Monitor Dutch **cervical cancer** screening programme **2024**

Edition december 2025, version 1.1

Key findings 2024

Invitees have five years to participate after receiving the invitation. The figures for 2020 therefore reflect a complete screening round. For the other reporting years, the figures may still change as more invitees choose to participate (see context 2).

The participation rate for 2024 is currently **54.4%**. For 2020, after a complete round, it was **66.3%**.

In 2024, the majority of participants took part via a SSK (**63%**).

Of all participants, **12.4%** tested positive for hrHPV. The direct referral rate was **1.7%**.

In **2,984** individuals, cervical cancer or a precancerous lesion (CIN 2+) was detected after a direct referral. The direct detection rate was **0.9%**.

Within the target population of the screening programme, the coverage rate for cervical cancer was **72.7%**.

Note! Disclaimer: *This monitor has been carefully compiled. Where possible, outcomes from previous years have been recalculated based on the most recent data. As a result, these may differ from previously reported results. The most recent publication should always be used as point of reference.*

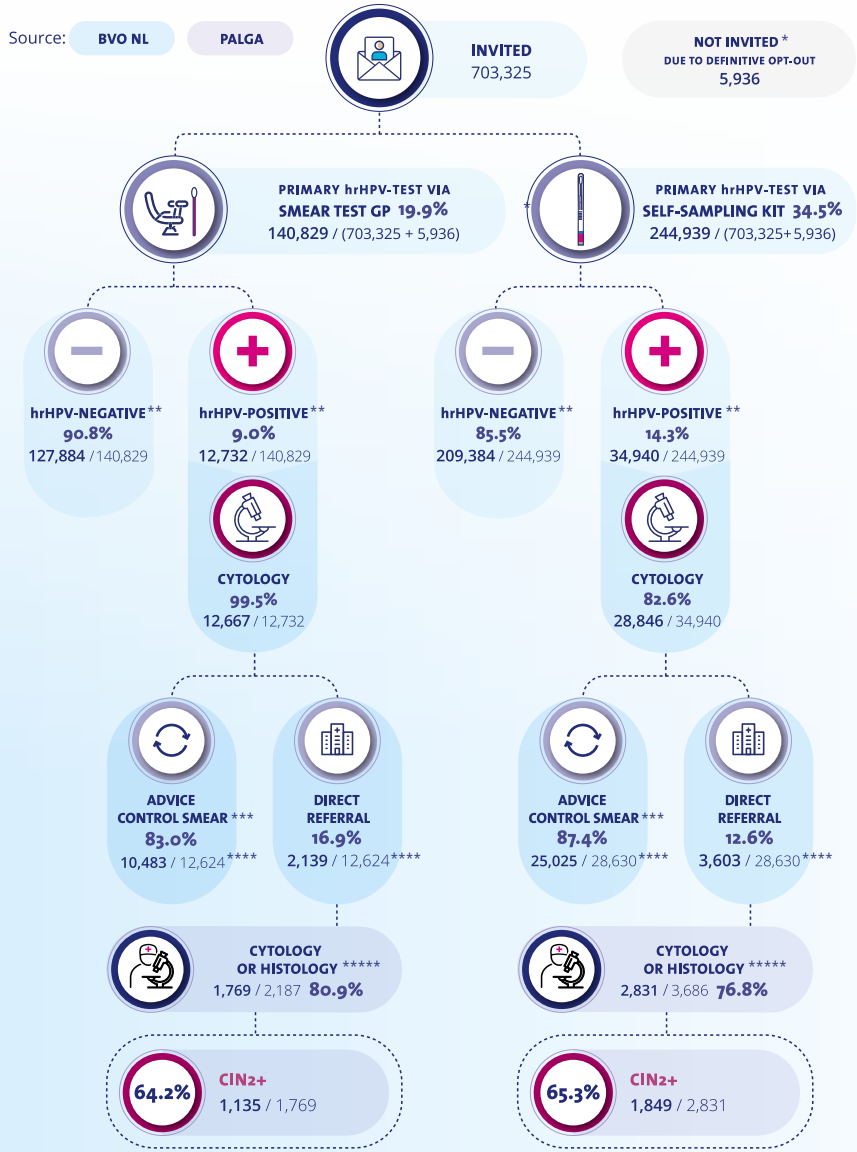

Figure 1 / **Flowchart cervical cancer screening programme in 2024** (source: BVO NL and Palga)

* This refers to individuals who are eligible to participate in the cervical cancer screening programme but have permanently opted out in a previous round. Because of this opt-out, they did not receive an invitation to participate in the current round. These individuals are included in the denominator of the participation rate.

** The sum of the number of hrHPV-positive and hrHPV-negative tests does not equal to the total number of tests due to the presence of unassessable tests.

*** Due to the 12-month period between the primary test and the control smear, the outcomes of the control smears are still incomplete and therefore not shown.

**** The denominator is the number of individuals with assessable cytology. This number is lower than the total number of individuals with cytology.

***** Performed colposcopies with performance of cytology or histology (by biopsy or smear test).

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Introduction and context

Introduction: **Cervical cancer screening programme**

In the Netherlands, individuals aged 30 to 65 are invited to participate in the cervical cancer screening programme according to the invitation schedule (see context 1.1). Individuals can either participate through a cervical smear at the GP or a self-sampling kit (SSK), which both aim to determine whether participants have an increased risk of developing cervical cancer. By detecting this risk and removing precancerous lesions, cervical cancer can be prevented. In addition, cervical cancer can be detected at the earliest possible stage, which increases the chances of successful treatment compared to when cervical cancer is detected at a late stage. The ultimate goal of the cancer screening programme is to prevent cervical cancer as much as possible and reduce cervical cancer mortality and disease burden for people with cervical cancer.

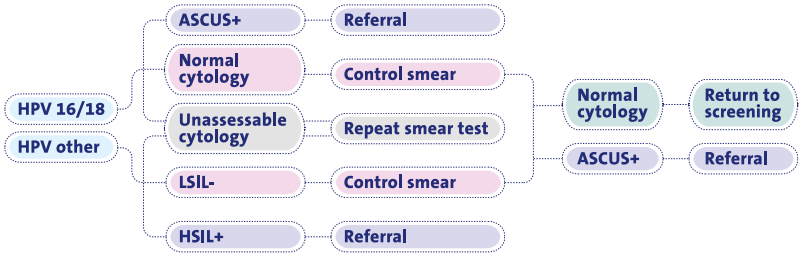

Figure 2 / **Visual representation of the referral schedule**, effective since 11 July 2022

Context 1: **Changes within the cervical cancer screening programme**

In recent years, several changes have been made to the cervical cancer screening programme. As a result, the outcomes from previous years are not always directly comparable. It is therefore important to take the following changes into account when interpreting the results presented. See Figure 3 for a visual representation of the changes over the past years.

1.1 Invitation schedule

Before 2022, all individuals aged 30 to 60 years were invited every 5 years. Since 2022, all individuals receive an invitation when they are 30, 35, 40, 50 or 60 years old. In addition, individuals are also invited at age 45 or 55 if they did not participate in the previous round (at age 40 or 50) or then received a positive hrHPV result. Individuals aged 65 are invited only if they were hrHPV positive in the previous round (at age 60) but were not referred to a gynaecologist. From 2022 onwards, the age categories 45-49, 55-59 and 65-69 years are thus composed differently than before.

1.2 Referral schedule

Since July 11, 2022, a new referral schedule has been in use (see Figure 2). The period between the primary test and the control smear was extended from 6 to 12 months. In addition, before 11 July 2022, all participants with an hrHPV-positive result and a cytological abnormality (ASCUS+) were referred directly. According to the renewed referral schedule, referrals are now based on HPV genotyping. In 2023, the new referral protocol was in effect for a full calendar year for the first time.

1.3 Influx of HPV-vaccinated women

Since 2009, HPV vaccination has been part of the National Immunization Programme. This introduction started with a catch-up campaign, vaccinating girls aged 13–16 in 2009. In 2023, the first HPV-vaccinated individuals were invited to participate in the cervical cancer screening programme. Vaccination data for screening participants are not available for this monitor.

