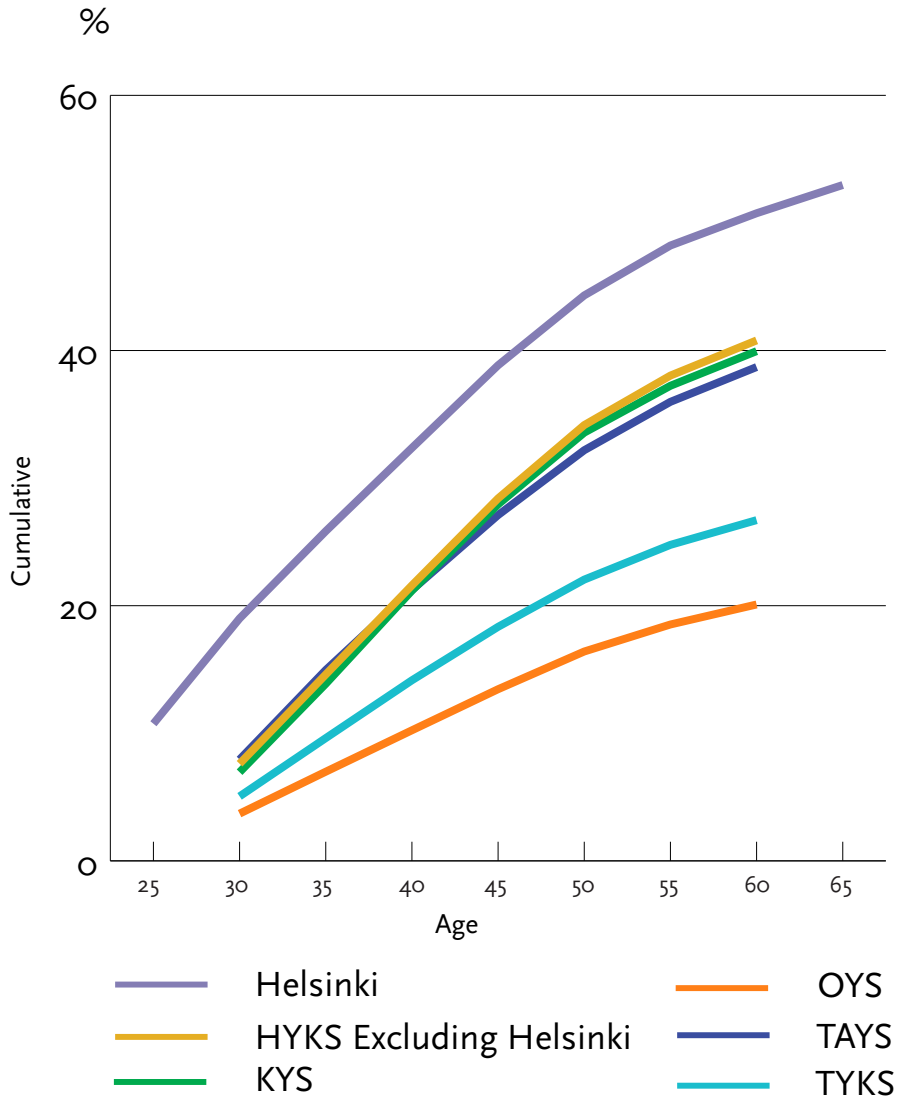

TABLE 1 **Target population of cervical cancer screening and invited, screened and HPV-tested women in 2018.**

	Target population	Invited	Invitational coverage	Screened	Screened of invited	HPV test
Routine screening: ages 25–65	311,605	255,605	82	179,974	70	32,802
Routine screening: ages 30–60	240,970	240,432	100	170,397	71	31,769
Routine and follow-up screening: ages 25–69	311,605	272,033	87	191,509	71	34,395

TABLE 2 Screening results in 2018.

	Screened	Negativ or normal		Borderline		Referral to colonoscopy		Histological HSIL+		Not interpretable or data missing
	n	n	%	n	%	n	%	n	%	n
Routine screening: 25–65	179,978	171,367	95	7,117	4.0	1,483	0.8	619	0.3	11
Routine screening: 30–60	170,401	162,290	95	6,675	3.9	1,425	0.8	591	0.3	11
Routine screening: 25–69	191,514	181,172	95	7,900	4.1	2,429	1.3	871	0.5	13

TABLE 3 Screening coverage in women aged 30–60 years 2014–2018 by hospital district, routine screening invitations.