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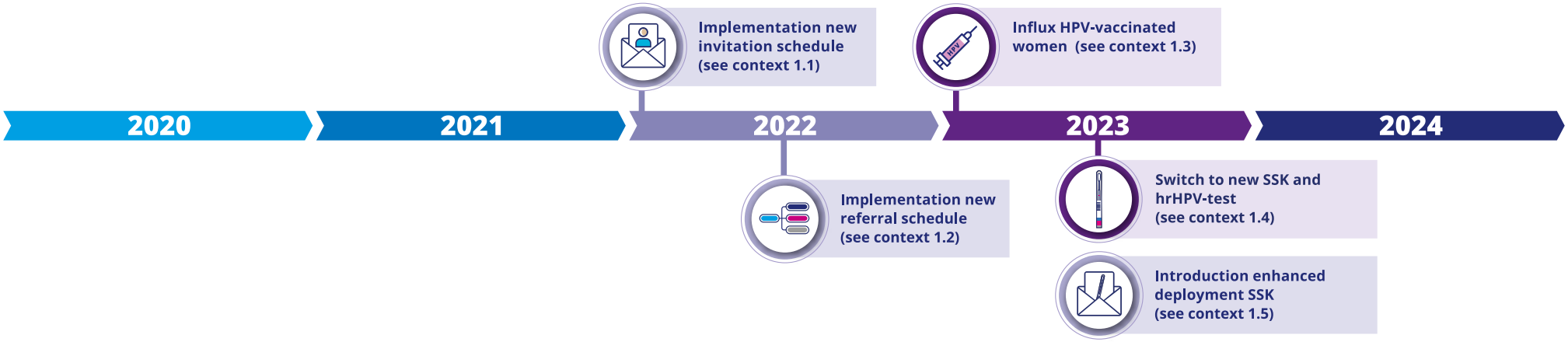
1.4 New SSK and hrHPV test
As of July 3, 2023, a new SSK (Copan FLOQSwab) and a different hrHPV test (BD Onclarity HPV assay) have been in use. Since test characteristics can vary between different devices and assays, this change may affect the outcomes. In 2024, this combination of the new SSK and hrHPV test was used throughout the entire year for the first time.

1.5 Enhanced deployment of the SSK
Starting July 3, 2023, the SSK has been used more extensively. Before this time, the invitation offered a choice between participation via a smear test or requesting an SSK. Currently, all 30-year-olds receive the SSK directly with the invitation. In addition, all other age groups are sent a SSK if they have not participated 12 weeks after the initial invitation and have not actively opted out. However, all invitees still have the choice to have a smear test done at their GP. In 2024, the enhanced deployment of the SSK was in effect for a full year for the first time.

Context 2: **Reference Periods**

This report presents data from individuals who were invited to participate in the cervical cancer screening programme between 2020 and 2024. The data for 2024 was measured as of April 1, 2025, resulting in a reference period of 15 months (January 2024 through March 2025). As a result, the follow-up period for individuals varies between a minimum of 4 months (for those invited in December) and a maximum of 15 months (for those invited in January). Figures for previous reporting years have also been updated using data measured on April 1, 2025. This results in reference periods of 27 months (reporting year 2023), 39 months (reporting year 2022), 51 months (reporting year 2021), and 63 months (reporting year 2020). A reference period of 63 months represents a complete screening cycle, as a new invitation is generally sent after five years. To allow fair comparisons between the results for 2024 and those of previous years, some data from earlier years are also shown based on a 15-month reference period. The reference period used is indicated alongside the results.

Figure 3 / **Overview of recent changes in the cervical cancer screening programme**



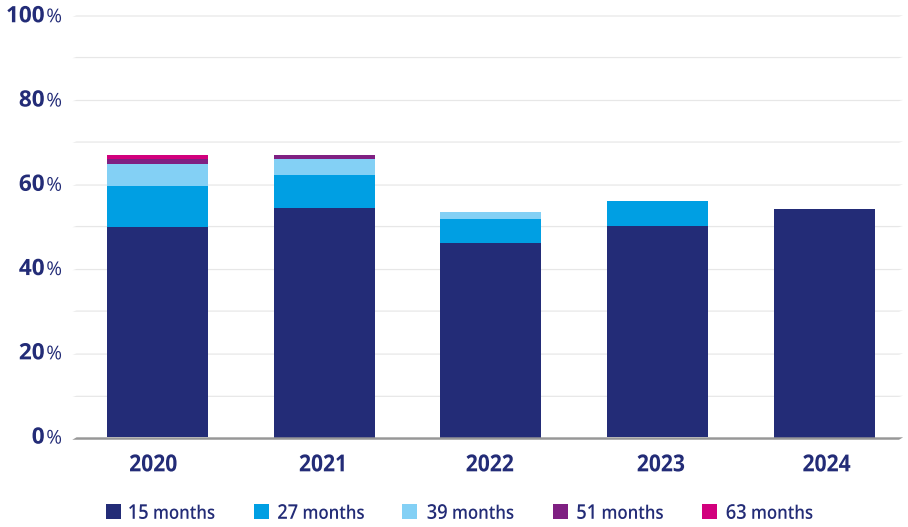
1 / Invitations, participation and coverage

Table 1 / **Invitations and participation** by year (source: BVO NL)

	2020	2021	2022	2023	2024
Reference period (months)	*15*	*15*	*15*	*15*	*15*
Previously definitively opted out* for reason other than hysterectomy	7,979	8,004	6,100	5,597	5,936
Invitations sent	596,445	1,014,248	720,162	703,890	703,325
Participants primary test	298,019	555,452	331,627	352,739	385,768

* This refers to individuals who are eligible to participate in the cervical cancer screening programme but have permanently opted out in a previous round. Because of this opt-out, they did not receive an invitation to participate in the current round. These individuals are included in the denominator of the participation rate.

Figure 4 / **Participation rate primary test*** by reference period and year (source: BVO NL)



* See table 2 for written out percentages of the participation rate measured in the following year (15-month reference period) and 2024 (most recent reference date).

- Of everyone who was eligible for an invitation in 2024, 5,936 individuals (0.8%) were not invited because they had previously permanently opted out during an earlier round for a reason other than a hysterectomy (table 1). In addition, 10,469 individuals (1.5%) actively opted out within the 15-month reference period after receiving the invitation (non-participants), and 303,761 individuals (42.8%) have not (yet) responded to the invitation (non-respondents). Furthermore, 3,327 individuals (0.5%) requested an SSK or a postponement for participation, but have not yet participated. In total, in 2024, with a 15-month reference period, 385,768 individuals participated (54.4%).
- For 2024, participation after a 15-month reference period was 54.4%. This is higher than in 2023, when it was 49.7% with the same reference period (figure 4 and Table 2).
- The participation rate for 2023 increased from 49.7% (after 15 months) to 55.8% (after 27 months) (figure 4 and Table 2).
- For 2020, the final participation rate after 63 months (approx. 5 years) was 66.3%, whereas it was only 49.3% after 15 months. A significant portion of participants therefore take part after the initial 15-month reference period (figure 4 and Table 2).

Table 2 / **Participation rate primary test** by age and year (source: BVO NL)

	2020		2021		2022		2023		2024	
Reference period (months)	*15*	*63*	*15*	*51*	*15*	*39*	*15*	*27*	*15*	*Number of participants*
Age (years)										
30-34	39.6%	64.4%	44.1%	63.5%	41.5%	53.9%	47.8%	55.8%	53.4%	*70,195*
35-39	43.9%	65.7%	48.9%	65.2%	43.9%	54.1%	48.1%	56.2%	53.3%	*67,290*
40-44	48.6%	67.2%	54.4%	67.2%	48.5%	56.5%	52.2%	58.9%	57.2%	*66,552*
45-49*	51.7%	67.6%	56.5%	66.9%	26.8%	31.8%	29.4%	34.2%	34.4%	*16,665*
50-54	53.4%	68.8%	58.1%	68.5%	53.9%	61.0%	56.8%	62.6%	60.8%	*68,310*
55-59*	55.0%	67.0%	60.2%	67.9%	26.7%	30.2%	28.6%	32.1%	32.7%	*16,276*
60-64	52.7%	63.2%	59.1%	65.5%	56.1%	59.6%	60.2%	63.5%	64.3%	*78,421*
65-69*	-	-	-	-	80.2%	83.3%	78.9%	82.2%	80.4%	*2,059*
Total	**49.3%**	**66.3%**	**54.3%**	**66.4%**	**45.7%**	**53.4%**	**49.7%**	**55.8%**	**54.4%**	*385,768*

* Due to a change in the invitation schedule, the age groups 45-49, 55-59, and 65-69 have been composed differently since 2022 compared to before (see context 1.1). This affects the participation rate.

- Just like in 2022 and 2023, participation was lowest among the 45-49 and 55-59 age groups (table 2). This can be explained by the fact that, due to a change in the invitation schedule since 2022, these age groups have largely consisted of individuals who did not participate in the previous round (see context 1.1). Individuals who did not participate previously are less likely to participate in the current round. The increase in participation from 2023 to 2024 was visible across all age groups (table 2).
- Although participation for the 30–34 age group was initially considerably lower in 2020 at the 15-month reference period compared to the other age groups, this difference is much smaller after 63 months (table 2). Individuals in the youngest age group therefore participated relatively more often after the initial 15-month reference period than the rest of the participants.
- The difference in participation between the 30–34 age group and the other age groups, at a 15-month reference period, has been smaller since 2023 than before (table 2).

Table 3 / **Participation patterns over two invitation rounds** by year (source: BVO NL)

Invited in	**2017 + 2022**		**2018 + 2023**		**2019+2024**
Reference period (months)	*15*	*39*	*15*	*27*	*15*
Re-participation rate	71.4%	79.8%	73.4%	80.2%	77.2%
Switch non-participation to participation	22.8%	28.2%	24.6%	29.2%	29.3%

- Of the individuals who participated in the previous invitation round and were invited again in 2024, 77.2% participated again in 2024 (table 3). This re-participation rate is higher than in 2023, when it was 73.4% for the same 15-month reference period.
- For 2022, the re-participation rate increased from 71.4% after 15 months to 79.8% after 39 months (table 3).
- Of the individuals who did not participate in the previous invitation round, 29.3% participated in 2024. This is more than in 2022 and 2023, when respectively 22.8% and 24.6% participated after a comparable 15-month reference period, despite not having participated in the previous round (table 3).

Table 4 / **Coverage rate** by age and year (source: Palga, BVO NL and IKNL)

	2020	**2021**	**2022***	**2023***	**2024***
Age (years)					
30-34	61.7%	64.2%	62.0%	62.9%	64.3%
35-39	67.4%	69.7%	62.9%	63.2%	64.0%
40-44	71.0%	72.8%	66.6%	66.5%	67.0%
45-49	69.4%	70.9%	72.6%	77.8%	81.6%
50-54	73.4%	75.3%	72.0%	72.1%	72.6%
55-59	73.0%	75.0%	75.7%	80.4%	84.5%
60-64	71.7%	74.3%	72.4%	73.1%	74.3%
Total	**69.7%**	**71.7%**	**69.4%**	**71.0%**	**72.7%**
Primary tests screening programme	60.8%	63.2%	58.2%	59.6%	60.9%
Tests outside screening programme**	9.0%	8.6%	5.3%	5.6%	6.0%
Hysterectomy (estimated)*	*Was left out of consideration*		5.9%	5.9%	5.8%

* Since 2022, individuals who have undergone a hysterectomy are also included in the calculation of the coverage rate.
** Opportunistic, indicative, and secondary screenings; screenings conducted outside the screening programme in individuals without symptoms (opportunistic), individuals with symptoms (indicative), or following abnormal results in the past (secondary).

- Of the group of individuals who fell within the target population for the cervical cancer screening programme between 2020 and 2024, 72.7% were protected against developing cervical cancer in 2024 (table 4). This meets the WHO's target for the coverage rate.
- Furthermore, the coverage rate in 2024 was higher than in 2023 (71.0%).
- The majority were protected through participation in the screening programme (60.9%). Additionally, individuals were also considered protected by having undergone a hysterectomy (5.8%) or by participating in screenings outside the screening programme (6.0%), including cervical smears for medical indications (table 4). Vaccination coverage was not included in the coverage rate calculation (see context 1.3).

Figure 5 / **Proportion of individuals participating in screening via smear test and SSK** by year (source: BVO NL)

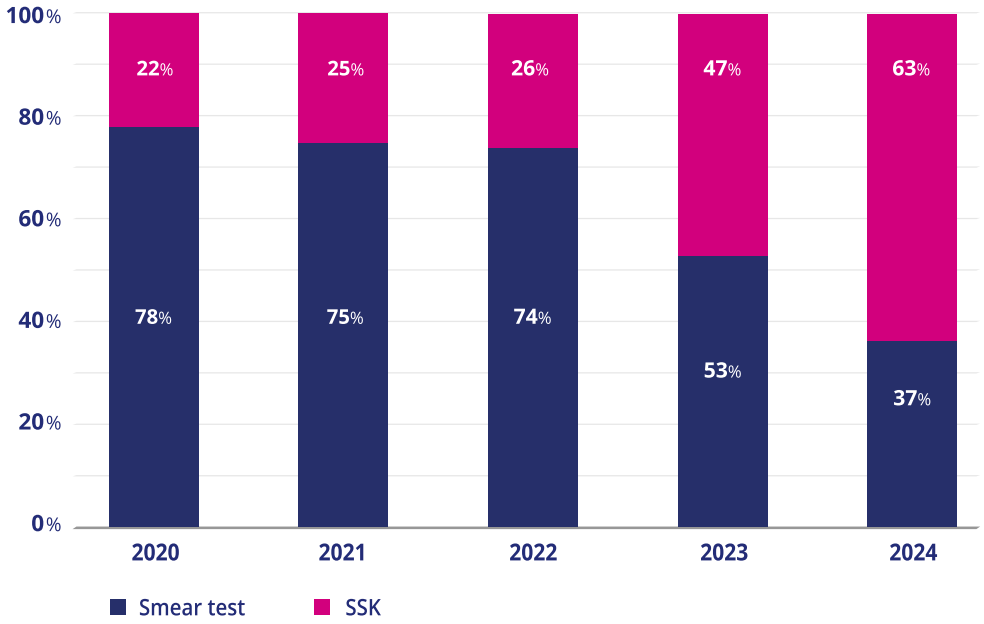
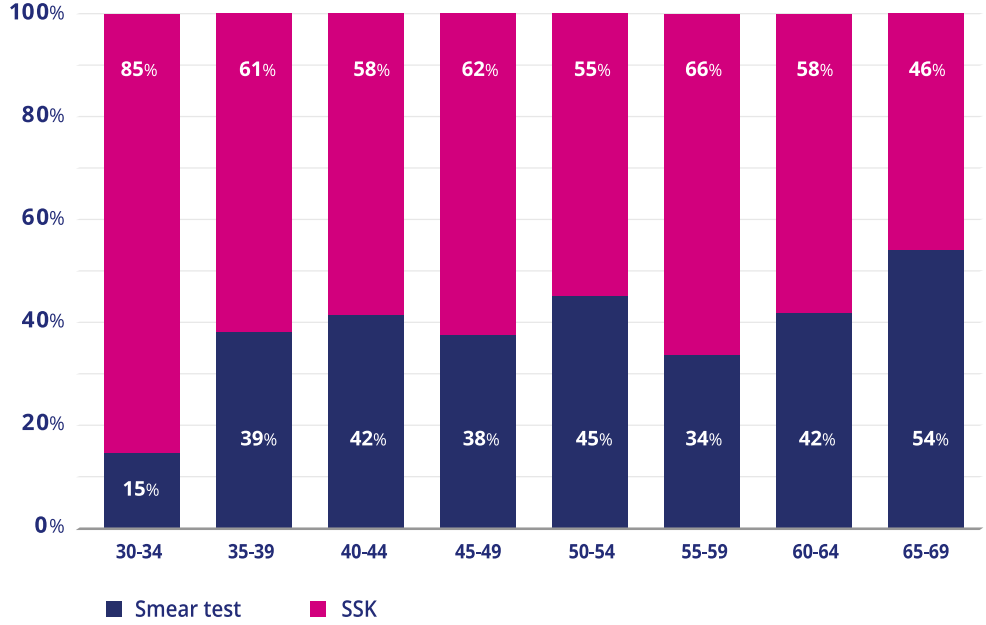


Figure 6 / **Proportion of individuals participating in screening via smear test and SSK in 2024** by age (source: BVO NL)



- In 2024, for the first time, more individuals participated in the primary screening through an SSK (63%) than through a smear test at the GP (37%) (figure 5). This can be explained by the fact that the enhanced deployment of the SSK was effective a full year for the first time in 2024 (see context 1.5).