Hospital district	Invited	Screened	
	n	n	%*
Åland	6,855	5,165	78
Etelä-Karjala	29,008	20,807	71
Etelä-Pohjanmaa	43,213	33,917	75
Etelä-Savo	21,263	16,209	76
HUS	439,298	302,159	69
Itä-Savo	7,111	5,444	76
Kainuu	16,068	11,822	69
Kanta-Häme	39,061	26,891	68
Keski-Pohjanmaa	16,832	11,945	73
Keski-Suomi	55,435	39,356	71
Kymenlaakso	38,100	26,635	69
Lappi	26,667	19,425	70
Länsi-Pohja	13,356	9,599	71
Pirkanmaa	119,537	83,062	70
Pohjois-Karjala	36,447	24,006	65
Pohjois-Pohjanmaa	86,457	61,954	72
Pohjois-Savo	54,588	33,086	60
Päijät-Häme	46,669	33,397	72
Satakunta	48,709	34,775	66
Vaasa	35,854	26,909	71
Varsinais-Suomi	108,571	80,568	75

* age-standardised (Finland 2014)

TABLE 4 Invitations and screenings plus main findings by mother tongue in 2018.

Mother tongue	Invited	Screened		Borderline		Referral to colonoscopy		Histological HSIL+	
		n	%*	n	%*	n	%*	n	%*
Domestic	246,754	176, 747	71	7,325	4.3	2,209	1.2	766	0.44
Other	24,180	14,146	59	545	4.0	214	1.5	104	0.74

* age-standardised (Finland 2014)

TABLE 5 Invitations and inspections and main findings by socio-economic status in 2018.

Sosio-economic status	Invited	Screened		Borderline		Referral to colonoscopy		Histological HSIL+	
		n	%*	n	%*	n	%*	n	%*
Entrepreneurs	16,090	11,443	69	452	4.1	129	1.1	40	0.42
Lower level white-collar	106,169	78,784	74	3,330	4.3	979	1.2	358	0.44
Upper level white-collar	53,014	39,938	74	1,528	4.0	484	1.3	157	0.49
Workers	35,260	24,595	69	1,074	4.5	362	1.4	141	0.61
Students	10,065	5,961	64	290	4.8	102	1.2	37	0.38
Retired	17,782	11,038	53	351	3.6	122	1.3	32	0.44
Unemployed	22,826	14,371	62	613	4.1	171	1.1	71	0.41
Other/data missing	10,827	5,739	51	262	5.0	80	1.3	35	0.53

* age-standardised (Finland 2014)

TABLE 6 Invitations and inspections and main findings by level of education in 2018.

Level of education	Invited	Screened		Borderline		Referral to colonoscopy		Histological HSIL+	
		n	%*	n	%*	n	%*	n	%*
Primary or data missing	32,077	17,410	54	732	4.5	263	1.5	110	0.65
Secondary	108,292	75,243	69	3,273	4.5	993	1.3	374	0.50
Higher education	131,664	98,856	74	3,895	4.0	1,173	1.2	387	0.40

* age-standardised (Finland 2014)

TABLE 7 Risk of cervical cancer mortality (RR, 95% confidence interval) in Helsinki at the age of 65 in those invited to the screening program (Pankakoski et al., 2019). Municipalities where 65-year-olds were not invited were a comparison group.

Group studied	Standard RR (confidence interval)
Not invited (comparison group)	1.00
Invited	0.52 (0.29–0.94)
Did not participate	1.28 (0.65–2.50)
Participated	0.28 (0.13–0.59)

TABLE 8 Screening indicators from different countries in the NordScreen service for women aged 30-60 in 2018.

Country	Screening coverage (%)*	Positive test results (%)**	Serious positive test results (%)***
Iceland	80.0	12.5	1.3
Norway	80.5	5.9	1.1
Sweden	85.0	8.1	1.0
Finland	70.6	4.9	0.6
Estonia	78.0	6.3	1.5

* Proportion of women in the population of corresponding age with a registered test within 5.5 years from the end of 2018. All Pap tests registered by the Estonian Health Insurance Fund have been taken into account in the Estonian screening coverage.
** Proportion of women with a positive screening test (ASC-US+/HPV+)
*** Proportion of women whose screening test results require follow-up colposcopic examination (ASC-H+/AGC+)