- As in previous years, the SSK was used most by the youngest age group (85%) and least by the oldest age group (46%) (figure 6). The increase in participation through the SSK instead of a smear test at the GP was visible across all age groups.

Table 5 / **Participation rate cytology after hrHPV-positive SSK** by age and year (source: BVO NL)

	2020	2021	2022	2023	2023*	2024*
Reference period (months)	*63*	*51*	*39*	*27*	*15*	*15*
Age (years)						
30-34	92%	93%	92%	90%	84%	87%
35-39	92%	91%	90%	87%	77%	80%
40-44	91%	90%	89%	86%	78%	82%
45-49**	90%	90%	84%	82%	74%	75%
50-54	90%	91%	90%	88%	80%	83%
55-59**	91%	91%	86%	82%	74%	78%
60-64	92%	90%	91%	90%	83%	86%
65-69**	-	-	90%	88%	77%	85%
Total	**91%**	**92%**	**90%**	**88%**	**80%**	**84%**

Table 6 / **Participation rate after invitation for control smear** by age and year (source: BVO NL)

	2020	2021	2022	2022	2023
Reference period (months)	*63*	*51*	*39*	*27*	*27*
Age (years)					
30-34	88%	86%	82%	70%	69%
35-39	89%	86%	82%	71%	70%
40-44	89%	87%	84%	75%	73%
45-49	91%	88%	83%	74%	72%
50-54	92%	89%	87%	79%	75%
55-59	92%	90%	84%	77%	75%
60-64	94%	91%	90%	84%	80%
65-69	-	-	94%	89%	85%
Total	**90%**	**88%**	**84%**	**75%**	**73%**

* Due to the enhanced deployment of the SSK since July 2023 (see context 1.5), participation in 2024 is not directly comparable to participation measured in earlier years at the same reference period.
** Due to a change in the invitation schedule, the age groups 45-49, 55-59, and 65-69 have been composed differently since 2022 compared to before (see context 1.1). This affects the participation rate.

- In 2024, 84% of individuals with an hrHPV-positive SSK had a cervical smear performed at the GP (table 5). These figures cannot be directly compared with those from 2023. Because of the introduction of the enhanced deployment of the SSK halfway through that year, individuals had relatively less time to participate within a 15-month reference period in 2023 (see context 1.5).
- For 2023, participation in a cervical smear after a positive SSK was 88% after 27 months (table 5).
- For 2020, the final participation in a cervical smear after a positive SSK was 91% after 63 months (approximately 5 years) (table 5).
- The participation rate after invitation for a control smear was 73% in 2023, based on a 27-month reference period. In 2022, it was 75% for the same reference period.
- For 2022, the participation rate after invitation for a control smear increased from 75% after 27 months to 84% after 39 months.

2 / **Referrals and outcomes**

Figure 7 / **hrHPV-positivity rate primary test** by way of participation and year (source: BVO NL)

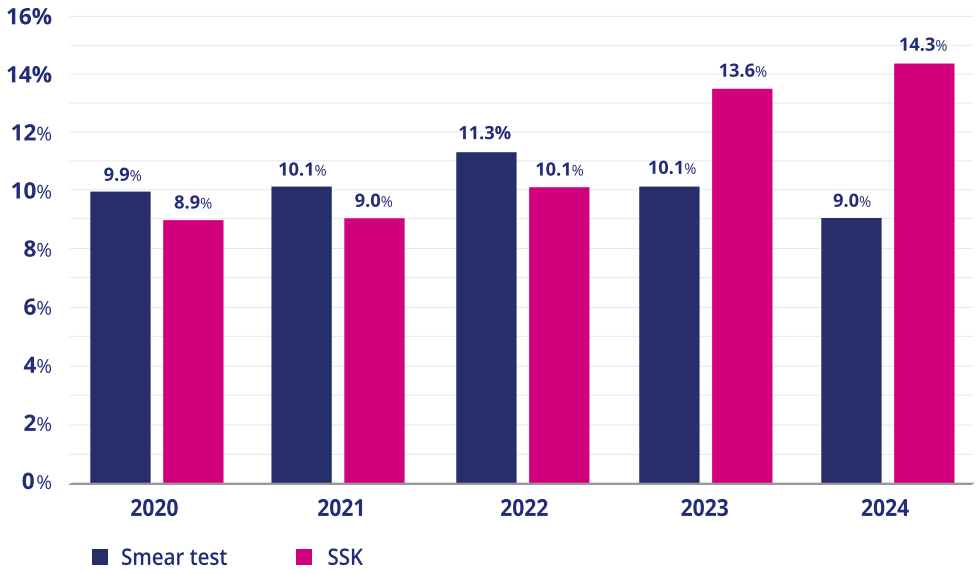
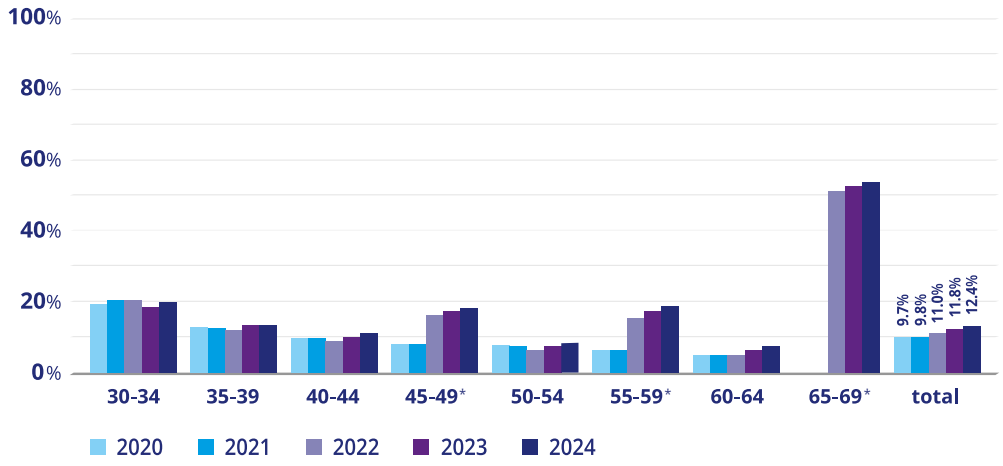


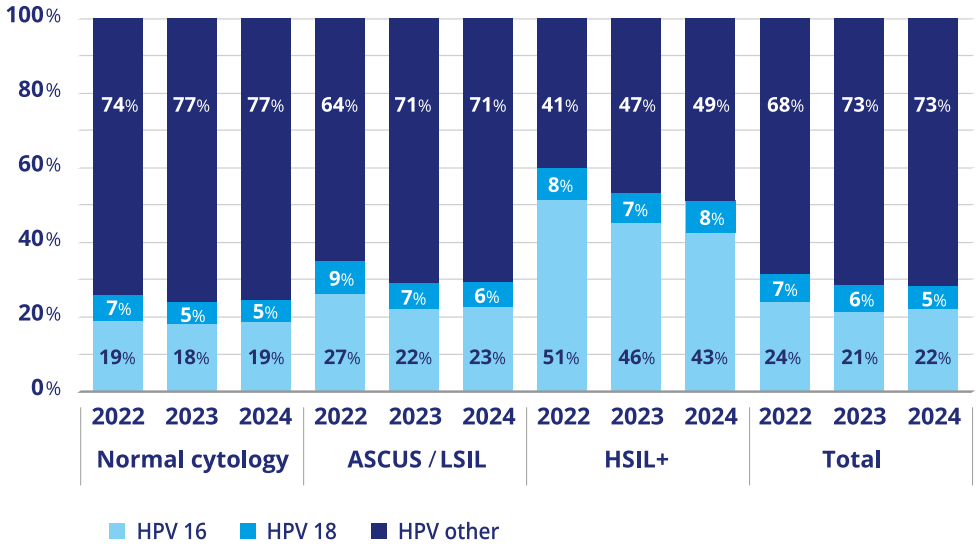
Figure 8 / **hrHPV-positivity rate primary test** by age and year (source: BVO NL)



* Due to the change in the invitation schedule (see context 1.1), the age groups 45-49, 55-59, and 65-69 have been composed differently since 2022 compared to before. This affects the percentage of hrHPV-positive participants within these age groups.

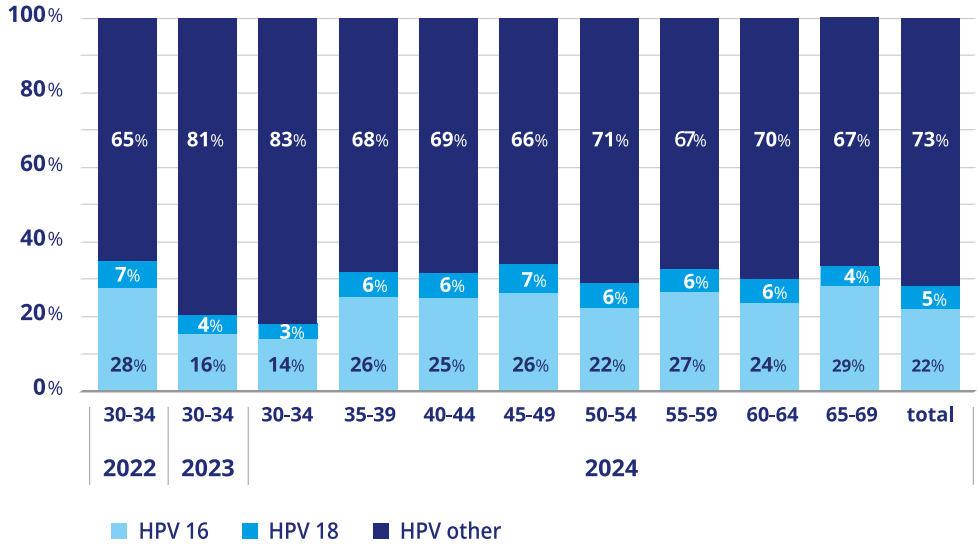
- As in 2023, the percentage of hrHPV-positive participants in the primary screening test was higher among individuals who participated using an SSK (14.3%) than among those who participated through a smear test (9.0%) (figure 7). Before this time, the percentage was higher among those who participated through a smear test. This is possibly a result of the introduction of the new SSK and hrHPV test halfway through 2023 (see context 1.4).
- In total, 12.4% of participants in 2024 received an hrHPV-positive result. This is higher than in 2023, when 11.8% received a positive result (figure 8). This increase is related to the rise in use of the SSK due to its enhanced deployment (see context 1.5), which detects hrHPV-positive results relatively more often. The use of the new SSK and hrHPV test also plays a role (see context 1.4).
- In 2023, among the 30–34 age group, a decrease in the number of hrHPV-positive results was observed compared to previous years, possibly due to the influx of HPV-vaccinated individuals (see context 1.3) (figure 8). However, in 2024, the proportion of hrHPV-positive results in this age group was again comparable to that of 2022. This can be explained by the fact that, in this group as well, there was an increase in the number of participants using the SSK, which relatively more often detects hrHPV-positive results.
- The increase in hrHPV-positive participants in the 45–49 and 55–59 age groups from 2023 onwards is related to the change in the invitation schedule at the beginning of 2022 (see context 1.1). Since then, proportionally more individuals with an increased risk are invited within these age groups, who logically test hrHPV-positive more often.

Figure 9 / **Genotyping hrHPV-positive participants primary test** by cytology result and year* (source: BVO NL)



* Shown for individuals whose cytology is assessable (>Pap 0) and genotyping is known. Genotyping is only available for individuals who participated after July 11, 2022 (see context 1.2).

Figure 10 / **Genotyping hrHPV-positive participants primary test*** by age and year (source: BVO NL)



* Shown for individuals for whom genotyping is known. Genotyping is only available for individuals who participated after July 11, 2022 (see context 1.2).

- High-grade abnormalities are relatively more often associated with HPV 16. This is observed again in 2024. While 19% of people with a normal cytology result in 2024 had the HPV 16 genotype, this was 43% for people with HSIL+ (figure 9).

- In total, the percentage of HPV other among the hrHPV-positive results in 2024 was the same as in 2023 (73%), but higher than in 2022 (68%) (figure 9). This is caused by a shift in the genotype distribution in the youngest age group. Whereas in 2022, 65% of 30–34-year-olds had the HPV other genotype, this was 81% and 83% in 2023 and 2024, respectively (figure 10). This can be explained by the influx of vaccinated individuals in 2023, who are largely protected against the HPV 16 and 18 genotypes (see context 1.3). No clear differences were observed over the past years for the other age groups.

Table 7 / **Cytology primary test** by age, participation mode and year* (source: BVO NL)

	Smear test			SSK			Total		
	2022	2023	2024	2022	2023	2024	2022	2023	2024
Age 30-34 years									
Normal cytology	63.2%	65.0%	62.6%	62.7%	69.8%	71.8%	63.1%	68.1%	70.6%
ASCUS / LSIL	23.4%	24.1%	27.0%	22.3%	20.7%	20.0%	23.1%	22.0%	20.9%
HSIL+	13.3%	10.8%	10.4%	15.0%	9.4%	8.2%	13.8%	9.9%	8.5%
Age ≥35 years									
Normal cytology	71.4%	68.5%	67.4%	70.7%	74.3%	76.3%	71.2%	71.2%	72.9%
ASCUS / LSIL	20.6%	22.6%	23.2%	19.6%	17.6%	16.5%	20.4%	20.3%	19.0%
HSIL+	8.0%	8.8%	9.5%	9.7%	8.0%	7.2%	8.3%	8.5%	8.1%
Total									
Normal cytology	68.8%	67.8%	66.8%	67.4%	72.7%	74.6%	68.5%	70.3%	72.2%
ASCUS / LSIL	21.5%	23.0%	23.6%	20.7%	18.8%	17.8%	21.3%	20.8%	19.6%
HSIL+	9.7%	9.3%	9.6%	11.8%	8.5%	7.6%	10.2%	8.9%	8.2%

* Because there are also participants with an unassessable smear test (Pap 0), percentages do not add up to 100%.

- In 2024, fewer participants had HSIL+ (8.2%) compared to 2023 (8.9%) (table 7). This decrease is visible only among individuals who participated via the SSK (see context 1.4). Based on these figures, the combination of the new SSK and hrHPV test appears to be less specific. This means that a positive test result may be given more often for individuals using the SSK who ultimately do not have abnormalities detected in cytology.
- The decrease in the proportion of individuals with HSIL+ was significantly greater over the past years among 30–34-year-olds (table 7). This appears to indicate an effect of the influx of HPV-vaccinated women since 2023 (see context 1.3).

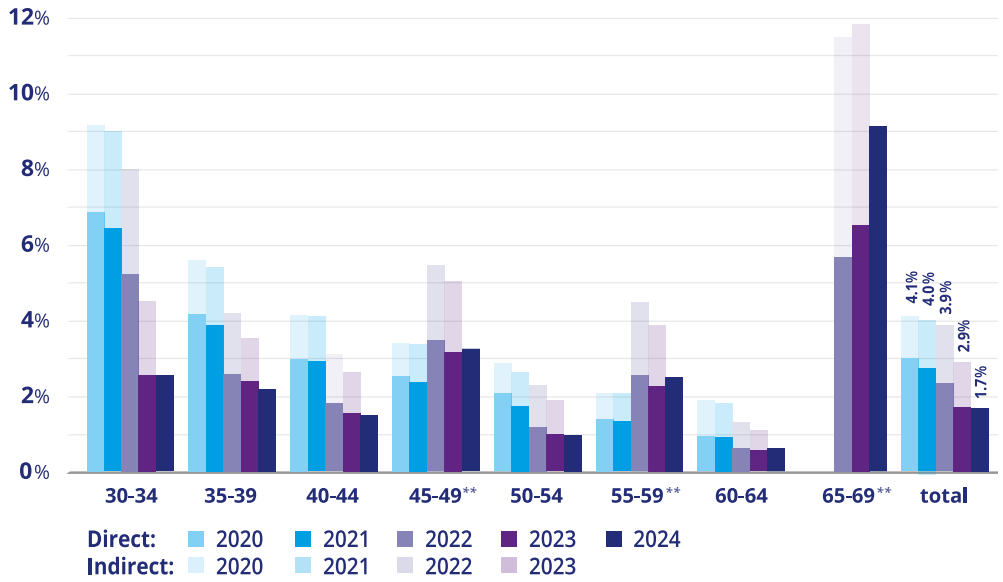
Table 8 / **Advice following primary test** by year* (source: BVO NL)

	2020	2021	2022	2023	2023	2024
Reference period (months)	*63*	*51*	*39*	*27*	*15*	*15*
Direct referral	2.9%	2.7%	2.3%	1.6%	1.5%	1.5%
Repeat due to unassessable cytology or hrHPV test result (not followed up)	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Control smear after 6 or 12 months**	6.5%	6.9%	8.4%	9.3%	8.7%	9.2%
Return to screening programme	90.3%	90.2%	89.0%	88.2%	88.5%	87.7%
Cytology after positive SSK (not followed up)	0.2%	0.2%	0.3%	0.8%	1.2%	1.5%

* Calculated based on the number of individuals with analysable tests that have been processed.
** As of July 11, 2022, the interval for the follow-up examination was extended from 6 to 12 months (see context 1.2).

- Of all recommendations given following the primary screening test, the proportion of direct referrals in 2024 was the same as in 2023 (1.5%) (table 8). With the introduction of the renewed referral schedule halfway through 2022 (see context 1.2), the proportion of direct referrals has decreased. On the other hand, the proportion of people who received advice for a control smear has increased.
- The proportion of individuals who were advised to undergo a control smear was higher in 2024 (9.2%) than in 2023 (8.7%) (table 8). This is related to the increase in the number of people using the SSK, where low-grade abnormalities are more often detected.
- The percentage of individuals who were advised to have a smear test after a positive SSK and who had not yet followed this advice was 1.5% in 2024 (table 8). This is higher than in 2023 for the same reference period (1.2%). This is probably the result of a combination of the increased number of SSK users compared to smear tests and the increased percentage of positive SSK results.

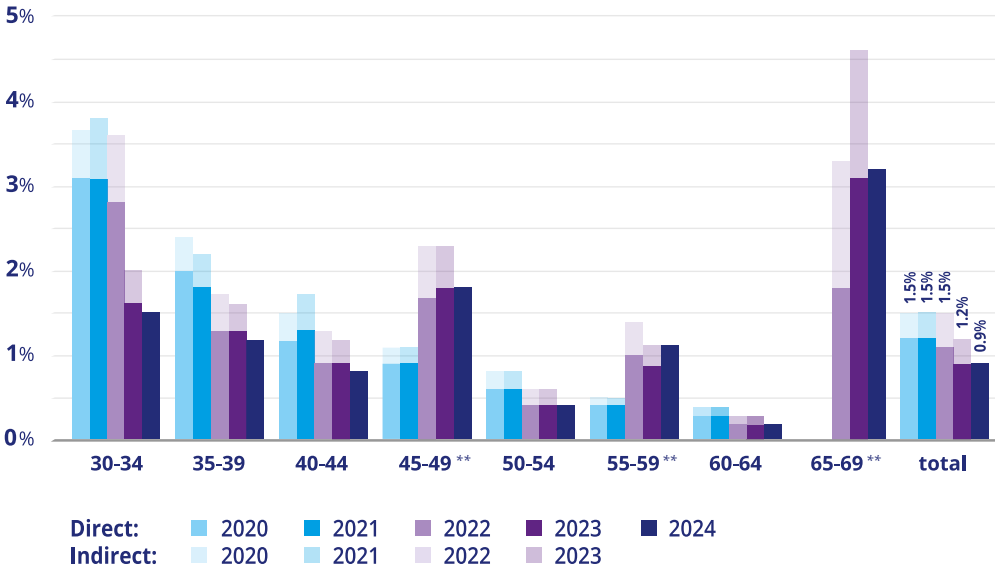
Figure 11 / **Referral rate (direct and indirect)** by age and year* (source: BVO NL)



* Calculated based on the total number of participants who completed a full screening round. The reference date for all findings is April 1, 2025 (see context 2). Due to the 12-month period for the follow-up examination, indirect referrals for 2024 are still largely incomplete and therefore not shown.
** Due to the change in the invitation schedule (see context 1.1), the age groups 45-49, 55-59, and 65-69 have been composed differently since 2022 compared to before. This affects the referral rate. Additionally, the confidence intervals around the referral rate for the 65-69 age group are quite wide because this age group is relatively small.

- The direct referral rate was 1.7% in 2024 (figure 11). This is the same as the direct referral rate for 2023 (1.7%).
- Of all individuals with an hrHPV-positive result, 13.9% were directly referred in 2024. In 2023, this was 15.0% for a comparable reference period.
- Due to a change in the referral schedule (see context 1.2), individuals have been less likely to be directly referred since mid-2022. This explains the lower direct referral rates since this year. This pattern is not visible for the 45–49 and 55–59 age groups (figure 11). This is related to the change in the invitation schedule, which since 2022 includes only high-risk individuals in these groups (see context 1.1).

Figure 12 / **Detection CIN2+ (direct and indirect)** within 150 days after referral, by age and year* (source: Palga)



* The reference date for all findings is April 1, 2025 (see context 2). Due to the 12-month period for the control smear, detection after indirect referrals for 2024 is still largely incomplete and therefore not shown.
** Due to the change in the invitation schedule (see context 1.1), the age groups 45-49, 55-59, and 65-69 have been composed differently since 2022 compared to before. This affects the referral rate. Additionally, the confidence intervals around the detection rate for the 65-69 age group are quite wide because this age group is relatively small.

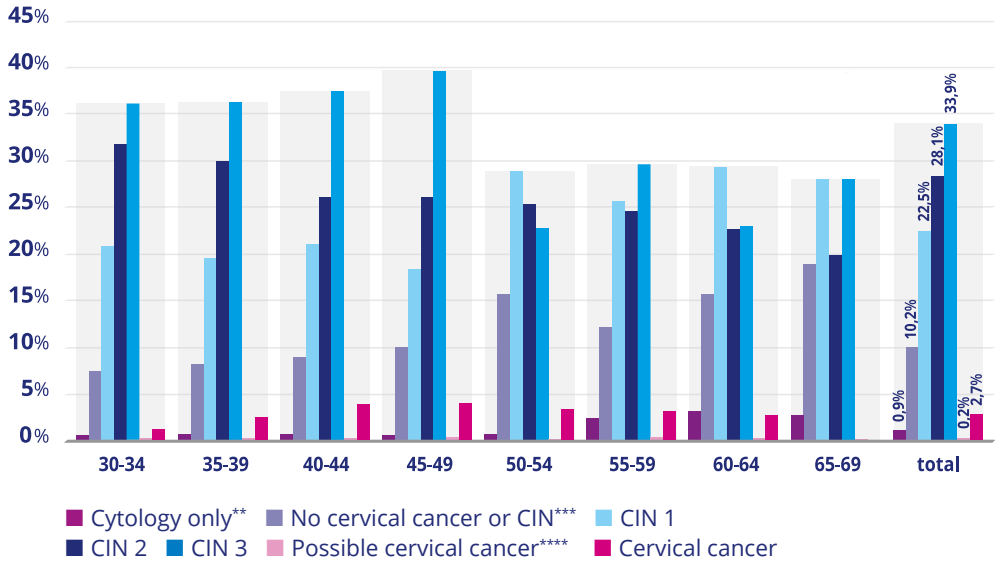
- The direct detection rate in 2024 was 0.9% (figure 12). This is comparable to 2023 (0.9%) and lower than in previous years (1.1%-1.2%).
- Over recent years, the decline in the detection rate is most clearly visible in the youngest age group (figure 12), which which includes HPV-vaccinated women since 2023 (see context 1.3).
- For the 45-49 and 55-59 age groups, the detection rate has been higher since 2022 than before (figure 12). This is due to the change in the invitation schedule, meaning these groups now consist solely of individuals with an increased risk (see context 1.1).
- For the other age groups, a decline in the number of direct referrals has been seen since 2022 (figure 12). This is related to the introduction of the new referral scheme, where individuals are less likely to be referred directly (see context 1.2).
- Of all outcomes from follow-up after direct referral, 2.7% in 2024 were cervical cancer (table 9).
- As in previous years, CIN 3 was most frequently found in 2024 (33.9%) (table 9). This applies to individuals who primarily participated via cervical smear as well as those who participated via SSK.

Table 9 / **Detection after direct referral*** within 150 days after direct referral, by way of participation and year (source: Palga)

	2022	2023	2024		
	Total	Total	Total	Primary Smear test	Primary SSK
Cytology only**	1,5%	1,3%	0,9%	1,0%	0,9%
No cervical cancer or CIN***	12,5%	11,4%	10,2%	11,8%	9,3%
CIN 1	24,0%	22,0%	22,5%	21,3%	23,2%
CIN 2	26,6%	26,9%	28,1%	30,0%	26,9%
CIN 3	31,7%	34,6%	33,9%	31,3%	35,5%
Possible cervical cancer****	0,0%	0,1%	0,2%	0,3%	0,1%
Cervical cancer	2,4%	2,2%	2,7%	2,5%	2,8%
Subtotal	**98,7%**	**98,5%**	**98,5%**	**98,2%**	**98,7%**
Unassessable	1,4%	1,6%	1,5%	1,8%	1,3%
Total	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**

* The number of individuals who visited the gynaecologist after referral without any tissue being collected is unknown. Therefore, only outcomes of individuals from whom tissue was collected are presented.
** This concerns individuals for whom during the follow-up examination by the gynaecologist only a smear test was performed, without taking a biopsy.
*** This concerns cases in which, based on pathology, no abnormality or an abnormality other than CIN or (possible) cervical cancer was found.
**** This concerns cases in which, based on pathology, no definitive conclusion can be given as to whether there is cervical cancer or another abnormality.

Figure 13 / **Detection after direct referral in 2024*** within 150 days of direct referral by age (source: Palga)



* Percentages do not add up to 100% because for some individuals the biopsy was uninterpretable.
** This concerns individuals for whom, during follow-up examination by the gynaecologist, only a cervical smear was performed without taking a biopsy.
*** This refers to cases where, based on pathology, no abnormality or an abnormality other than CIN or (possible) cervical cancer was diagnosed.
**** This refers to cases where, based on pathology, no definitive conclusion can be made about the presence of cervical cancer or another abnormality.

Table 10 / **Referral rate, performed cytology and histology tests, detection rate (CIN2+) and positive predictive value (PPV) of the screening programme** by year* (source: BVO NL and Palga)

	2020	2021	2022	2023	2023	2024
Reference period (months)	*63*	*51*	*39*	*27*	*15*	*15*
Referral rate total	**4.1%**	**4.0%**	**3.9%**	**2.9%**	-	-
Referral rate direct	3.0%	2.8%	2.4%	1.7%	1.7%	1.7%
Referral rate indirect	1.1%	1.2%	1.5%	1.2%	-	-
Histology or cytology performed after referral**	**74%**	**74%**	**75%**	**73%**	-	-
Histology or cytology performed direct after referral**	77%	77%	79%	83%	78%	78%
Histology or cytology performed indirect after referral	69%	67%	68%	59%	-	-
Detection rate total	**1.5%**	**1.5%**	**1.5%**	**1.2%**	-	-
Detection rate direct	1.2%	1.2%	1.1%	0.9%	-	0.9%
Detection rate indirect	0.3%	0.3%	0.4%	0.3%	-	-
PPV total	**50%**	**51%**	**53%**	**55%**	-	-
PPV direct	54%	56%	62%	65%	64%	65%
PPV indirect	38%	38%	39%	36%	-	-

* Due to the 12-month period for the follow-up examination, outcomes after indirect referrals for 2024 are still largely incomplete and therefore not shown.
** The number of performed colposcopies with the collection of tissue samples through biopsy or cervical smear.

- In the older age groups, benign abnormalities or CIN 1 are found more often than in the younger age groups (figure 13). On the other hand, CIN 3 occurs more frequently in the younger age groups.
- In 2024, tissue samples were collected during colposcopy in 78% of the individuals who were directly referred (table 10). This is consistent with previous years.
- For 2020, the detection rate after a complete screening round was 1.5% (table 10). A total of 2,702 CIN 2 lesions, 2,937 CIN 3 lesions, and 184 cases of cervical cancer were detected.
- The detection rate after direct referral was 0.9% in 2024 (table 10). This is comparable to 2023 and lower than in the preceding years. This can partly be explained by the influx of vaccinated women (see context 1.3).
- In 2024, the positive predictive value after direct referral was 65% (table 10). This is comparable to 2023 and higher than in previous years, when the positive predictive value ranged from 54% to 62%. This is likely related to the changes in the referral schedule, which was implemented for a full year for the the first time in 2023 (see context 1.2).

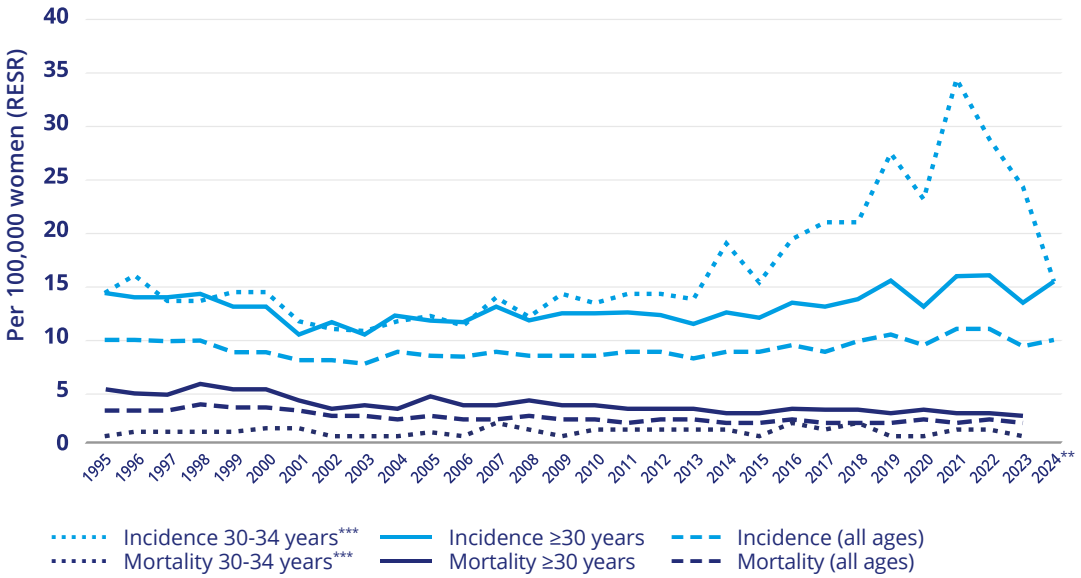
Table 11 / **Number of interval cancers after favourable test result by year** (source: Palga)

	2017	2018
Number of interval cancers after favourable test result	**97**	**89**
After favourable hrHPV test	61	61
After favourable control smear	36	28
Percentage of interval cancers after favourable test result	**0.02%**	**0.02%**
After favourable hrHPV test	0.01%	0.01%
After favourable control smear	0.15%	0.11%

- Of all individuals who participated in the screening programme following an invitation in 2018 and were not referred to a gynaecologist, 0.02% were diagnosed with cervical cancer before being re-invited (table 11).
- The percentage of interval cancers was lower for individuals with a negative HPV test (0.01%) than for those with a negative follow-up examination after a positive HPV test (0.11%) (table 11).
- The percentage of interval cancers was the same for participants who took part via a cervical smear (0.02%) and for those who participated via the SSK (0.02%).

3 / Incidence and mortality

Figure 14 / **Incidence and mortality of cervical cancer in the Netherlands since one year before the national introduction of the screening programme in 1996*** by age and year (source: NCR (incidence) and CBS (mortality))



* This concerns all cervical cancers in the Netherlands, regardless of whether they were detected within or outside of the screening programme.
** Data for 2024 is provisional (incidence) or not yet available (mortality).
*** The age group 30–34 is shown separately because this group has included HPV-vaccinated women since 2023. A further breakdown of this age group was not possible.

Table 12 / **Incidence and mortality rates cervical cancer in the Netherlands*** by age and year (source: NCR (incidence) and CBS (mortality))

	2020	2021	2022	2023	2024**
Incidence cervical cancer per 100,000 women (RESR)					
30-34 years***	22.88	34.59	28.40	24.51	16.20
≥30 years	13.36	15.97	16.15	13.93	15.19
All ages	9.41	11.04	11.04	9.57	10.28
Mortality cervical cancer per 100,000 women (RESR)					
30-34 years***	0.73	1.78	1.39	0.68	-
≥30 years	3.73	3.50	3.58	3.09	-
All ages	2.53	2.34	2.42	2.06	-
Cervical cancer mortality relative to 1995* **					
≥30 years	-29.5%	-33.8%	-32.3%	-41.6%	-
All ages	-28.3%	-33.7%	-31.4%	-41.6%	-

* This concerns all cervical cancers in the Netherlands, regardless of whether they were detected within or outside of the screening programme.
** Data for 2024 is provisional (incidence) or not yet available (mortality).
*** The age group 30–34 is shown separately, as this group has included HPV-vaccinated women since 2023. A further breakdown of this age group was not possible.
**** Year prior to the national introduction of the cervical cancer screening programme in 1996.

- The incidence of cervical cancer was slightly higher in 2024 compared to 2023 (figure 14 and table 12). However, the incidence among individuals aged 30–34 in 2023 was lower than in previous years. The influx of vaccinated women in these age groups may play a role (see context 1.3).

- The cervical cancer mortality rate for individuals aged 30 and older decreased from 5.29 per 100,000 women in 1995 to 3.09 per 100,000 women in 2023 (figure 14 and table 12). This represents a relative decrease of 41.6%.

Context

Context 1 and 2 are presented elsewhere in the document.

Context 3: **Data and monitoring**

The National Institute for Public Health and the Environment (RIVM) coordinates the cervical cancer screening programme in the Netherlands on behalf of the Ministry of Health, Welfare and Sport (VWS). Monitoring of the screening programme is conducted by Erasmus MC on behalf of the RIVM. The purpose of this monitoring is to track the progress of the screening programme and to identify important trends. This report presents results for individuals invited to participate in the cervical cancer screening programme in 2024, as well as results from previous years.

The data shown in Parts 1 and 2 were provided by the Dutch screening organisation (BVO NL) and the Pathological-Anatomical National Automated Archive (Palga), with measurements taken as of April 1, 2025. Additionally, coverage rates for 2020 and 2021 include figures previously published in earlier monitoring reports by the Netherlands Comprehensive Cancer Organisation (IKNL). Information regarding incidence and mortality comes from the Netherlands Cancer Registry (NCR) and Statistics Netherlands (CBS), with a reference date of January 27, 2025 (retrieved September 2025).

Because data from 2023 and earlier years have been recalculated based on the most recent data, figures may differ from previous publications.

Objections

All individuals had the right to object to the use of their data. The number of people who exercised this right from 2020 through 2024 is described in table 13. Data from these individuals were not included in this monitoring report.

Table 13 / **Number of individuals who objected to the use of their data**, by year (source: BVO NL)

	2020	2021	2022	2023	2024
Objection	403	313	341	409	417

Glossary

ASCUS: Atypical Squamous Cells of Undetermined Significance; term used in cervical cytology reporting.

BVO NL: Dutch screening organisation.

CBS: Statistics Netherlands.

CIN 2+: CIN 2, CIN 3, or cervical cancer.

Colposcopy: procedure used to examine the cervix and/or vaginal wall, during which a gynaecologist can take a biopsy.

Control smear: cytological follow-up examination for which individuals are invited to participate in 6 (before July 11, 2022) or 12 (from July 11, 2022) months after the primary test.

Coverage rate: number of individuals who, in the five years preceding the reporting year, have been protected against getting cervical cancer through participation in examinations within or outside the screening programme or the absence of a uterus as a result of a hysterectomy relative to the total target group of the cervical cancer screening programme (%).

Cytology test: examination of cells obtained by smear test.

Detection rate (direct and indirect): number of participants in whom, after a referral, histologically a CIN2, CIN3, or cervical cancer is diagnosed relative to all participants (%). A referral can take place following the primary test (direct) or the control smear (indirect).

Histology: examination of tissue obtained during colposcopy.

HPV: human papillomavirus.

HPV genotyping: classification of HPV based on the genotype. For the screening programme, a distinction is made between HPV16/18 (the most carcinogenic types) and other hrHPV types (other HPV).

hrHPV: high risk human papillomavirus; HPV-types with a high risk of developing cervical cancer.

HSIL: High-grade Squamous Intraepithelial Lesions; term used in cervical cytology reporting.

Hysterectomy: uterine removal.

IKNL: Netherlands Comprehensive Cancer Organisation.

Interval cancer: cervical cancers that are found in the period between a favourable result of the primary or control test and the invitation for the next screening round.

Invitation round: round in which an individual is invited for the screening programme.

LSIL: Low-grade Squamous Intraepithelial Lesions; term used in cervical cytology reporting.

NCR: Netherlands Cancer Registry.

Non-participants: number of invited individuals who have actively opted out during the current invitation round relative to the total number of invitees (%).

Non-respondents: number of invited individuals who have not participated without opting out relative to the total number of invitees (%).

Palga: Pathological-anatomical national automated archive.

Participation rate: number of individuals who, following an invitation in the reporting year, have participated in the screening programme through a SSK or a cervical smear at the GP relative to all individuals who were invited or who were not invited due to a definitive opt-out in a previous round (%).

Positive predictive value (direct and indirect): number of participants who were referred to the gynaecologist and in whom histologically CIN 2+ was diagnosed relative to all referred participants (%). The positive predictive value can be calculated for referral following the primary test (direct) or the control smear (indirect).

Previously opted out: number of individuals who have definitively opted out prior to the current invitation round. Only individuals who have definitively opted out for a reason other than a hysterectomy are included in the calculation of the participation rate.

Primary test: administration of the hrHPV test and, in the case of an hrHPV-positive result, cytology, in response to an invitation to the screening programme. An hrHPV test can be administered through a smear test at the GP or through a SSK.

Referral rate (direct or indirect): number of participants with a complete screening examination (completed primary and, if applicable, control examination) who were referred to the gynaecologist relative to the total number of screened participants (%). Referral can take place following the primary test (direct) or the control smear (indirect).

Re-participation rate: number of individuals who participated in the current invitation round (in the reporting year) relative to all individuals who participated in the previous round and were re-invited in the current round (%).

RESR: Revised European Standardised Rate; revised measure used to present incidence and mortality rates, standardised for the European standard population.

Return to screening programme: no further follow-up examinations needed; advice to wait until the invitation for the next round of the screening programme.

RIVM: National Institute for Public Health and the Environment.

SSK: Self-Sampling Kit.

Switch non-participation to participation: number of individuals who participated in the current invitation round (in the reporting year) relative to all individuals who did not participate in the previous invitation round and were re-invited in the current round (%).

VWS: Ministry of Health, Welfare and Sport.